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LCP-2-PAC-23-0056-3 (City of Pacifica LUP Update)

May 8, 2025

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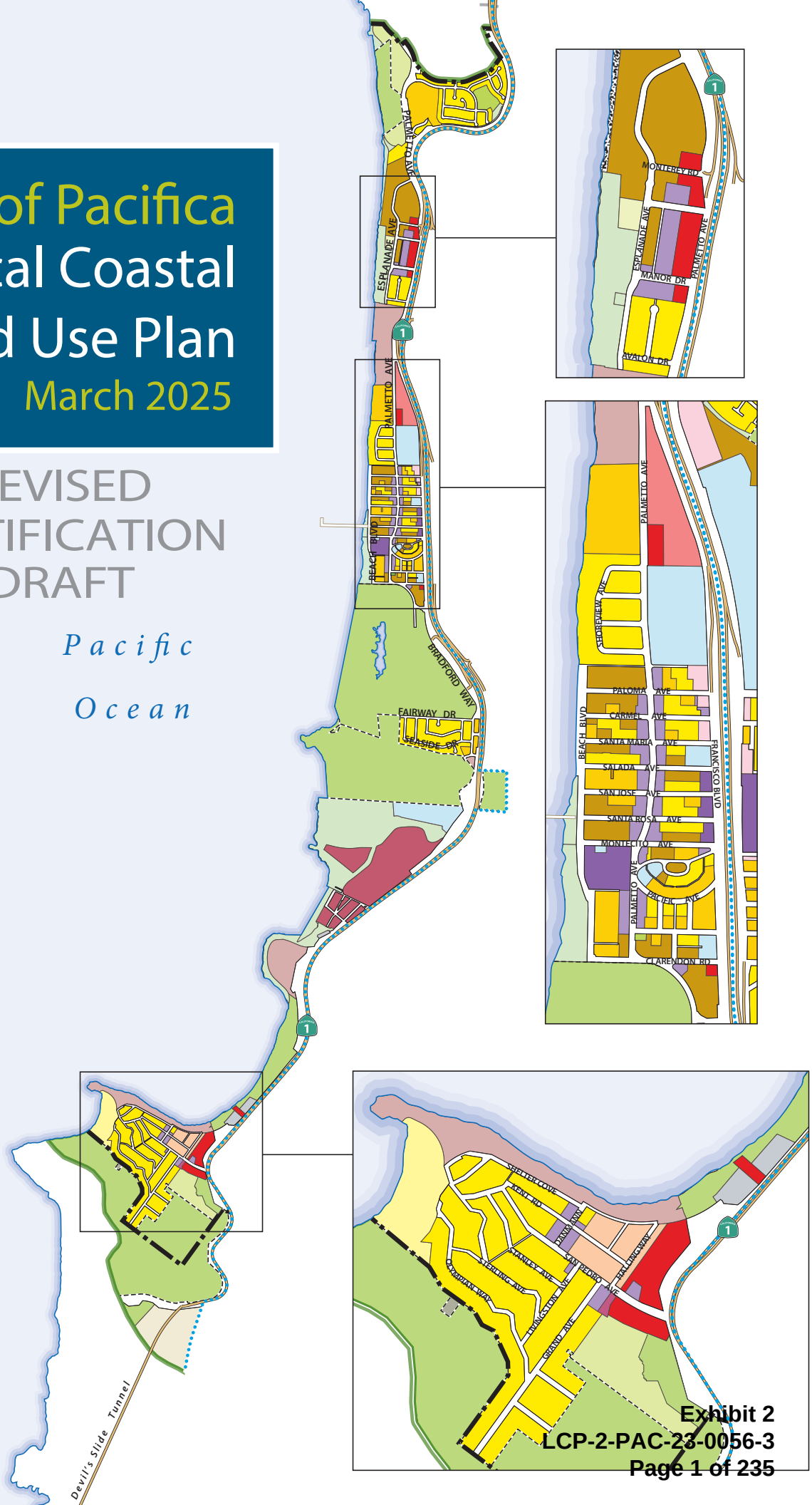
City of Pacifica, CA

City of Pacifica
Local Coastal Land Use Plan
March 2025

REVISED CERTIFICATION DRAFT



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City of Pacifica
Local Coastal Land Use Plan
March 2025

REVISED
CERTIFICATION
DRAFT

Prepared for
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1 INTRODUCTION

The Pacifica 2040 Local Coastal Land Use Plan (LCLUP) is a policy document for the long-range development of the portion of the City of Pacifica within the Coastal Zone. The Coastal Zone includes all land west of State Route 1, as well as Shelldance Nursery and some land south of City limits (see Figure 1-1, City of Pacifica and Coastal Zone). The LCLUP is an essential component of the City's Local Coastal Program as required by the California Coastal Act. The LCLUP has been developed in tandem with the General Plan, which provides the direction for the future growth of the City, and articulates a vision of what Pacifica aspires to be.

1.1 PURPOSE OF THE LOCAL COASTAL LAND USE PLAN

The California Coastal Act requires every city and county lying partly or wholly within the Coastal Zone to prepare a Local Coastal Program (LCP). The LCP consists of two parts: a Local Coastal Land Use Plan (LCLUP), which specifies the intended uses of land within the Coastal Zone; and, an implementation plan comprised of the zoning ordinances; zoning district maps; and other actions which taken together implement the local coastal land use plan and Coastal Act provisions. These provisions seek to ensure that public access to and along the shoreline is maintained; that water quality, marine life, and environmentally sensitive habitat areas are protected; and that coastal visual resources and special communities are preserved. The Coastal Act calls for certain land uses within the Coastal Zone to have priority over other uses: recreation and visitor-serving uses, fishing, boating, and other coastal-dependent uses, and public works and industrial facilities needed to support priority uses. Other resource-based uses are also prioritized by the Coastal Act.

The Coastal Act is implemented through a partnership between the California Coastal Commission and local counties and cities, including Pacifica. By certifying an LCP, the Coastal Commission grants authority to the local jurisdiction to issue coastal development permits that are required for nearly all types of development[1] in the Coastal Zone. The LCLUP is the first and primary element of the City's LCP. The LCLUP is consistent with the Coastal Act and will serve as the standard of review for the City to update its zoning code and any other implementing tools needed in the Coastal Zone, and apply to the Coastal Commission for recertification of the LCP.

The City of Pacifica's previous LCLUP was certified in March 1980, and included two areas of deferred certification: Shelldance Nursery and the Quarry Site. The Coastal Commission retained permit-issuing authority in these deferred certification areas during the term of the prior LCLUP. The City has obtained certification of the Shelldance Nursery and Quarry Site in this LCLUP. The City's certified Implementation Plan dates to June 1994.

Why Update Now?

The City of Pacifica last comprehensively updated its General Plan and LCLUP in 1980. In the more than 40 years since then, many of its goals have been carried out, including a Zoning Ordinance with regulations to protect slopes and preserve open space, and the revitalization of the Rockaway Beach area. Many issues facing Pacifica are enduring but the legal environment governing land use, environmental preservation, housing, climate change adaptation and resiliency, and other planning issues has changed. New priorities have emerged with a new generation of Pacifica residents and stakeholders. The General Plan and LCLUP update has provided for a comprehensive assessment of current conditions and it allows today's residents to express a vision for the future.

[1] See Glossary for Coastal Act definition of "development."

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Figure 1-1: Pacifica and the Pacifica Coastal Zone

1.2 PLANNING CONTEXT

Regional Location

Pacifica is within the San Francisco-Oakland-San Jose metropolitan area, and at its northern end is just 10 miles from downtown San Francisco. The cities of Daly City, South San Francisco, and San Bruno border the City on the north and east, and include urban development up to the City's borders. Much of the land to the southeast and south is preserved as units of the Golden Gate National Recreation Area, State and County parks, and the San Francisco watershed, and rural and agricultural land is prevalent to the south. The Pacific Ocean borders Pacifica to the west. Access to Pacifica is primarily via Highway 1 (SR 1, or Coast Highway) and State Route 35 (SR 35, or Skyline Boulevard).

Historic Development

Pacifica's earliest development occurred with the construction of the Ocean Shore Railroad in 1905, subdivided and developed a series of small, coastside communities, including Edgemar, Salada Beach, Brighton Beach, Vallemar, Rockaway Beach, and Tobin (San Pedro Terrace-by-the-Sea). These neighborhoods, together with Pacific Manor, Westview, Fairway Park, and Linda Mar incorporated in 1957 as the City of Pacifica. The City grew rapidly in the 1950s and 1960s, and most of its current housing-56 percent as of 2020-was built during those decades. Growth slowed in the 1970s, and then slowed further in the following decades, owing to the scarcity of developable land and infrastructure constraints. About 540 housing units have been built over the last 20 years, along with a limited amount of commercial development.

The Coastal Zone

Land within Pacifica west of State Route 1, as well as the Shelldance Nursery property located east of SR 1 and some additional land east of SR 1 south of City limits, is part of the Coastal Zone, subject to Pacifica's Local Coastal Land Use Plan and the policies of the California Coastal Act. Pacifica's Coastal Zone comprises approximately 1,286 acres of land, or about 15 percent of the Planning Area. It includes a high proportion of the City's commercial land and visitor destinations. The Pacifica Planning Area boundary, Coastal Zone boundary, and City limits are shown in **Figure 1-1**.

These coastal sub-areas represent geographical areas with varied types of development, including public recreation areas, distinct residential neighborhoods, visitor-serving and neighborhood commercial development, and highly sensitive wildlife and vegetative habitats. The varied types of development of each coastal sub-area and the geographic relationships between them are an inherent and vital part of the character of the City. The General Plan and LCLUP strive to designate land uses and intensities suitable to the unique circumstances of each coastal area, adequately meet the needs of the City's residents and visitors, and be consistent with State Coastal Act policies. Chapter 2 provides detailed area maps and summary descriptions of seven identified sub-areas in Pacifica's Coastal Zone.

1.3 LOCAL COASTAL LAND USE PLAN REQUIREMENTS

Local Coastal Programs

The California Coastal Act of 1976 gave the California Coastal Commission broad authority to ensure that development along the coastline would protect and enhance coastal resources. The Commission carries out this

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responsibility in partnership with local governments, through the development and certification of LCPs. California Public Resources Code (PRC) Sections 30000 *et seq.* establish the State's coastal management policies and the procedures for preparation, approval, and certification of LCPs.

In 2015, Governor Brown put into effect two regulatory requirements regarding climate change. These include Senate Bill 379, which requires local agencies to address climate adaptation and resiliency strategies in long range planning documents; and Governor's Executive Order No B-30-15, which directs state agencies to factor climate change into planning decisions. This order has been promulgated by the Coastal Commission to include climate adaptation into LCPs.

In 2016, Governor Brown also signed into law Assembly Bill 2616 (AB 2616), amending the Coastal Act to give the Coastal Commission authority to specifically consider environmental justice when making permit decisions. This legislation also cross-references existing nondiscrimination and civil rights law in the Government Code and requires the Governor to appoint an environmental justice Commissioner.

Local Coastal Land Use Plan

To meet the requirements of State law, the LCLUP must comply with the requirements of Chapter 3 of the Coastal Act (Section 30512.2 of the PRC), and also be "sufficiently detailed to indicate the kinds, location, and intensity of land uses, the applicable resource protection and development policies, and, where necessary, a listing of implementing actions." (Section 30108.5 of the PRC). During all phases of the LCLUP's development, the public as well as affected agencies must be provided with extensive opportunities to participate (Section 30503 of the PRC). In the case of the Pacifica General Plan and LCLUP update, the planning process, including public participation, is detailed in Section 1.1 of the General Plan.

Implementation Plan

The implementation component of the LCP comprises the zoning ordinances, zoning district maps, and other actions which taken together implement the local coastal land use plan and Coastal Act provisions. These are typically referred to together as the Implementation Plan (IP). The LCLUP and IP work in tandem to implement Coastal Act provisions.

1.4 RELATIONSHIP TO OTHER PLANS AND REGULATIONS

The Local Coastal Land Use Plan and the General Plan

The General Plan and LCLUP updates have been conducted in tandem. While they are two separate documents, much of the descriptive text and many of the policies are overlapping. Policies that are included in both the General Plan and the LCLUP are marked with a in the General Plan.

Much of the background text is also the same in both documents. Detailed discussion of Coastal Act requirements and goals is included only in the LCLUP, while issues that are not relevant to Coastal Act requirements and goals are covered only in the General Plan. The term "Planning Area" is used to refer to the General Plan's Planning Area, while the term "Coastal Zone" is used to refer to the area subject to the LCLUP.

Each plan has a different organizational structure, to match its purpose. Plan organization is covered in Section 1.5. One environmental impact report (EIR) describes the expected environmental impacts from both plans.

Plan Bay Area

The Metropolitan Transportation Commission (MTC), Association of Bay Area Governments (ABAG), Bay Area Air Quality Management District (BAAQMD), and Bay Conservation and Development Commission (BCDC) have adopted the "Plan Bay Area in 2013" which serves as the Sustainable Communities Strategy (SCS) for the region. An update, Plan Bay Area 2040, was adopted in 2017 and forecasts transportation needs through the year 2040. Plan Bay Area 2050 will focus on four key issues—the economy, the environment, housing and transportation—and will identify a path to make the Bay Area more equitable for all residents and more resilient in the face of unexpected challenges. MTC and ABAG adopted Plan Bay Area 2050 in October 2021.

Coastal Regional Sediment Management Plan

A consortium of State and federal agencies, including the California Department of Natural Resources and the US Army Corps of Engineers, is organizing a series of Regional Sediment Management (RSM) plans. The primary focus is on facilitating the movement of excess clean sand to areas experiencing high levels of erosion. Goals include restoring and preserving beaches; sustaining recreation; enhancing public safety; and restoring coastal habitats. The San Francisco Littoral Cell Coastal RSM Plan is currently being developed for the coastline between the Golden Gate and Pedro Point Headlands. The Plan's purpose is to assist communities by providing information for decision-makers and offering recommendations specific to the coastlines of San Francisco, Daly City and Pacifica. The Pacifica General Plan and Local Coastal Land Use Plan may provide a vehicle for enacting RSM recommendations.

1.5 GUIDE TO USING THIS DOCUMENT

Plan Organization

This section describes the organization of the Pacifica 2040 Local Coastal Land Use Plan and the structure of guiding and implementing policies. The LCLUP is organized to follow the topical sections of the Coastal Act policies, and is organized as follows:

1. **Introduction.** This chapter summarizes the key themes and initiatives of the Plan. It covers the Plan's purpose, process, planning context, State requirements, relationships to other plans, plan organization (here), and requirements for administration of the Plan.

2. **Land Use and Development.** This chapter describes the existing land use pattern and provides the physical framework for land use and development in the Coastal Zone. It enumerates development demand and capacity, and provides detailed descriptions of land use issues by sub-area. It describes how the land use plan and related policies support development prioritized under the Coastal Act.

3. **Public Access and Recreation.** This chapter includes policies, programs, and standards to ensure that public access to the coast is provided according to the policies of the Coastal Act, serving as the public access component of the Plan. It identifies future street and traffic improvements, and addresses walking, biking, transit, and parking to enable a multi-modal circulation system in the Coastal Zone. This chapter also contains policies relating to regional open spaces and beaches, the trail system, and

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parks and recreation, as they pertain to Coastal Act policies to ensure the public has adequate access to coastal recreation opportunities.

4. **Environmental and Scenic Resources.** This chapter includes policies relating to hydrology and water quality, biological resources, agriculture and coastal sediment, air quality and greenhouse gas emissions, and historic and archaeological resources and conservation. It also addresses water supply, sewerage, solid waste management, and recycling, as well as stormwater management and sustainable site planning. It also includes urban design policies to improve the city's visual quality and livability, including its neighborhoods, mixed-use areas, hillside and coastal areas, and scenic routes. Policies are presented in terms of their satisfaction of Coastal Act provisions.

5. **Natural Hazards**. This chapter addresses the hazards posed by seismic and geologic hazards, flooding, impacts of accelerated sea level rise, and wildland fires, and provides detailed policies that respond to Coastal Act provisions for minimizing adverse impacts.

6. **Coastal Resilience**. This chapter addresses the unique challenges of adapting to climate change, especially sea level rise (SLR). It provides policies to allow for protection of existing development and to design new development in a manner adaptable to the changing coastline.

Table 1-1 shows how the chapters in the LCLUP relate to General Plan Elements.

TABLE 1-1: CORRESPONDENCE BETWEEN COASTAL ZONE CHAPTERS AND GENERAL PLAN ELEMENTS

LCLUP Chapter	Related General Plan Elements
Chapter 1: Introduction	Chapter 1: Introduction
Chapter 2: Land Use and Development	Chapter 4: Land Use
Chapter 3: Public Access and Recreation	Chapter 5: Circulation Chapter 6: Open Space & Community Facilities
Chapter 4: Environmental and Scenic Resources	Chapter 7: Conservation Chapter 3: Community Design
Chapter 5: Natural Hazards	Chapter 8: Safety Chapter 3: Community Design
Chapter 6: Coastal Resilience	Chapter 8: Safety

Source: Dyett & Bhatia, 2019.

Policy Structure

Each chapter of the Plan includes background information to establish the context for policies in the chapter. This background information is followed by two sets of policies, which together articulate a vision for Pacifica's Coastal Zone that the Plan seeks to achieve:

- *Guiding Policies* are the City's statements of its goals and vision.
- *Implementing Policies* represent commitments to specific actions. They may refer to existing programs or call for establishment of new ones.

Policies provide guidance for development review, infrastructure planning, community facilities and services, and protection for the city's resources, by establishing planning requirements, programs, standards, and criteria for project review. Explanatory material or commentary in italics accompanies some policies to provide further clarification of their application to particular sites or situations. The use of "should" or "would" indicates that a statement is strongly recommended but not mandatory; details will need to be resolved in LCP

implementation. The use of "shall" or "must" indicates that a statement is mandatory. Where the same topic is addressed in more than one chapter, sections and policies are cross-referenced.

Maps, Diagrams and Land Use Classifications

The maps and diagrams in the LCLUP illustrate a number of policies relating to land use, coastal access, circulation, environmental and scenic resources, and hazards. These maps and diagrams, and in particular the Land Use Diagram in Chapter 2, are important parts of the plan that contain information not presented anywhere else. All maps, diagrams, and figures are adopted parts of the Plan; however, their use is subject to any disclaimers or limitations set forth on the maps or elsewhere in this LCLUP.

The maps and diagrams included in the LCLUP reflect the best available information at a programmatic, or city-wide, level[2]. Maps and diagrams including biological resources such as special status species, wetlands, and streams, indicate areas where the presence of these resources are most likely to occur. However, additional information regarding such resources will become available through site-specific review of proposed projects, through future map/diagram updates, and through other means. Thus, protection of resources is not limited to those areas that are mapped in this document, and site-specific analyses shall be utilized wherever possible to ensure maximum protection of resources.

Appendix, Glossary and List of Acronyms

Appendix A presents the coastal resources planning and management policies that comprise Chapter 3 of the California Coastal Act, or Section 30200 *et seq.* of the Public Resources Code. The policies of Chapter 3 of the California Coastal Act are hereby incorporated by reference into the LCLUP. Chapter 3 organizes these policies in six topical areas, which guide the organization of the LCLUP chapters: Public Access, Recreation, Marine Environment, Land Resources, Development, and Industrial Development.

The Plan concludes with a glossary to define important terms and concepts, and a list of acronyms that may appear in the preceding chapters.

1.6 PLAN ADMINISTRATION

Amendments to the Plan and Periodic Review

The LCLUP is less flexible than a General Plan in that its amendment, even after certification, requires the approval of the Coastal Commission as well as the City. An exception exists for minor amendments and *de minimis* amendments if approved by the Coastal Commission's executive director. Any such approval must be reported to the Coastal Commission for concurrence in order to be considered approved and certified.

Although Pacifica's LCLUP and General Plan are integrated, the coastal policies are clearly identified in order to facilitate the amendment process should that be desired in the future. The Coastal Commission periodically

[2] The Vulnerability Zone Maps included in Appendix B will need to be updated to reflect new information regarding shoreline protection structures.

reviews certified LCPs to ensure that coastal resources are being effectively protected (Section 30519.5 of the PRC).

2 LAND USE AND DEVELOPMENT

The purpose of this chapter is to describe existing and planned land use in the Coastal Zone and present the policy framework that will guide the City on development decisions. The chapter includes the Land Use Diagram, land use classifications, standards for density and intensity, and limitations on development. The land use framework for each sub-area is then provided in greater detail. Guiding and implementing policies aim to define the Coastal Zone's physical development and reinforce the community's vision while supporting Coastal Act goals.

2.1 COASTAL ACT FRAMEWORK

The California Coastal Act establishes certain priorities for the location and type of new development along the coast. These may be summarized in three broader categories: concentration of development; prioritization of coastal-dependent, visitor and recreation uses; and provision of public access and services. Policies from Chapter 3 of the Coastal Act which are most relevant to the subject matter of this chapter include, but are not limited to, the policies listed below. Chapter 3 of the Coastal Act, available in Appendix A, is incorporated by reference into this chapter.

Coastal Act Policies

Article 2: Public Access

- **Section 30211** Development shall not interfere with the public's right of access to the sea.
- **Section 30212** New development, shoreline access.
- **Section 30213** Lower cost visitor and recreational facilities; encouragement and provision; overnight room rentals

Article 3: Recreation

- **Section 30221** Oceanfront land; protection for recreational use and development
- **Section 30222** Private lands; priority of development purposes
- **Section 30223** Protect upland areas necessary to support coastal recreational uses

Article 4: Marine Environment

- **Section 30235** Shoreline protection devices permitted when necessary to serve coastal-dependent uses or protect existing structures or beaches

Article 5: Land Resources

- **Section 30240** Development in environmentally sensitive habitat areas

Article 6: Development

- **Section 30250** Location; existing developed area
- **Section 30251** Protection, preservation, and enhancement of scenic and visual quality of coastal areas
- **Section 30252** Maintenance and enhancement of public access
- **Section 30253** Requirements for new development
- **Section 30254** Public works facilities
- **Section 30254.5** Terms or conditions on sewage treatment plant development; prohibition
- **Section 30255** Priority of coastal-dependent developments

Article 7: Industrial Development

- **Section 30260** Encouragement for coastal-dependent industrial facilities to locate or expand

2.2 CURRENT LAND USE PATTERN

Background

Before visitation by the Portola expedition in 1769, Pacifica was home to the Costanoans, now known as the Ohlone, who were stewards of the land for thousands of years. Pacifica remained primarily agricultural until after the San Francisco Earthquake in 1906. Land speculators, stimulated by the construction of the Ocean Shore Railroad in 1905, subdivided and developed a series of small coastside communities including Edgemar, Vallemar, and the areas now known as Sharp Park, Pedro Point, and Rockaway Beach. These communities, together with Pacific Manor, Westview, Fairway Park, and Linda Mar incorporated in 1957 as the City of Pacifica. The city grew rapidly in the 1950s and 1960s, and most of its current housing was built during those decades, primarily east of Highway 1. Growth slowed in the 1970s, and then slowed further in the following decades, owing to the scarcity of developable land and infrastructure constraints. The Pacifica Coastal Zone is described in more detail by land use type in the paragraphs that follow.

Current Land Use Pattern

Parks and Open Space

The Coastal Zone covers 998 acres, not including road rights-of-way. Nearly half (479 acres) of this land is preserved as open space. This includes Mori Point, the Northern Coastal Bluffs, and Pedro Point Headlands, current and likely future parts of the Golden Gate National Recreation Area; Sharp Park Golf Course; and Pacifica State and Sharp Park Beaches.

Residential

Residential use makes up 21 percent of the Coastal Zone and 69 percent of developed land[1] in the Coastal Zone, covering 206 acres. Most residential land in Pacifica's Coastal Zone (70 percent) contains single-family housing, but multi-family housing is the most prevalent housing unit type (57 percent of all housing units) in the Coastal Zone. Multi-family units are interspersed among single-family houses and commercial uses in the West Sharp Park neighborhood and concentrated along the coast in the West Edgemar-Pacific Manor neighborhood. The Coastal Zone also includes Pacifica's only mobile homes and most of the City's mixed use development, which account for 2 and 1 percent of housing units in the Coastal Zone, respectively.

Commercial, Industrial, and Mixed Use

The Coastal Zone includes 41 acres of commercial uses. Commercial land is located at Pacific Manor and Pedro Point shopping centers, and in commercial districts at Rockaway Beach, Palmetto Avenue, and Francisco Boulevard. Pacifica has a small amount of mixed-use development, mostly along Palmetto Avenue in West Sharp Park, in Rockaway Beach, and in Pedro Point. Overall, West Sharp Park has the greatest mix of uses throughout the neighborhood. Hotels, along with most visitor-serving commercial uses, are primarily in the Rockaway Beach neighborhood. The Coastal Zone also has a small amount of industrial land (13 acres) located along Palmetto north of the West Sharp Park commercial area.

Public and Institutional Uses

Public, community, and institutional uses occupy 39 acres of land in the Coastal Zone, including Ingrid B. Lacy Middle School; the Calera Creek Water Recycling Plant; Civic Center; the Sharp Park branch library; and other public administrative buildings.

[1] Developed land includes all land uses except for Open Space, Agriculture, or Vacant/Undeveloped.

Agriculture and Recreation

There are approximately nine acres of land with agricultural-related uses in the Coastal Zone, outside city limits, at Shamrock Ranch along Highway 1.

Undeveloped and Vacant Land

Vacant or undeveloped land covers 206 acres or 20 percent of land in the Coastal Zone. About 29 acres of this land is outside City limits. Undeveloped land is present along the Northern Coastal Bluffs, the Rockaway Quarry site, Rockaway Headlands, and Pedro Point Headlands. Smaller vacant "infill" lots are scattered in neighborhoods. Given environmental factors such as slope and sensitive species, there are constraints on the development potential of many of these sites.

Figure 2-2 maps the Coastal Zone land use pattern, while **Figure 2-1** charts the relative distribution of land by land use in the Coastal Zone.

Figure 2-1: Current Land Use Distribution in the Coastal Zone

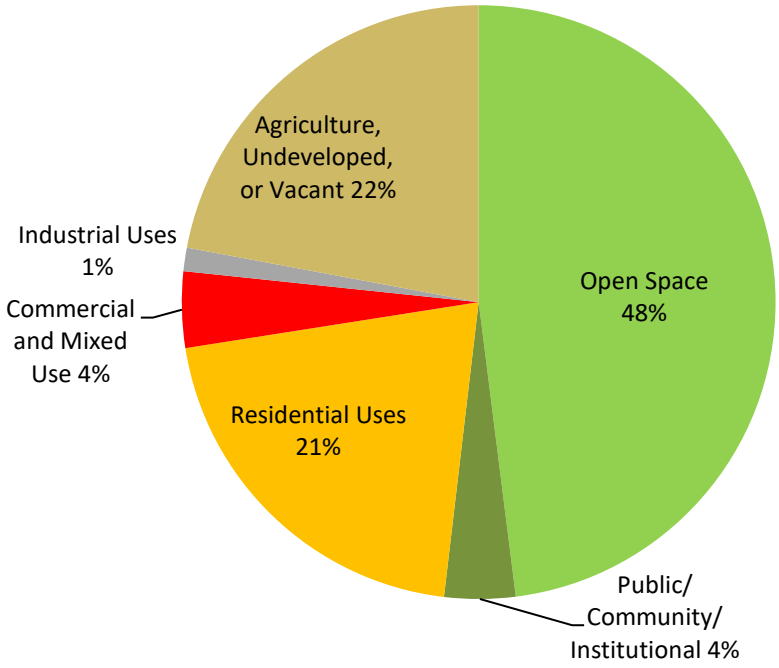

Figure 2-2: Existing Land Use in the Coastal Zone

2.3 LAND USE FRAMEWORK

The Land Use Diagram, (**Figure 2-3**) illustrates the community's vision for land use in 2040. It reflects the Coastal Act priorities presented in Chapter 1, as well as the planning themes laid out in the General Plan. The land use classifications depicted indicate the use and form of development. New development will be guided by Plan policies and programs for hillside and open space preservation; and in infill housing, commercial, and mixed use development.

Land Use Diagram

The Land Use Diagram is a graphic representation of planned land use classifications; it will be used in conjunction with policies established in the Plan to review and approve, modify or deny proposed development projects. The Land Use Diagram includes a legend that shows land use categories whose densities and allowable uses are specified in the Land Use Classifications section.

Land Use Classifications

Land use classifications establish allowed uses, maximum density and intensity, and the type and character of development that is expected. Details on development standards are established in the Implementation Plan through the zoning ordinance, and more than one zoning district may be consistent with a General Plan/LCLUP land use classification.

According to State law, the General Plan must establish standards of population density and building intensity for each land use classification. The General Plan and LCLUP stipulate residential densities in housing units per gross acre; population density can be obtained by applying average persons per housing unit[2] to the housing unit densities. For nonresidential uses, the Plan specifies a maximum permitted ratio of gross floor area to site area (Floor Area Ratio or FAR). Recommended density and intensity standards do not imply that development projects must be approved at the maximum intensity specified for each use. Zoning regulations consistent with General Plan policies and/or site conditions may reduce development potential within the stated ranges. **Table 2-1** shows gross density standards for residential categories and FAR standards for the other uses.

Residential

Pacifica's six residential classifications provide for a range of densities, consistent with neighborhood character and planned land use.

TRANSITIONAL OPEN SPACE RESIDENTIAL

In the Transitional Open Space Residential (TOSR) designation, residential and recreation uses are allowed at a gross density of up to one unit per 10 acres (or 0.1 units per gross acre). Existing legal lots less than 10 acres in area shall be allowed to develop one dwelling unit consistent with all other applicable zoning and development standards. The density assumed for buildout calculations is 0.08 units per gross acre.

OPEN SPACE/AGRICULTURE/RESIDENTIAL

In the Open Space/Agriculture/Residential (OSAR) classification, residential, agriculture, and recreation uses are allowed at a gross density of up to one unit per five acres (or 0.2 units per gross acre). Farm worker housing

[2] Based on 2013-2017 American Community Survey data, the number of persons per total housing units is 2.77.

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may be permitted on sites zoned for agricultural uses, consistent with State law, and shall not be included in density calculations for a site. The density assumed for buildout calculations is 0.15 units per gross acre.

VERY LOW DENSITY RESIDENTIAL

The Very Low Density Residential (VLDR) classification provides for development of 0.2 to 2.0 units per gross acre (or 0.5 to 5.0 acres per dwelling unit). Residential care facilities, schools, and community uses are permitted. The density assumed for buildout calculations is 1.5 units per gross acre.

LOW DENSITY RESIDENTIAL

The Low Density Residential (LDR) designation provides for development ranging from three to nine dwelling units per gross acre. Single-family residential is the primary use intended for LDR areas. Residential care facilities, schools, and community uses are permitted. Clusters of small-lot development as well as standard subdivisions will be allowed. Buildout is calculated at 6.5 units per gross acre.

MEDIUM DENSITY RESIDENTIAL

The Medium Density Residential (MDR) designation is intended for a mix of housing types, including small-lot single-family, attached single-family, apartments, duplexes, townhomes and in mobile home parks at a density range of 10 to 15 units per gross acre. Residential care facilities, schools, and community uses are permitted. Buildout is calculated at 12.5 units per gross acre.

HIGH DENSITY RESIDENTIAL

The High Density Residential (HDR) designation is intended for multi-family apartments, stacked flats, and townhomes in multi-story buildings located near shopping areas and transit. The density range will be 16 to 21 dwelling units per gross acre, except that sites of 0.5 acres or more in size may develop up to 30 dwelling units per gross acre. For lawful nonconforming sites less than 5,000 square feet in area, the allowable density shall be 10 to 15 units per gross acres. Residential care facilities, schools, and community uses are permitted. Buildout is calculated at 25 units per gross acre.

Mixed Use

The Plan provides three mixed use classifications to create areas where housing and active commercial uses may be integrated. Visitor-oriented commercial uses are allowed as-of-right in all mixed use areas within the Coastal Zone, except hotels in the Coastal Residential Mixed Use designation.

COASTAL RESIDENTIAL MIXED USE

The Coastal Residential Mixed Use (CRMU) designation is intended for sites in the Coastal Zone with residential mixed use development potential, including mixed use with housing and retail, and/or small-scale visitor-oriented commercial uses such as retail, vacation rental, or time-share units. Residential uses are allowed in the same building as commercial uses above the ground floor (vertical mixed use) and in other locations attached to or detached from commercial uses on the same site (horizontal mixed use). Hotels are not permitted. Coastal access and public open space must also be provided, and environmental resources must be evaluated and protected. Sites may be developed up to an overall density of up to 15 units per gross acre, with clustering and sensitive site planning. Site-specific policies may further define residential densities. Non-residential development may have an FAR up to 0.5 FAR. The total FAR (residential and non-residential) cannot exceed 1.0. Buildout is calculated at 15 units per gross acre and 0.10 FAR of non-residential use.

MIXED USE NEIGHBORHOOD

In the Mixed Use Neighborhood (MUN) classification, new development may include multi-family housing and building with ground-floor retail, restaurant or service uses and housing or offices. Residential uses are allowed in the same building as commercial uses above the ground floor (vertical mixed use) and in other locations on the same site (horizontal mixed use). Public or community uses and hotels may be permitted at appropriate locations. The MUN classification allows a density range of 16 to 26 units per gross acre and non-residential development with an FAR up to 1.0 on sites that are 5,000 square feet of area or greater. Sites of 0.5 acres or more in size may develop up to 30 dwelling units per gross acre. For lawful non-conforming sites less than 5,000 square feet in area, the allowable density shall be 10 to 15 units per gross acres and non-residential development FAR up to 0.5. The total FAR (residential and non-residential) cannot exceed 2.0 on sites with 5,000 square feet of area or greater, and cannot exceed 1.0 on sites with less than 5,000 square feet of area. Buildout is calculated based on a 0.25 FAR for non-residential uses and 25 residential units per gross acre.

MIXED USE CENTER

The Mixed Use Center (MUC) classification is intended for high-density mixed use development, including public or community uses and hotels. Allowable uses include ground-floor retail, restaurant or personal service uses and housing or offices on upper levels. Ground floor commercial uses must be constructed along the street frontage but are not required on the interior of a site. The MUC classification permits housing at a density range of 30 to 50 units per gross acre and a 2.5 FAR of non-residential development, provided the overall FAR does not exceed 2.5. For lawful non-conforming sites less than 5,000 square feet in area, the allowable density shall be 16 to 26 units per gross acres and a non-residential development FAR up to 0.5. Buildout is calculated at an FAR of 0.35 for non-residential uses and 25 units per gross acre for housing.

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Figure 2-3 Land Use Diagram

Commercial Uses

The General Plan and LCLUP establish five commercial classifications to accommodate a variety of potential commercial activities. Visitor-oriented commercial uses are allowed as-of-right in all commercial areas within the Coastal Zone.

RETAIL COMMERCIAL

The Retail Commercial (RC) classification is intended for retail, restaurant, and service uses, typically in single- or two-story buildings within shopping centers or on sites in the Highway 1 corridor. New development will be pedestrian-oriented. Offices may be located above the ground floor. The maximum FAR is 1.0. Buildout is calculated with an FAR of 0.25.

OFFICE/COMMERCIAL

The Office/Commercial (OC) classification permits offices as well as retail and service uses, typically in single- or two-story buildings. The maximum FAR is 1.5; buildout is calculated with an FAR of 0.35.

SERVICE COMMERCIAL

The Service Commercial (SC) classification is for industrial and heavy commercial uses, such as auto repair, equipment rental, storage, and materials salvage. The maximum FAR is 0.6; buildout is calculated with an FAR of 0.25.

VISITOR-SERVING COMMERCIAL

The Visitor-Serving Commercial (VC) designation is intended to foster and protect areas that attract and cater to visitors, including hotels or a visitor attraction, such as an interpretive center or conference center, restaurants, retail and services, commercial recreation, or other compatible uses. Larger sites, with developable areas of two acres or larger, shall require a hotel, lower-cost overnight accommodation, or visitor attraction as part of new development. The maximum FAR is 3.0. Buildout is calculated with an FAR of 0.35.

LOW-INTENSITY VISITOR-SERVING COMMERCIAL

The Low-Intensity Visitor-Serving Commercial (LIVC) district allows uses that create public access to the coastal setting and are adaptable to changing environmental conditions: campgrounds, rustic lodging, concession stands, warming huts, outdoor event sites, and similar uses. Existing permitted businesses that do not conform to the description of LIVC may remain until voluntarily redeveloped by the property owner or abandonment of the use has occurred pursuant to the nonconforming use zoning provisions of the Pacifica Municipal Code (cessation of the use for 12 months, under current zoning provisions). In these areas, the designation indicates the long-term goal of transition to recreation-oriented land uses. Development may occur at up to 0.20 FAR, but must have an overall very low-intensity character on sites of more than one acre. Buildout is assumed at 0.05 FAR, recognizing the large land areas and minimal building expected to support recreational uses.

Public and Community Uses

Designations for public uses such as schools, civic buildings, utilities, and public parking areas are designated on the Land Use Diagram, and summarized below. Public park land is covered separately in the following section.

PUBLIC AND SEMI-PUBLIC

The Public and Semi-Public (PSP) designation indicates public or private schools, libraries, police and fire stations, and other civic and community uses. In the case that public facilities are converted or sold for new

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uses, Plan land use classifications shall be updated. If a public school is discontinued, any proposed new use should be compatible with the adjacent neighborhood. The maximum FAR in this district is 1.0. Buildout is assumed at 0.35 FAR.

BEACH AND COMMUTER PARKING

The Beach and Commuter Parking (BCP) designation applies to areas where the priority use is public parking to serve beach visitors and/or transit users. Sites are located adjacent to Pacifica State Beach and at Crespi Drive and Highway 1. Beach parking at the City's Beach Boulevard property serving Pacifica Pier and Sharp Park should be conserved as part of development of that site.

UTILITIES

The Utilities (U) designation indicates the location of water tanks, communications facilities including wireless communications facilities, and other utilities serving the City. The maximum FAR in this district is 1.0.

Parks and Open Space

Pacifica is defined in large part by its open space system, with extensive land preserved as public open space, or designated for conservation. These categories are detailed below.

PARK

The Park (P) designation is applied to public land either now developed for active recreation use or intended for future recreation development. The designation applies to City parks as well as to park or open space areas whose primary character is undeveloped and natural, or that is managed for use by residents of the larger region and beyond. The City does not have permitting authority on lands owned by other public agencies.

CONSERVATION

The Conservation (C) district takes the place of the Greenbelt district from the previous General Plan. It applies to publicly- or privately-owned open areas not intended for development. Non-structural development, such as trails and viewing areas, is allowed. These areas may include:

- Watershed lands;
- Sandy beach areas, including properties that are fully on beaches or coastal dunes or bluffs;
- Land which is physically unsuitable for development due to geotechnical hazards, excessive steepness, wetlands, Environmentally Sensitive Habitat Area (ESHA), or other environmental constraints, or lies within stream channels;
- Areas to remain undeveloped as a result of density transfer or clustered development, or covered by open space, recreational or scenic easements;
- Open areas providing a physical and visual buffer between developed or open areas; and
- Open space required as mitigation for environmental impacts.

Urban Reserve

The Urban Reserve (UR) designation is created to apply to private lands outside of City limits but within the Planning Area. The City does not have permitting authority in this area until such time as those lands outside the City limits are annexed. The Pacifica General Plan and LCLUP intends for agriculture and residential development with a minimum site area of 10 acres per dwelling unit to be the predominant uses on land

designated Urban Reserve. Existing legal lots less than 10 acres in area shall be allowed to develop one dwelling unit maximum, consistent with all other applicable zoning and development standards.

Sites within the Urban Reserve land use designation that are annexed into the City of Pacifica, in a future action, should receive a land use designation consistent with the applicable density prior to annexation. For sites larger than 50 acres, the City should work with San Mateo County to ensure that subdivision and development be considered in the context of a Plan Update.

TABLE 2-1: LAND USE CLASSIFICATIONS AND DENSITY AND INTENSITY STANDARDS

Land Use[1]		Residential Density (units per gross acre): Range[2]	Non-Residential Intensity (FAR): Maximum[3]
Residential			
TOSR	Transitional Open Space Residential	Up to 0.1	
OSAR	Open Space/Agriculture/Residential	Up to 0.2	
VLDR	Very Low Density Residential	0.2 to 2	
LDR	Low Density Residential	3 to 9	
MDR	Medium Density Residential	10 to 15	
HDR	High Density Residential	16 to 21 30[4]	
Mixed Use			
CRMU	Coastal Residential Mixed Use	Up to 15	0.5
MUN	Mixed Use Neighborhood	16 to 26 30[4]	1.0
MUC	Mixed Use Center	30 to 50	2.5
Commercial			
RC	Retail Commercial		1.0
OC	Office/Commercial		1.5
SC	Service Commercial		0.6
VC	Visitor-Serving Commercial		3.0
LIVC	Low-Intensity Visitor-Serving Commercial		0.2
Public and Community Uses			
PSP	Public and Semi-Public		1.0
U	Utilities		1.0
BCP	Beach and Commuter Parking		
Parks and Open Space and Urban Reserve			
P	Park		
C	Conservation		
UR	Urban Reserve	Up to 0.1	

Notes:

1. *Though the density for Urban Reserve is shown, no development is projected in these areas.*
2. *Density ranges are rounded to the nearest whole number, except where less than 1 unit per acre. Senior or affordable housing may be developed at up to 1.5 times the maximum with the Density Bonus program.*
3. *For mixed use designations, the following maximum total FAR, including both residential and non-residential uses, is established: CRMU: 1.0 FAR maximum; MUN: 2.0 FAR maximum; MUC: 2.5 FAR maximum.*
4. *Sites of 0.5 acres or more in size may develop up to 30 dwelling units per gross acre.*

Source: City of Pacifica, Dyett & Bhatia, 2021.

Coastal Development Review

The LCLUP aims to ensure that the goals of the California Coastal Act are furthered by land use actions and policies that affect land within the Coastal Zone as defined by the California Coastal Commission.

The City's zoning code features a Coastal Zone (CZ) Combining District, with development regulations based on Coastal Act goals. These include the provision of public access to the shoreline and recreational opportunities, the protection and enhancement of the coastal environment, and the prioritization of coastal-dependent and visitor-serving uses. The Coastal Zone requirements supplement the underlying zoning regulations on all property subject to the LCLUP.

Pursuant to the Coastal Act, certain categories of development are exempt from coastal development permit requirements. These exemptions are generally set forth in Section 30610 of the PRC and Sections 13252, 13253, and 13250 of the California Code of Regulations (CCR)

Policies

Implementing Policies

LD-I-1 **Zoning Consistency.** Update the Zoning Ordinance and zoning map and apply zoning to all land within the City, consistent with General Plan and LCLUP policies and land use designations.

LD-I-2 **Land Divisions in the Coastal Zone.** Continue to require coastal development permits for all land divisions within the Coastal Zone. Land divisions in the Coastal Zone shall be:

- Designed to minimize impacts to public access, recreation, and other coastal resources.
- Designed to minimize site disturbance, landform alteration, and the removal of native vegetation for development or fire safety.
- Prohibited on properties that include any areas that are within or adjacent to an ESHA unless the resulting parcels can be developed without building or requiring vegetation clearance in the ESHA or ESHA buffer, or are set aside for conservation.
- Prohibited on properties that are within Coastal Vulnerability Zones, unless the resulting parcels are set aside for conservation, or unless the resulting parcels can be developed consistent with the LCP.
- Permitted only in areas with adequate public services to serve development on the resulting parcels.
- Any land division that would result in a parcel that could not be developed in accordance with the policies of this LCLUP is not allowed.

LD-I-3 **Coastal Development Permit Findings.** For all development that requires a coastal development permit, continue to require written findings that it is consistent with all LCLUP policies and Implementation Plan provisions of the City's certified Local Coastal Program.

If there is a conflict between a provision of this LCP and a provision of the General Plan, or any other City-adopted plan, resolution, or ordinance not included in the LCP, and it is not possible for the development to comply with both the LCP and such other plan, resolution or ordinance, the LCP shall take precedence and

the development shall not be approved unless it complies with the LCP provision. In advance of updating the Implementation Plan for conformance with the policies of this October 2024 LCLUP, the policies of the Land Use Plan shall provide the standard of review for any proposed new development, including where these policies are more protective of ESHA and other coastal resources and maximize public access as consistent with the Coastal Act.

LD-I-4 **Coordinate with the County to protect the Urban Reserve.** Coordinate with the County to ensure that new development in unincorporated areas occurs at a maximum density of 10 acres per unit, and request that subdivision of 50 acres or more is subject to master planning and annexation as a condition of any urban development.

A General Plan amendment also will be required, and a LCLUP amendment will be required for land within the Coastal Zone.

LD-I-5 **Individualized Determinations** Ensure decisions on coastal development permits include an individualized, property-specific determination of policies, conditions of approval, and other regulations imposed to regulate development, and ensure regulations imposed on properties pursuant to the LCLUP are consistent with applicable state and federal law.

2.4 COASTAL DEVELOPMENT PRIORITIES

Concentrated Development

The Coastal Act seeks to concentrate new development along the coast in already-developed areas and areas where it will not adversely affect coastal resources (Section 30250). Pacifica's Local Coastal Land Use Plan reinforces the clear distinctions between areas of preserved open space (nearly 50 percent of the Planning Area) and established neighborhoods. It seeks to ensure that sensitive coastal open spaces on the Northern Coastal Bluffs and Pedro Point Headlands are preserved and enhanced, while promoting new development in and directly adjacent to the Rockaway Beach and West Sharp Park districts, and make these areas more commercially vibrant and transit-supportive, as described in Section 30252. These efforts are clearly defined in policies of this section as well as policies for each sub-area detailed in Section 3.3.

Coastal-Dependent, Visitor-Serving and Recreational Development

Section 30255 of the Coastal Act states that "coastal-dependent developments shall have priority over other developments on or near the shoreline." Lower-cost visitor and recreation facilities (Section 30213); recreational uses and development (Section 30221); and coastal-dependent industry (Section 30260) are specifically called out. Section 30222 provides that "the use of private lands suitable for visitor-serving commercial recreational facilities designed to enhance public opportunities for coastal recreation shall have priority over private residential, general industrial, or general commercial development."

San Francisco and San Mateo Counties are major tourist destinations, attracting domestic as well as international travelers. The nine-county Bay Area region accounts for almost 30 percent of the visitor-generated tax receipts in California. Located along scenic Highway 1, south of San Francisco, Pacifica enjoys exposure to a number of visitors to the County's coast, State parks, and other attractions. Pacifica itself has a wealth of public park land and amenities along the coastline, including Pacifica State Beach and the Pacifica Pier at Sharp Park Beach.

The current demand for hotel rooms in Pacifica is served by seven moderately-priced hotels with a total of 286 rooms. A majority of these hotels are clustered around Rockaway Beach. Pacifica is also home to the San Francisco RV Park. These accommodations are shown on the Existing Land Use map, Figure 2-2. The General Plan provides a tourism-related economic development strategy that will help Pacifica to better leverage its coastal location and other physical and cultural amenities, and a land use plan that emphasizes visitor-oriented commercial development.

In the Visitor-Serving Commercial (VC) designation, for larger sites (with developable areas of two acres or larger), a hotel, lower-cost overnight accommodation, or visitor attraction is a required part of new development. Development on large sites may also include restaurants, retail and services, commercial recreation, or other compatible uses. New inns, resorts, or other overnight lodging should enliven the Rockaway Beach district and provide a basis for integration with any new development which may ultimately be approved on the Quarry site. Such uses can enhance the public's enjoyment of the coastal setting.

The extensive public lands in Pacifica's Coastal Zone and the recreation opportunities they afford are protected with Park and Conservation designations. The LIVC district allows uses that create public access to the natural setting and are adaptable to changing environmental conditions. Low-intensity visitor-serving development along northern Palmetto would add new ways of enjoying the coast. Potential uses with a low development impact and which are readily relocated to adapt to evolving coastal conditions, such as rustic lodging or "hikers' huts," could occur on the Rockaway Headlands and enrich the recreational appeal of both Pacifica State Beach and Rockaway Beach for visitors.

Energy Facilities and Coastal Dependent Industries

Pacifica does not currently contain any coastal-dependent industry or energy facilities, and the Plan does not accommodate the new development of these uses. The types of industries that are the subject of Coastal Act policies—tanker facilities, oil and gas development, refineries, and thermal electric generating plants—are not foreseen to be feasible or appropriate. However, in keeping with the Coastal Act, new coastal-dependent industries may be permitted in the Coastal Zone under specific conditions, as outlined in the policies below.

Sub-Areas and Specific Sites

Pacifica's Coastal Zone extends from the eastern edge of Highway 1 to the Pacific Ocean. The Coastal Zone features a wide variety of land uses, including public recreation areas, distinct residential neighborhoods, visitor-serving and neighborhood commercial development, and sensitive wildlife habitats. The varied types of development of each coastal sub-area and the geographic relationships between them are an inherent and vital part of the character of the City. The LCLUP strives to designate land uses and intensities suitable to the unique circumstances of each coastal area, adequately meet the needs of the City's residents and visitors, and be consistent with State Coastal Act policies.

Figure 2-4 shows seven sub-areas. Sub-areas may be referred to as neighborhoods at times. The "sub-area" designation is not intended to correspond with any jurisdictional boundaries, but to help readers understand the way the LCLUP affects Pacifica's distinct geographic areas. **Figure 2-4** also identifies specific sites that are the subject of Plan policies. This chapter contains land use policies for specific sites. In many cases, site-specific policies touch on a range of issues, including biological resources and natural hazards.

Figure 2-4 also serves as a key map for the three maps that follow, showing these sub-areas and specific sites at a larger scale. These maps show LCLUP land use at the parcel level, as well as coastal access points; park

opportunity sites; coastal view corridors; trails and proposed trail improvements. The sub-area maps and the sub-area descriptions below are intended to demonstrate how various aspects of the Plan—including land use, parks and recreation facilities, coastal access, and environmental resources and hazards—work together in the more localized context. The maps do not show different information than is contained in other LCLUP maps.

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Figure 2-4: Sub-Areas and Specific Sites

Northern Pacifica Coastal Zone

Figure 2-5 covers the Coastal Zone north of Sharp Park, including Fairmont West; West Edgemar-Pacific Manor; and West Sharp Park. This area includes Palmetto Avenue, the Pacifica Pier and Promenade, the Pacific Manor shopping area, and the northern coastal bluffs.

FAIRMONT WEST

Fairmont West is a small residential area in northwestern Pacifica between Highway 1 and the Pacific Ocean, extending from Daly City along the Northern Coastal Bluffs. It is separated from inland neighborhoods by the highway and a significant grade change. Fairmont West is composed mainly of single-family houses, with a condominium development and a neighborhood park. Palmetto Avenue is Fairmont West's principal roadway, and provides open views of the Pacific Ocean. The National Park Service owns approximately 14 acres of land on the northern coastal bluffs along the west side of Palmetto Avenue as part of the GGNRA.

Given the extraordinary natural and scenic value, the interest of public access, and the potential erosion hazards, undeveloped land on the northern coastal bluffs is designated Open Space/Agriculture/Residential, and identified as a priority for permanent conservation. Sensitive, clustered development could occur on the east side of Palmetto.

GGNRA plans to continue to manage its land along the northern coastal bluffs as a "natural zone" emphasizing protection of habitat and natural coastal processes. No formal beach access exists or is planned. Undeveloped land west of Palmetto Avenue contains areas of Coastal bluff scrub, which is considered a special status community of high value, important for stabilizing sand dunes. The entire bluff-top area is currently undeveloped and offers an open, highly scenic view of the entire length of Pacifica's coastline.

WEST EDGEMAR-PACIFIC MANOR

West Edgemar-Pacific Manor is an established coastal neighborhood extending from north of the Oceanaire Apartments (formerly Land's End Apartments) to south of the San Francisco RV Park between Highway 1 and the ocean. The area is centered on the Pacific Manor shopping center. Multi-family development accounts for over 90 percent of the area's approximately 870 housing units. West Edgemar-Pacific Manor's residential areas have the highest density in Pacifica.

As envisioned by the Plan, redevelopment and/or shopping center improvements will enhance the area's walkability, help integrate the commercial center with its coastal setting, and improve the area's visual appeal. The City-owned bluff-top land along the west side of Esplanade Avenue may present an opportunity to develop a small park, if this can be done without aggravating slope instability. Esplanade Avenue is also identified as a future bluff-top coastal access point, which may be achieved by redesigning the Esplanade right-of-way to enhance views and pedestrian access. Progressive coastal erosion has led to demolition of residential structures in the 300- and 500-blocks of Esplanade Avenue, and remains an important factor when considering future development potential of sites located along the bluff-top.

WEST SHARP PARK

Sharp Park is one of Pacifica's original beach communities. Its western and eastern portions are divided by Highway 1. The northern half of West Sharp Park includes some of Pacifica's only industrial and service commercial uses. The southern half of the neighborhood has a mixture of single-family and multi-family housing, with retail commercial uses prevailing along Palmetto Avenue, and commercial and civic buildings along Francisco Boulevard. A majority of the neighborhood's approximately 900 housing units are in multi-family buildings. West Sharp Park includes many of Pacifica's community facilities, including a branch of the

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San Mateo County Library, the Pacifica Resource Center, City Hall, and Council Chambers. The neighborhood features the Pacifica Pier and Beach Boulevard Promenade, and public parking for the Pier, Promenade, and Sharp Park Beach.

The Plan envisions the area along northern Palmetto west of Palmetto Avenue transitioning to Low-Intensity Visitor Serving Commercial uses over time. The transition is necessary to account for progressive coastal erosion which has advanced into many bluff-top sites along Palmetto Avenue in this area. Coastal erosion is an important factor to consider when reviewing future development of sites located along the bluff-top.

Southern Palmetto Avenue will grow into a higher-density mixed use corridor, supported by higher-intensity development on Francisco Boulevard, and with an enhanced connection to the coast achieved with redevelopment of the Beach Boulevard property. The Beach Boulevard Promenade and park, together with the Pier and Sharp Park Beach, provide extensive recreation opportunities, and are tremendous assets for both the neighborhood and the City. The maintenance of park facilities, the pier, and public parking at this location is a high priority. Views to and along the ocean are essential to the neighborhood's character and must be maintained.

Figure 2-5: Pacifica Coastal Zone, North

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Central Pacifica Coastal Zone

Figure 2-6 shows the central section of Pacifica's Coastal Zone. The map includes Sharp Park Golf Course, the West Fairway Park neighborhood, Mori Point, the Rockaway Quarry, Rockaway Beach, the Rockaway Headlands, and the Shelldance Nursery.

SHARP PARK GOLF COURSE, WEST FAIRWAY PARK, AND MORI POINT

The central stretch of Pacifica's coast includes Sharp Park Golf Course, Mori Point, and the small single-family subdivision of West Fairway Park. Sharp Park Municipal Golf Course is part of a land bequest made to the City and County of San Francisco early in the 20th Century on the condition that the land be used for public park or recreation. Laguna Salada and its marsh, located on the western side of the golf course, provide habitat for the San Francisco garter snake and California red-legged frog. West Fairway Park is a small single-family residential subdivision. On the south, the neighborhood meets the base of undeveloped Mori Point, managed as part of Golden Gate National Recreation Area.

The Plan designates Sharp Park Golf Course and Mori Point as regional park land. Current characteristics may be maintained, and environmental restoration will be a priority. The West Fairway Park neighborhood's existing land use is reinforced by the Plan's land use designations.

Sharp Park Beach is open to the public between the Pier and Mori Point, while Sharp Park Golf Course provides a unique recreational asset. Mori Point is a spectacular section of the GGNRA. The General Plan proposes trail improvements and critical new trail segments that would link the coastal trails with the inland ridges. This segment of the Pacifica coastline includes view corridors from Highway 1 into Sharp Park Golf Course and toward Mori Point and Mori Ridge that will be preserved.

ROCKAWAY BEACH, QUARRY, AND HEADLANDS

Rockaway Beach is a small, pedestrian-oriented area with shops, restaurants, and lodging and a small beach, with parking and other amenities. The vacant Quarry site occupies about 94 acres west of Highway 1 and south of Mori Point. About 30 acres of the site are on slopes of 35 percent or steeper. The Calera Creek Water Recycling Plant, at the north end of the former quarry, releases treated wastewater into Calera Creek, which has a naturalized channel, a restored riparian corridor, and a paved walking and cycling path. The Headlands is a rocky promontory separating Rockaway Beach and Pacifica State Beach, and is crossed by a scenic trail.

Figure 2-6: Pacifica Coastal Zone, Central

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The Quarry site is Pacifica's most visible potential development site. Prior to or in conjunction with any future development, the property owner must complete reclamation of the former quarry pursuant to the State Mining and Reclamation Act (SMARA) and the Pacifica Municipal Code.

Approximately half of the site, including the upland areas and the Calera Creek riparian corridor, is designated for Conservation. This area will remain open space, with trail improvements connecting Mori Point with Rockaway Beach. The Flats and the Pad overlooking Rockaway Beach are designated for Visitor-Serving Commercial development, supporting such potential uses as a resort hotel, boutique hotels, visitor attractions, and retail uses integrated with the Rockaway Beach district. Redevelopment of the Quarry site could expand this visitor-oriented area. Any development of the Quarry site will require detailed evaluation of biological resources to ensure that sensitive habitat and wetlands are protected; and should be sited and designed to minimize coastal hazard risks in accordance with policies in Chapter 5 and 6 of the LUP. The likely footprint of development could be much smaller than the area designated. While housing may be proposed as part of a plan for the site, Ordinance No. 391 provides that rezoning to allow residential uses may occur only if approved by a vote of the electorate. Figure 4-4 of the 2040 General Plan indicates removal of the Hillside Preservation District (HPD) overlay from the Flats portion of the site, which would also require approval by a vote of the electorate. Development in the Quarry Flats should include new public open space. The existing Rockaway Beach district also offers opportunities for infill and redevelopment, subject to an appropriate assessment of potential coastal hazards and vulnerabilities. The Plan envisions the Rockaway Beach district growing into a more distinct and high-profile visitor destination, with strong links to the natural setting of beaches, headlands, and ridges.

The Plan proposes new coastal trail segments, and new trails would link the coastal trails with the inland ridges. Improvements to Highway 1 should ease travel, accommodate vehicles as well as bikes and pedestrians, and improve access into the Rockaway Beach district. Coastal views from Highway 1 toward Mori Point, Cattle Hill, and the Rockaway Headlands are important in establishing the identity of this area and Pacifica as a whole. The United States Geological Survey established the place name "Aramai Point" for the Rockaway Headlands in 2021 in recognition of the indigenous peoples that occupied the area prior to European settlement.

Southern Pacifica Coastal Zone

Figure 2-7 shows the southern part of the Coastal Zone, including Pacifica State Beach, Shelter Cove, and the Pedro Point neighborhood, as well as Pedro Point Headlands.

PACIFICA STATE BEACH

Pacifica State Beach, also known as Linda Mar Beach, is a long sandy beach on a small bay formed by the Rockaway Headlands and Pedro Point. Pacifica State Beach is an outstanding recreational asset for the City and attracts over one million visitors annually from the region and beyond for its surfing, beach environment and scenery in close proximity to San Francisco. Recent restoration work and improvements to parking and access have helped to ensure that the beach will remain a popular natural environment for years to come. Views from Highway 1 toward the crescent sweep of Pacifica State Beach, the Headlands, and Pedro Point are a defining element for Pacifica, and will be preserved across the protected park land.

Pacifica State Beach supports primarily wintering and/or migrating Western snowy plovers, a federally threatened bird species. The beach must continue to be managed to ensure that recreational use does not interfere with the species' habitat requirements. Steelhead trout from the Central California Coast Ecologically Significant Unit are listed as threatened under the federal Endangered Species Act. Steelhead are known to

spawn in several parts of San Pedro Creek, and the City will continue to support the preservation of viable steelhead migration.

PEDRO POINT AND SHELTER COVE

The Pedro Point neighborhood sits on the slope of the promontory that marks Pacifica's southern boundary. The neighborhood is characterized by single-family houses climbing up the slope, with some commercial development, including a small shopping center, on the flat land near the beach. The neighborhood is separated from the coastline by the berm of the former Ocean Shore Railroad. Pedro Point abuts City-, County-, and State-owned land at the Point's higher elevations. This land is within the Golden Gate National Recreation Area's legislative boundary, and could be included in the park in the future. The western tip of Pedro Point descends to Shelter Cove, where another cluster of houses exists on a single 17-acre parcel. Land access to Shelter Cove has been limited to steep pedestrian trails since the former roadway to the area washed out in the 1980s.

The Plan reinforces existing land use patterns for all developed parts of the sub-area. There is potential for Pedro Point shopping center and adjacent parcels to accommodate some new retail development, which could provide local convenience shopping as well as visitor-oriented businesses. The Plan retains flexibility for any future development on the vacant site west of the shopping center, which could have residential and small-scale commercial and visitor-oriented uses. Development of the site will require detailed evaluation of coastal hazards/vulnerabilities and biological resources to ensure that any sensitive habitat and wetlands that may exist on the site are protected; thus, the footprint of development could be smaller than the area designated. Future development should include a small park and access to the berm and the beach beyond. Completion of the Devils Slide Tunnel project has provided the opportunity to create a new trailhead and trails through open space land on the headlands.

SPHERE OF INFLUENCE

San Pedro Mountain and Pedro Point Headlands define the southern boundary of Pacifica's Sphere of Influence, which includes the undeveloped 73-acre, 986-lot Tobin Park subdivision (located outside the Coastal Zone). The Plan designates existing public open space in the Sphere of Influence as Park, and designates all other land as Urban Reserve. The Urban Reserve area is intended to remain largely undeveloped.

Figure 2-7: Pacifica Coastal Zone, South

POLICIES

Guiding Policies

LD-G-1 **Coastal Development.** Ensure that development maximizes beach and coastal open space access and is orientated as much as possible to each particular coastal environment in use, design, and intensity.

Policies related to coastal access are provided in Chapter 3.

LD-G-2 **Concentrated Development.** Focus new development in or directly adjacent to already-developed areas, where it can be served by existing public services and where it will not have significant impacts on coastal or other resources.

LD-G-3 **Future Residential Development.** Limit development to sites that are not critical for open space connections or habitat preservation, and which will be in harmony with the surrounding natural setting.

LD-G-4 **Higher-Density Housing.** Locate higher-density housing outside of Coastal Vulnerability Zones and in accessible places close to community shopping areas and transportation.

LD-G-5 **Commercial Area Revitalization.** Facilitate the revitalization of shopping areas and the creation of distinct commercial districts in Pacifica, resulting in wider shopping and dining opportunities for residents, enhanced attractions for visitors, increased sales tax revenues, and a stronger community image.

LD-G-6 **Compact Mixed Use Development.** Facilitate compact mixed use development on sites with good access to transit consistent with the Land Use Diagram. Mixed use development may include housing or office space with retail, restaurants, or personal service businesses.

LD-G-7 **Open Space Conservation and Habitat Protection.** Protect beaches, oceanfront bluffs, wetlands, riparian corridors, ESHA, ridgelines, hillside areas adjacent to existing open space, and areas that support critical wildlife habitat and special status species.

LD-G-8 **Changes in Density or Intensity of Land Use in Coastal Vulnerability Zones.** Do not increase the density or intensity of land use designations beyond those indicated in the LCLUP for sites located within Coastal Vulnerability Zones.

Policies related to Natural Hazards are provided in Chapter 5 and policies related to Coastal Resilience are provided in Chapter 6.

Implementing Policies

COASTAL DEVELOPMENT PRIORITIES

See Chapter 3 for policies concerning public access and recreation, Chapter 4 for policies that concern environmental and resource protection, Chapter 5 for protection from natural hazards, and Chapter 6 for policies concerning sea level rise adaptation.

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LD-I-6 **Lower Cost Visitor and Recreational Facilities.** Protect, encourage, and where feasible, provide lower-cost visitor and recreational facilities in the Coastal Zone. These include major, free recreational attractions such as Pacifica Pier and Pacifica State Beach; the public golf course at Sharp Park; the San Francisco RV Park; California Coastal Trail and other trails, lower cost overnight accommodations; and numerous beaches accessible at no cost.

LD-I-7 **Oceanfront Land for Recreational Use.** Protect land adjacent to Sharp Park and Pacifica State Beaches for low-intensity recreational use. Allowable uses should include recreation outfitters, campgrounds, rustic lodging, hikers' huts, or view restaurants.

LD-I-8 **Development Priority for Visitor-Serving and Recreational Uses.** Allow visitor-oriented uses as-of-right in all areas designated for Visitor-Serving Commercial or Low-Intensity Visitor-Serving Commercial, and all commercial or mixed-use districts within the Coastal Zone.

Development on Visitor-Serving Commercial sites with developable areas of two acres or larger must include a visitor attraction, hotel, conference center, or similar use, and may also include a range of retail and service uses. Smaller sites may have any visitor- or pedestrian-oriented retail or service use.

LD-I-9 **Walkable and Transit-Oriented Development.** Facilitate higher-density, mixed use development at specific locations along the coastline where an active, pedestrian environment is desired as shown on the Land Use Diagram (Figure 2-3).

LD-I-10 **Coastal-Dependent Industry.** New coastal-dependent industry that cannot feasibly be accommodated consistent with other policies of this LCP may be permitted only if alternative locations outside the Coastal Zone are infeasible or more environmentally damaging; permitting the development would not adversely affect the public welfare; and potential impacts to visual resources, sensitive species and habitat, water quality, and other coastal resources are mitigated to the maximum extent feasible. This policy does not apply to a new or expanded oil and gas development, refinery, or petrochemical facility.

LD-I-11 **Aquaculture.** If oceanfront land is found to be suitable for coastal-dependent aquaculture, give such use priority over non-coastal-dependent uses.

POLICIES FOR SPECIFIC SITES

LD-I-12 **Pacific Manor.** Establish appropriate zoning for the Pacific Manor Shopping district to facilitate Retail Commercial improvements and Mixed Use redevelopment.

Redevelopment or improvements should enhance the area's walkability and visual appeal, and should include pedestrian realm improvements that help to integrate the district with its coastal setting.

LD-I-13 **Northern Palmetto.** Support the transition to low-intensity visitor-serving commercial uses over time along the west side of Palmetto Avenue in northern West Sharp Park, and require improvement of the visual appearance of permitted older industrial uses when improvements are proposed to these uses.

Geotechnical studies are required to determine the "net developable area." New uses are required to provide appropriate setbacks along the coastal bluffs to protect new structures from loss during their design life, and to provide public access to and along the shoreline.

LD-I-14 **Palmetto Avenue.** Enhance Palmetto Avenue between north of Paloma Avenue and Clarendon Road as a pedestrian-oriented main street with retail, restaurants and services as well as multi-family housing and mixed-use development.

This will foster a character that will attract both residents and tourists and will follow standards and guidelines established in the Sharp Park Specific Plan.

LD-I-15 **Promenade Area and Beach Boulevard Property.** Enhance the Promenade area as a local community and tourist destination, while also ensuring that it adequately responds to and addresses coastal hazard considerations consistent with the LCP.

Redevelopment of the city-owned 2212 Beach Boulevard property should provide an anchor for Palmetto Avenue and enhance the beachfront experience. Appropriate uses could include a hotel or conventional commercial/residential mixed-use project with cafes, restaurants, retail, and upper-level housing, if such uses are deemed appropriate considering coastal hazards and the required protections for coastal resources. The mix of uses for any proposal shall emphasize uses that are of interest to visitors and that generate revenues for the City.

LD-I-16 **Francisco Boulevard.** Facilitate office commercial as well as retail development along the three blocks of Francisco Boulevard north of Santa Maria Avenue, and higher-intensity mixed use development on the three blocks between Santa Maria Avenue and Montecito Avenue.

A core of high-intensity and civic uses here should help to support retail and restaurants along Palmetto Avenue by bringing more residents and workers and by enhancing visibility from Highway 1.

LD-I-17 **Rockaway Quarry Site.** Enable the responsible development and environmental conservation of the Quarry Site, considering the potential coastal hazard constraints (including but not limited to bluff erosion, slope stability, and flooding), as well as the biological constraints (specific to sensitive species, environmentally sensitive habitat areas, and wetlands) and coastal resource protection more broadly.

Preparation of a specific plan for the Quarry site could achieve the desired development outcomes. Allowable development should provide community benefits, including substantial public open space, and commercial uses and public spaces attractive to both visitors and local residents. Uses may include an inn or hotel; shops and restaurants; performance or conference spaces; and public uses. Ordinance No. 391 provides that residential uses are only authorized after a vote of the electorate. Development should be integrated with the Rockaway Beach district, to create an expanded visitor-oriented area in a memorable natural setting.

Environmental protection is a priority at this site and includes preserving upland areas as open space, preserving the riparian corridor along Calera Creek, and preserving critical habitat. Any development of the Quarry site will require detailed evaluation of potential geotechnical hazards and biological resources to ensure safe use of the site and that sensitive habitat and wetlands are protected; the likely footprint of development could be much smaller than the area designated.

LD-I-18 **Rockaway Beach.** Facilitate continued improvements in the Rockaway Beach district and promote infill development emphasizing active ground-floor and visitor-oriented uses and links to the Quarry site.

LD-I-19 **Aramai Point.** Facilitate very low-intensity visitor-serving commercial use on Aramai Point between Rockaway and Pacifica State Beach. Maintain the Coastal Trail connecting the two beaches. Any use on this site must recognize the limited opportunity for vehicular access.

Potential uses should have a low development impact and able to be readily relocated to adapt to evolving coastal conditions, such as rustic lodging, hikers' huts, or similar uses.

LD-I-20 **Pedro Point Shopping Center.** Facilitate improvements to the existing Shopping Center that result in an improved orientation to the coastal environment and that result in more efficient use of the property with regards to parking, while enhancing its appeal for both neighborhood residents and visitors. Maintain beach access along Shoreside Drive.

LD-I-21 **Undeveloped San Pedro Avenue Site.** Establish a Coastal Residential Mixed Use zoning district to allow small-scale visitor-oriented commercial uses as a stand-alone project without any residential development, or small-scale visitor-oriented commercial uses with residential development at a density range of three to five units per gross, developable acre. Housing may be clustered, and uses may be mixed vertically or horizontally. Residential uses may be constructed attached to or detached from commercial uses, provided the overall site contains both commercial and residential uses. Development must include public coastal access, provide public open space, and consider all biological constraints.

A wetland survey conducted according to the requirements of Coastal Commission regulation 13577 (Title 14, California Code of Regulations) is required to delineate potential wetlands on the site as part of the development application and environmental review process. An assessment of potential geotechnical hazards must also be part of the development application and environmental review process, including assessment of the Ocean Shore railroad berm under hazard and vulnerability scenarios consistent with policies in Chapters 5 and 6.

CREATING A DESTINATION

LD-I-22 **Town Center** Use the Sharp Park Specific Plan to guide future development in the West Sharp Park area, as well as adjacent areas east of Highway 1 such as Eureka Square. Through a combination of mixed use land use designations/zoning, streetscape improvements such as undergrounding overhead utility lines, targeted public investment, and marketing strategies, promote Palmetto Avenue as a pedestrian-oriented destination with shops and services for residents and visitors alike. The Sharp Park Specific Plan must be certified by the Coastal Commission before taking effect in the Coastal Zone.

LD-I-23 **Business Improvement District.** Work with property owners and the Palmetto Business Association to establish a Business Improvement District (BID) to finance local public improvements in the corridor.

LD-I-24 **City-Owned Catalyst Projects.** Use city-owned properties as catalysts for new development in the Palmetto area and elsewhere in the city.

For key opportunity sites such as 2212 Beach Boulevard, the City may issue Request for Proposals for development. Learning from past request for qualifications (RFQ) processes for 2212 Beach Boulevard site will inform strategies to make the site more attractive and marketable as part of a future RFQ for a hotel developer.

LD-I-25 **Recycling Center Relocation.** Work with Recology, Inc. to identify a new location for a recycling yard to free up land for visitor-based economic development.

LD-I-26 **Increase Tourism.** Prepare a multi-faceted program to encourage tourism, focusing on:

- Attracting new hotels or inns, a visitor's center or other key attraction, tourism-based shopping, and other components; and
- "Branding" and marketing Pacifica's parks, open spaces, beaches, and other natural amenities.

LD-I-27 **Enhanced Visitor Node.** Taking all site constraints into account, create a visitor-oriented commercial and hospitality node at Rockaway Beach and on developable portions of the Rockaway Quarry site.

A key component of this strategy would be to pursue a boutique or high end/resort-oriented hotel and supporting tourist-oriented shopping and dining opportunities.

2.5 DEVELOPMENT CAPACITY AND ADEQUACY OF PUBLIC SERVICES

One purpose of the General Plan and LCLUP is to ensure that the City can accommodate projected population and job growth over the planning period (to 2040). This section estimates projected demand for new housing and non-residential space, and the development potential provided under the General Plan land use framework.

Population and Employment

POPULATION, HOUSING, AND EMPLOYMENT TRENDS

Pacifica grew rapidly in the 1950s and 1960s, but has grown very little since then. The City gained an average of 790 persons per decade in the 1970s, 1980s, and 1990s but saw a decline of 1,600 people from 2000 to 2010. In 2017, Pacifica's population was 39,141, an increase of six percent from a population of 36,805 in the 2010 Census, and an increase of about 2 percent over its population of 38,390 in 2000. Between 2000 and 2017, the City added 440 housing units, as average household size increased slightly from 2.73 to 2.77 persons.

As in much of the state, Pacifica's population has grown older in recent decades. Between 2000 and 2017, the 25-to-44 age cohort declined from 33 to 26 percent of the population, and there were also declines in the cohorts age 5 to 17. Meanwhile the 45-to-64 group grew from 27 to 32 percent and the population age 65 or greater rose from 10 to 15 percent.[3]

According to the Longitudinal Household Employer Dynamics Survey, the Planning Area had 4,725 jobs in 2017, an increase from 4,169 jobs in 2015.[4]

[3] U.S. Census Bureau, American Community Survey (ACS), 2013-2017

[4] U.S. Census Bureau, Longitudinal Employer-Household Dynamics (LEHD), 2019

Development Capacity and Projections

Development capacity is calculated based on assumptions about new residential and non-residential development that could be built under the Plan's land use designations and their respective densities and intensities.

As described in the General Plan, there are an estimated 1,280 acres of vacant or underutilized land classified for residential or mixed use in the Pacifica Planning Area. Buildout of an estimated 80 percent of opportunity sites at projected densities would result in a total of 1,040 new housing units. This Plan conservatively uses the 2017 ACS population estimate of 39,141 as a baseline and assumes that Pacifica and its Sphere of Influence will reach a projected population of 41,878 by 2040, based on this development capacity.[5]

There are an estimated 117 acres of vacant or underutilized land classified for commercial or mixed use, citywide (mixed use land is also counted in the residential capacity analysis). The Rockaway Quarry site accounts for 49 acres, the portion of the site's 94 total acres that would be potentially available for Visitor-Serving Commercial (VC) development based on the area mapped with this designation. As noted above, the Quarry site's development capacity may be further reduced by site-specific analyses of geotechnical and biological constraints. Realistic development of opportunity sites would result in an estimated 645,400 square feet of net new non-residential building area. The greatest amount of new building area would be in the VC category, reinforcing the importance of this sector to Pacifica's economic development strategy. Much of the VC potential is on the Quarry site, which site has proven challenging to develop in the past. New development is estimated to accommodate approximately 1,470 new jobs over the planning period.

The General Plan uses what may be considered a high-growth scenario for two principal reasons. First, much of the potentially developable land in Pacifica may be challenging to develop, so providing capacity to accommodate higher growth is more likely to translate to development that meets the needs of slower population growth. Second, there will be a need to provide adequate sites for housing affordable to low- and moderate-income households, to meet regional housing requirements.

Coastal Development Potential

Within the Coastal Zone, including all land west of Highway 1 as well as the Shelldance Nursery, the Planning Area has an estimated development capacity for 334 net new housing units on 78 acres of vacant or underutilized land. Nine in 10 of these units would be in Medium or High Density or Mixed Use areas, and potentially affordable to moderate- and low-income households. See **Table 2-2.**

TABLE 2-2: RESIDENTIAL DEVELOPMENT CAPACITY IN THE COASTAL ZONE UNDER THE LOCAL COASTAL LAND USE PLAN

General Plan Land Use	Vacant or Underutilized Acres[1]	Permitted Density Range (units per acre)	Projected Density (units per acre)[2]	New Housing Units at Buildout[3]
Residential Districts				
Transitional Open Space Residential	-	0.1 or less	NA	-
Open Space/Agriculture/Residential	42	0.2 or less	0.15	-
Very Low Density Residential	-	0.2 to 2	1.5	-

[5] Total population calculated by multiplying 5% vacancy rate by total buildout of 1,040 units; assumes current rate of 2.75 people per household.

Low Density Residential	8	3 to 9	6.5	30
Medium Density Residential	5	10to 15	12.5	40
High Density Residential	1	16to 21[4]	25	10
Mixed Use Districts				
Coastal Residential Mixed Use	5	Up to 15[5]	15	50
Mixed Use Neighborhood	12	16 to 26[4]	25	190
Mixed Use Center	5	30 to 50	32	102
Urban Reserve				
Urban Reserve	-	NA	0.1	-
Total Residential Development Potential on Opportunity Sites	78			4,128
Existing Units on Underutilized Sites				*78*
Net New Residential Potential	78			334

Notes

1. *Acreages are shown rounded to the nearest whole number, but more detailed numbers are used in calculations.*
2. *Projected density is informed by average current density of projected land uses and allowable density ranges.*
3. *A "net-to-gross factor" of 80% is applied to all development potential to account for need for additional streets on large sites. A "flex factor" of 80% is applied to account for property owner priorities and site constraints.*
4. *Sites of 0.5 acres or more in size may develop up to 30 dwelling units per gross acre.*
5. *The Undeveloped San Pedro Avenue Site shall be limited to 3-5 dwelling units per gross acre as provided in Policy LD-I-20.*

Sources: San Mateo County Assessor's Office, 2010; City of Pacifica, 2019; Dyett & Bhatia, 2021.

The Coastal Zone also has an estimated capacity for approximately 154,300 net new square feet of non-residential development on 110 acres of vacant or under-utilized land (land designated for mixed use is counted both here and in the residential capacity analysis.) About two-thirds of the new development capacity would take place in the Visitor-Serving Commercial category, including the Quarry site. See **Table 2-3.**

TABLE 2-3: NON-RESIDENTIAL DEVELOPMENT CAPACITY IN THE COASTAL ZONE UNDER THE LOCAL COASTAL LAND USE PLAN

General Plan Land Use	Vacant or Underutilized Acres[1]	Maximum Non-Residential FAR	Projected Non-Residential FAR[2]	New Non-Residential Sq. Ft. at Buildout[3]
Mixed Use Districts				
Coastal Residential Mixed Use	5	0.5	0.10	13,500
Mixed Use Neighborhood	12	1.0	0.25	75,900
Mixed Use Center	5	3.0	0.35	43,400
Commercial Districts				
Retail Commercial	13	1.0	0.25	85,000
Office/Commercial	1	1.5	0.35	13,100
Service Commercial	0	0.6	0.25	1,100
Visitor-Serving Commercial (not including Rockaway Quarry)	9	2.5	0.35	82,900
Rockaway Quarry Site[4]	49	0.5	0.35	448,400
Low-Intensity Visitor-Serving Commercial	16	0.2	0.05	21,000
Public Facilities and Open Space Districts				
Public/Institutional	0	1.0	0.35	1,300
Total Non-Residential Development Potential on Opportunity Sites	110			785,600
Existing Non-Residential Development on Underutilized Sites				*631,300*
Net New Non-Residential Potential	110			154,300

Notes

1. *Acreages are shown rounded to the nearest whole number, but more detailed numbers are used in calculations.*
2. *Projected intensity is informed by average current intensity of projected land uses and allowable intensity ranges.*
3. *A "net-to-gross factor" of 75% is applied to all development potential to account for need for additional streets on large sites. A "flex factor" of 80% is applied to account for property owner priorities and site constraints.*
4. *Approximately 49 acres of the 94-acre Quarry site would be potentially developable. This acreage is counted separately from the Visitor-Serving Commercial classification.*

Sources: San Mateo County Assessor's Office, 2008; City of Pacifica, 2008; Dyett & Bhatia, 2013.

Public Facilities and Services

A critical function of planning is to evaluate the capacity for existing public facilities and services to handle growth, and to identify long-term needs. In the Coastal Zone, public works facilities should be sited and designed to support development that furthers the goals of the Coastal Act (Section 30254). This section summarizes the projected demand for water and wastewater services, and other utilities, based on the land use framework described above. This framework intends to be consistent with Coastal Act priorities, including visitor-oriented development, public access and recreation, and environmental and scenic protection. The Plan's approach to the roadway network is covered in Chapter 3.

Potable Water Supply

The North Coast County Water District (NCCWD), an independent water purveyor, supplies water to Pacifica and part of San Bruno. The district gets its water from the San Francisco Public Utilities Commission (SFPUC) through the Hetch Hetchy system. The District also has rights to a limited amount of surface water from the South Fork of San Pedro Creek for six months of the year. Pacifica's water is pumped from San Andreas Lake and the Harry Tracey Water Treatment Plant in Millbrae via a main distribution line under Skyline Boulevard,

to the Milagra Ridge storage tank. From there, water for northern Pacifica is pumped to the Christian Hill tank on Skyline Boulevard and then distributed by gravity to smaller tanks and to customers. Water for southern Pacifica is piped from the Milagra Ridge tank to the Royce tank, off Fassler Avenue, and then to smaller tanks and to customers. Overall, the system is divided into 34 pressure zones, each separated by pressure-reducing valves.[6] The NCCWD has adopted a 2020 Urban Water Management Plan (UWMP) that describes its water supply; past, current, and projected water use; and water conservation targets, among other water resource information.

WATER CAPACITY AND USAGE

The NCCWD system's 11 storage tanks have a total capacity of 18.3 million gallons, enough to supply the service area with water for 5.8 days at the District's average daily usage rate of 2.43 million gallons per day (mgd).[7] The District's contract with SFPUC allows for a maximum purchase of 3.84 mgd.

WATER CONSERVATION

Water use in the district has steadily declined in recent years due to conservation programs and infrastructure repairs. Water conservation will continue to be important in coming years. In 2018, two laws were passed to aid California in making water conservation a way of life: SB 606 and AB 1668. These two laws highlight water efficiency and conservation and are meant to outline certain roles and actions to be carried out by the California Department of Water Resources, the State Water Resource Control Board and water suppliers. Each urban water supplier, starting November of 2023, will calculate its own objective based on the water needed in its service area for efficient indoor residential water use, outdoor residential water use, commercial, industrial, and institutional (CII) irrigation with dedicated meters and reasonable amounts of system water loss from leaks, the fact sheet states. In determining their objectives, water suppliers will also consider other unique local uses and credits for potable water reuse, based on standards adopted by the State Water Board. A coordinated response by the City and NCCWD will help Pacifica meet the requirements of this legislation in the future.

INFRASTRUCTURE MODERNIZATION

Pacifica's water pipes and storage reservoirs are aging and in need of modernization. NCCWD's current Capital Improvement Plan focuses on pursuing additional sources of supply, addressing water storage deficits by increasing tank size or adding new tanks, and pipe upgrades. Beyond these modernization efforts, Pacifica and NCCWD are dependent upon the safety and durability of the Hetch Hetchy system.

WATER QUALITY

SFPUC monitors water at the source and at local treatment plants for turbidity, organic and inorganic chemicals, microbial quality, mineral content, and radiological quality. NCCWD monitors water as it enters the District's system, and takes weekly water samples from various locations. Pacifica's water is consistently high-quality and safe to drink, meeting all standards set by the California Department of Health Services and the United States Environmental Protection Agency.[8]

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[6] Bay Area Water Supply and Conservation Agency (BAWSCA). BAWSCA Annual Survey-FY 2017-18. March 2019. Accessed at http://www.bawsca.org,2019.

[7] BAWSCA, 2019.

[8] North Coast County Water District (NCCWD). Amended 2015 Urban Water Management Plan. January 2018. Accessed at http://www.nccwd.com/ October 2019.

Wastewater

The City operates a wastewater treatment plant, sewage lift stations, and stormwater pump stations, as well as the citywide system of sewer mains and lateral pipes that connect to homes and businesses. Waste water flows through some 106 miles of main pipes to five sewer pump stations, and on to the Calera Creek Water Recycling Plant. The City's topography prevents gravity flow to the plant, and requires pump stations at Rockaway Beach, Linda Mar and Sharp Park.

CALERA CREEK WATER RECYCLING PLANT

The Calera Creek Water Recycling Plant (CCWRP), located on the south flank of Mori Point, is a tertiary treatment plant, brought online in 2000 to replace the old Wastewater Treatment Plant in West Sharp Park. The new plant uses ultraviolet disinfection, which allows effluent to be released to wetlands without residual chlorine. The plant has facilitated the creation and restoration of wetlands along Calera Creek, bringing year-round flow to a naturalized stream channel. The NCCWD began receiving recycled water from the plant and has been delivering the tertiary recycled water to recreational and institutional customers for irrigation use since August 2013, and residential customers since 2015. Testing at the Calera Creek Water Recycling Plant indicates that discharges generally meet applicable water quality standards, although there have been some isolated instances of non-compliance.

USAGE AND CAPACITY

The CCWRP has a dry weather capacity of 4.0 million gallons per day (mgd), a peak hourly dry weather capacity of 7.0 mgd, and a peak hourly wet weather capacity of 20 mgd.[9] Because of Pacifica's projected slow growth, the Plant will have adequate capacity for the next 15 to 20 years. The City's sanitary sewer collection system is subject to infiltration and inflow (I/I) of extraneous ground water and storm water.

In May 2011, the City was issued a Cease and Desist Order (CDO) by the Regional Water Quality Control Board and was ordered to eliminate insufficient capacity caused sanitary sewer overflows (SSOs) from the sanitary sewer collection system by January 1, 2019. In response, the City developed the Wet Weather Equalization (EQ) Basin Project to reduce SSOs, which required construction of a 2.1-million gallon-capacity EQ basin at the Pacifica Community Center parking lot and underground conveyance piping along Linda Mar Boulevard and Arguello Boulevard during high-flow storm events, completed in 2019.

Planned Improvements

The City intends to undertake the following projects:

- A feasibility study for an ultraviolet (UV) treatment system at the CCWRP;
- Sharp Park Station odor control upgrade, to make the site compatible with future redevelopment; and
- Relocation of the mainline and forcemain at the Sharp Park pump station.

In 2021, the City completed Phase II of the Sewer System Master Plan Update. An Inflow and Infiltration study determined improvement needs in the collection system at Crespi Drive, Linda Mar Boulevard, Fremont Avenue, and Catalina Avenue.

[9] RWQCB, 2006.

Electricity and Gas

Pacific Gas & Electric (PG&E) provides gas and electric services to Pacifica homes and businesses. With energy obtained from power plants, natural gas fields, and renewable energy sources in northern California. Peninsula Clean Energy is an alternative renewable-energy electricity provider. Both providers offer clean energy options including significant shares greenhouse gas (GHG) emissions-free power generation. The availability of electricity and gas services is not expected to become an issue during the planning horizon. However, electricity and natural gas use account for 40 percent of greenhouse gas emissions in Pacifica. Thus, while supply is not anticipated to be an issue in Pacifica, reducing demand for these resources will help reduce carbon emissions.

Solid Waste Collection and Recycling

Although solid waste accounts for just 2 percent of Pacifica's carbon emissions, solid waste has the potential to be a much larger contributor to global warming overall because of methane produced byproducts. Solid waste can be reduced through recycling, composting, and reduction and reuse of material goods.

Solid waste collection and recycling services in Pacifica are provided by Recology of the Coast, a division of Recology. Recology, based in San Francisco, operates a number of landfills, waste transfer and materials recovery facilities, including the recycling yard at 1046 Palmetto Avenue in Pacifica. Recology emphasizes waste reduction and diversion, and is the largest compost facility operator by volume in the United States. In Pacifica, Recology of the Coast currently provides curbside pick-up of garbage, recyclables, and green waste for both residential and commercial customers.

The City has enacted Ordinance No. 838-C.S regulating plastic beverage straws, stirrers and cutlery, and polystyrene disposable food service wear. Also, both the City and San Mateo County have recycling divisions that provide information to help residents and businesses reduce and divert waste from landfills. The City has also adopted Ordinance No. 870-CS to comply with SB 1383, California's Short Lived Climate Pollutant Reduction Strategy, to increase organic waste recycling in an effort to reduce greenhouse gas emissions.

Policies

Guiding Policies

LD-G-9 **Water Conservation.** Work with the NCCWD to meet water conservation objectives as required by the State.

Pacifica's water conservation efforts will include water efficient landscaping requirements, incentives for water conservation, and expansion of the system to use recycled wastewater for landscaping irrigation.

LD-G-10 **Wastewater Treatment.** Ensure that the City maintains adequate capacity to handle wastewater, and continue to expand wastewater recycling.

Implementing Policies

DEVELOPMENT CAPACITY

LD-I-28 **Public Service Priorities.** Ensure that existing and planned public works facilities accommodate needs generated by development or uses permitted by the buildout allowances of this Land Use Plan or by the General Plan to serve the City's non-coastal zone areas. Plan

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for the maintenance, operation, expansion and improvement to public works facilities considering threats from coastal hazards, and avoid locating new or expanded public works facilities in the Coastal Vulnerability Zone unless no feasible alternative exists. Support studies that evaluate the condition of critical infrastructure and critical facilities, especially public works infrastructure that has been identified as vulnerable to hazards. Studies shall include alternatives analyses for potential retrofit, improvements, relocation, or other considerations.

In the event that existing or planned public works facilities can accommodate only a limited amount of new development, services to coastal dependent land use, essential public services and basic industries vital to the economic health of the region, state, or nation, public recreation, commercial recreation, and visitor-serving land uses shall not be precluded by other development.

LD-I-29 **Water Supply.** Support North Coast County Water District in its efforts to develop sustainable, drought-proof local supplies. Support the Bay Area Water Supply & Conservation Agency in advocating for reliable and fairly priced water from the San Francisco regional water system.

LD-I-30 **Water Efficient Landscaping.** Collaborate with the North Coast County Water District (NCCWD) to design and implement a water-conserving landscaping ordinance that meets State requirements.

The State of California has a Model Water Efficient Landscaping Ordinance, which can be adapted to the City's needs. A coordinated response by the City and the NCCWD will help Pacifica reduce water use and stay beneath the water supply limit established by San Francisco Public Utilities District.

LD-I-31 **Incentives for Water Conservation.** Encourage the NCCWD to continue and expand its water conservation incentive programs, including free water-efficient fixtures and rebates for water-efficient appliances.

LD-I-32 **Water Recycling.** Continue to support implementation and expansion of NCCWD's water recycling project, involving new pipes and pumping stations, to allow treated wastewater from the Calera Creek Water Recycling Plant to be used for irrigation of landscaped areas.

The feasibility of expanding this project to include other potential uses of recycled water such as linkages with fire hydrants will be evaluated.

LD-I-33 **Water Storage.** Support the NCCWD in its efforts to provide adequate emergency water storage in Pacifica.

LD-I-34 **Waste Water Treatment Capacity.** Continue to monitor wastewater generation rates so decision-makers are aware of the impacts on the treatment plant from new development, and plan for additional capacity in advance of projected need.

LD-I-35 **Sewer System Connections**. Require all new development to be connected to the City's sewer system.

LD-I-36 **Sanitary Sewer Discharge**. Ensure that discharges of treated wastewater from the Calera Creek Wastewater Recycling Plant continue to comply with the Sanitary Sewer System Permit. *The City will manage the release of treated wastewater as part of habitat restoration along Calera Creek, and pursue the use of recycled water for irrigation and other uses.*

LD-I-37 **Waste Collection.** Periodically evaluate the City's waste collection contract to ensure that Pacifica residents and businesses receive high-quality and cost effective service.

LD-I-38 **Public Services for Development**. Development shall only be approved if it can be shown that it can be accommodated by adequate and sustainable public services (including in terms of water, sewer, and circulation) without any significant impacts to coastal resources.

3 PUBLIC ACCESS AND RECREATION

Open space is a defining feature of the Pacifica Coastal Zone, an extraordinary resource, and a priority for the community. Parks, schools, and public utility services are a vital part of a livable and sustainable Pacifica. The purpose of this chapter is to document existing public open space and community facilities and infrastructure, identify priority improvements, and ensure that they meet the needs of community members. The close relationship between open space, parks, recreation, and schools is highlighted.

An important part of coastal planning under the Coastal Act is identifying and protecting public access to the shoreline. With this in mind, this chapter provides policies for coastal access, and describes improvements that are proposed to be undertaken during the planning period to enhance recreational use of the coastline.

3.1 COASTAL ACT FRAMEWORK

Section 30210 of the Coastal Act states that "maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse." The Coastal Act establishes specific requirements for public access to and along the coast, and identifies lower-cost visitor-serving and recreational use of Coastal Zone land as high priorities. Furthermore, Section 30006 of the Coastal Act states that "the public has a right to fully participate in decisions affecting coastal planning, conservation and development; […] and that the continuing planning and implementation of programs for coastal conservation and development should include the widest opportunity for public participation." Policies from Chapter 3 of the Coastal Act which are most relevant to the subject matter of this chapter include, but are not limited to, the policies listed below. Chapter 3 of the Coastal Act, available in Appendix A, is incorporated by reference into this chapter.

Coastal Act Policies

Article 2: Public Access

- **Section 30210** Access; recreational opportunities; posting
- **Section 30211** Development not to interfere with access
- **Section 30212** New development projects
- **Section 30212.5** Public facilities; distribution
- **Section 30213** Protection, encouragement, and provision of lower cost visitor and recreational facilities.
- **Section 30214** Implementation of public access policies; legislative intent
- Article 3: Recreation
- **Section 30220** Protection of certain water-oriented activities
- **Section 30221** Oceanfront land; protection for recreational use and development
- **Section 30222** Prioritize visitor-serving commercial recreational facilities on private lands
- **Section 30223** Upland areas
- **Section 30224** Recreational boating use; encouragement; facilities
- Article 6: Development
- **Section 30252** Maintenance and enhancement of public access
- **Section 30254** Public works facilities

3.2 COASTAL ACCESS

Under the Coastal Act, the public's right of access to the sea is protected (Section 30211). New development along the coastline is expected to provide public access from the nearest public roadway, except where public access would endanger public safety or fragile coastal resources or where there is adequate access nearby (Section 30212). Public access requirements are to be implemented in a way that allows flexibility in the time,

place, and manner of access based on site characteristics such as topography, natural resources, and the privacy of adjacent property owners (Section 30214). To the greatest extent feasible, public coastal access facilities should be distributed along the coastline to prevent overcrowding or overuse of any area (Section 30212.5).

The Coastal Act requires that local coastal land use plans include a public access component to coordinate public and private access improvements. Coastal access points in Pacifica are detailed in **Table 3-1** and shown in **Figure 3-1**. Some of the access points are privately-owned, while others are on public land. Two types of access points are distinguished: those that provide beach access, and those that provide bluff-top access or viewpoints.

Figure 3-1: Coastal Access

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Coastal Access Points with Beaches

Public access to beaches in Pacifica exists at Sharp Park Beach, Rockaway Beach, and Pacifica State Beach. The shore can also be reached by a public coastal access ramp across private property at Oceanaire Apartments (formerly Land's End Apartments) in the West Edgemar-Pacific Manor neighborhood, and a public easement on the south side of the San Francisco RV Park.

Coastal Access Points at Bluff-tops or Overlook Points

Bluff-top or promontory access with views over the coastline exists at Mori Point and on the Northern Coastal Bluffs. Direct views to the Ocean are provided at Esplanade Avenue; along Beach Boulevard; at Rockaway Beach; and from the Ocean Shore Railroad berm and the top of Kent Road in the Pedro Point neighborhood. A multi-purpose trail was constructed in 2006 at the south end of Esplanade Avenue directly north of the San Francisco RV Park. Access and overlook points are listed on **Table 3-1**.

Coastal Access Improvements

LCLUP and General Plan policies identify additional coastal access improvements. These include enhanced access to the shore south of San Francisco RV Park and enhanced access to bluffs and viewing areas along Northern Coastal Bluffs, Pedro Point and Rockaway Headlands.

Coastal Access with Development

According to the Coastal Act, new development is required to provide maximum beach access from the nearest public roadway to the shoreline and along the shoreline, except where specific conditions apply. This provision does not apply to all types of new development, including reconstruction of a single-family house or improvements to structures which do not change the intensity of use (California Public Resources Code Section 30210-30214).

Right of Access Acquired Through Use

Along the California coast the general public has historically used numerous coastal areas. Trails to the beach, informal parking areas, beaches, and blufftops have provided recreational opportunities for hiking, picnicking, fishing, swimming, surfing, diving, viewing and nature study. The public may have the right to use the property by permission of the owner or the public may acquire the right through use of the property without permission. This is sometimes referred to as a "public prescriptive easement." This term recognizes that the use must continue for the length of the "prescriptive period" before a public easement comes into being. In California the prescriptive period is five years.[1]

[1] California Coastal Commission, "Some Facts About Public Prescriptive Rights," accessed July 2013 at http://www.coastal.ca.gov/access/pr-access-facts.pdf

TABLE 3-1: COASTAL ACCESS POINTS					
Map	Name	Beach Access?	Ownership	Detail	Proposed Improvement
1	North City Boundary	No	GGNRA	Bluff top. Isolated beach access using informal trails. Erosion concerns.	Support bluff trail development on GGNRA land.
2	West Fairmont Foredune	No	GGNRA	Bluff top. Isolated beach access using informal trails. Erosion concerns.	Support bluff trail development on GGNRA land.
3	Pacific View Villas Condominiums	No	Private	Bluff top. Accessible from Palmetto Avenue or from trail at Oceanaire Apartments.	
4	Oceanaire Apartments (formerly Land's End Apartments)	Yes	Private	High bluffs. Path and stairway to beach available to public, privately maintained.	
5	Esplanade at Manor	No	City	Steep bluffs. Coastal erosion has resulted in loss of houses, and fencing across entire stretch. Trail exists in 500-block of Esplanade Avenue.	Pursue small public park and trail on bluff-top in 400-block of Esplanade Avenue if feasible.
6	San Francisco RV Park	No	Private	Bluff top. Lateral trail connects to 500-block of Esplanade Avenue.	
7	South of San Francisco RV Park	Yes	Private (public easement)	Coastal bluffs. Beach accessible by informal path. Off-street parking provided. Erosion concerns.	Improve public access and restore bluff conditions.
8	Cottages at Seaside	No	Private	Bluff top. Lateral trail along bluff.	
9	Northern Beach Boulevard	No	City	Seawall along Beach Boulevard and armored bluff shoreline. Limited on-street parking on Beach Boulevard.	
10	Pacifica Pier and Vicinity	Yes	City	Access to beach at San Jose, Montecito Avenues across armored bluffs, and to Pier at end of Santa Rosa Avenue. Popular fishing area. Erosion concerns. Parking at City-owned lot.	Maintain public parking as part of redevelopment of City-owned 2212 Beach Boulevard property and maintain lateral access along Beach Boulevard to the Pier.
11	Sharp Park Beach Promenade	Yes	City and State	Low bluffs between beach and park. Popular for walking, jogging, fishing, ocean viewing, beachcombing. Parking available along Beach Boulevard.	

TABLE 3-1: COASTAL ACCESS POINTS (CONTINUED)

Map	Name	Beach Access?	Ownership	Detail	Proposed Improvement
12	Clarendon Road	Yes	City and State	Access to long beach across very low bluffs, protective berm. Parking available along Beach Boulevard.	
13A 13B	Sharp Park, Berm	Yes	City/County of SF	Beach access stairs (13A) mid-berm. ADA access on top of berm, and from top of berm to beach by wheelchair ramp at berm north end (13B), near Clarendon.	
13	Sharp Park, South End	Yes	City/County of SF	Beach access from south end of berm. Access point is reached by GGNRA's Mori Point Trail.	
14	Mori Point	No	GGNRA	Steep rocky bluffs, subject to rockfalls. Trail improvements and habitat restoration in progress.	
15	Mori Point Public Parking Lot	Yes	GGNRA	Small parking lot at Mori Point Rd. & Bradford Way. Mori Point Trail provides access to beach and bluff top trails.	
16	Calera Creek Public Parking Lot	Yes	City	Small parking lot west of Reina del Mar & Highway 1 intersection. Calera Creek Multi-use Trail provides access to Rockaway Beach.	
17	Rockaway Beach, North End	Yes	City, private	Low armored bluffs to sandy beach. Informal beach access. Public parking lot provides access to beach, most of which is privately-owned	Ensure public access.
18	Rockaway Beach Seawall	No	City	Promenade above seawall provides ocean views. Parking available in private lots or on-street.	
19	Rockaway Beach, South End	Yes	Private	Gentle slope to sandy beach. Popular for surfing, ocean viewing. Served by public parking lot for 60 vehicles. Also a trailhead for Coastal Trail.	Ensure public access to the beach.
20	Aramai Point	No	Private	Headlands with steep cliffs descending to cobble beach. No formal access. Erosion concerns.	Provide public trail to overlook point as part of development or land conservation.
21	North End of Pacifica State Beach	Yes	State	Unrestricted access along beach and Coastal Trail. Nearest parking at public lot at Crespi Drive.	
22	Central Pacifica State Beach	Yes	State	Unrestricted beach access, and access to Coastal Trail. Public lot across Highway 1 at Crespi Drive provides 175 parking spaces, restrooms and changing facilities/	Provide additional signage and amenities at Crespi Drive parking lot in relation to proposed extension of Baquiano Trail.

23	South End of Pacifica State Beach	Yes	State	Unrestricted beach access and access to Coastal Trail. Public parking for State Beach provided in two parking lots, accessed from Highway 1 and San Pedro Avenue.	

TABLE 3-2: COASTAL ACCESS POINTS (CONTINUED)

Map	Name	Beach Access?	Ownership	Detail	Proposed Improvement
24	North Side Pedro Point Shopping Center	Yes	Private	Informal trail access, and customer parking at shopping center.	Improve new segment of Coastal Trail along former railroad berm.
25	Oceanshore Railroad Berm	No	Private	Narrow sandy beach backed by private residences and the old Oceanshore Railroad berm, about 80-100 feet in height.	Conduct a prescriptive rights study.
26	Shelter Cove	No	Private	Steep bluff. Access by steep, informal trail on private land. High-up views over Shelter Cove, Pedro Point.	Conduct a prescriptive rights study.
27	Pedro Point Headlands	No	Public	Headlands with steep cliffs. Limited trail access exists from trailhead at Highway 1.	Trail and access improvements expected under land steward management; new trails should provide coastal views from Pedro Peak.

Source: Pacifica General Plan, 1980; Dyett & Bhatia, 2020

Policies

Guiding Policies

PR-G-1 **Coastal Access and Recreational Opportunities.** Provide maximum coastal access and recreational opportunities for all people consistent with public safety needs and the need to protect public rights, rights of property owners, and natural resource areas from overuse, including access at each point identified on Figure 3-1.

PR-G-2 **Management of Public Access.** Regulate the time, place, and manner that public access is provided, based on such factors as topographic and site constraints; the fragility of natural resources; public safety; and the privacy of adjacent residential uses.

PR-G-3 **Distribution of Public Coastal Facilities.** Continue to distribute public facilities, including parking areas or facilities, so as to mitigate against the impacts of overcrowding or overuse by the public of any single area.

PR-G-4 **Vehicle Miles Traveled.** Strive to reduce overall vehicle miles traveled by developing high-density mixed-use areas, designing pedestrian-oriented streets, and improving transit options and efficiency.

Implementing Policies

PR-I-1 **Public Shoreline Access.** Continue to ensure that new development does not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.

Formalized public access locations are shown in Figure 3-1.

PR-I-2 **New Development and Coastal Access.** Require that new development along the coastline provide public access from the nearest public roadway to the shoreline and along the coast, and be designed to minimize impacts to public coastal access and recreation. Ensure that impacts are mitigated through the dedication of access or trail easements or the provision of improvements to other public access points.

The City may grant exceptions to this requirement where public access would pose a safety risk or threat to fragile resources, or where adequate access exists nearby.

PR-I-3 **Private Roads and Gates.** Prohibit gates and other barriers designed to regulate or restrict access on private roads where such barriers have the potential to impede access to public trails and recreational areas.

PR-I-4 **Maintenance of Public Coastal Access.** Require a public or private entity to be responsible for required public access ways. Until such an entity agrees to be responsible for liability and maintenance of such access ways, they are not required

to be open for public use. Dedicated public access ways should be designed to provide views as well as access connections to or along the shore.

PR-I-5 **Impediments to Public Access.** Prohibit restrictions on public parking that would adversely affect public access to beaches, trails, or other recreational lands along the coast except where necessary to protect public safety. Such restrictions include the installation of "private beach" and "private parking" signs, landscaping, and painting red curbs in the public right-of-way.

PR-I-6 **Structures on Public Beaches.** Limit structural development on public beaches to that which is necessary for public access or safety, such as lifeguard towers, waste receptacles, or wheelchair accessways. Such development shall be able to be removed or relocated, and shall be sited and designed to minimize adverse impacts on public access, recreation, and coastal resources.

PR-I-7 **Adjustment of Lateral Shoreline Easements.** Require that new lateral shoreline easements, where required, automatically adjust as needed to move in response to changes to the shoreline ("rolling easements").

New development must demonstrate that lateral access can be maintained for the expected life of the project, including consideration of effects from sea level rise. Alternatively, the City may determine that lateral public access is not necessary where public access would pose a safety risk or threat to fragile resources, or where adequate access exists nearby.

PR-I-8 **Temporary Events.** Ensure that temporary events minimize impacts to public access, recreation, and coastal resources through the Parks, Beaches, and Recreation special events permitting process. Consistent with Coastal Commission Guidelines, a Coastal Development Permit shall not be required unless the event meets all of the following criteria:

- Is held between Memorial Day weekend and Labor Day; and,
- Occupies all or a portion of a sandy beach area; and,
- Involves a charge for general public admission or seating where no fee is currently charged for use of the same area (not including booth or entry fees).

Only temporary event meeting all the above criteria shall require coastal development permit review, however, the Planning Director may also exclude from permit requirements temporary events meeting all the above criteria when:

- The fee is for preferred seating only and more than 75% of the provided seating capacity is available free of charge for general public use; or
- The event is held on sandy beach area in a remote location with minimal demand for public use, and there is no potential for adverse effect on sensitive coastal resources; or
- The event is only one day in duration; or

- The event has previously received a coastal development permit and will be held in the same location, at a similar season, and for the same duration, with operating and environmental conditions essentially the same as those associated with the previously-approved event.

The Planning Director (or the Coastal Commission's Executive Director if the Planning Director's determination is challenged) may determine that a temporary event, even an event that might otherwise not require a coastal development permit per this section above, shall require a coastal development permit if it is determined that unique or changing circumstances exist relative to the particular temporary event that have the potential for significant adverse impacts on coastal resources. Such circumstances may include, but shall not be limited to, the following:

- The event, either individually or together with other temporary events scheduled before or after the particular event, precludes the general public from use of a public recreational area for a significant period of time; or
- The event and its associated activities or access requirements will either directly or indirectly impact environmentally sensitive habitat areas, rare or endangered species, significant scenic resources (including as mapped on the LCP Land Use Plan maps or as determined during project review), or other coastal resources; or
- The event is scheduled between Memorial Day weekend and Labor Day and would restrict public use of roadways or parking areas or otherwise significantly impact public use or access to coastal waters; or
- The event has historically required a coastal development permit to address and monitor associated impacts to coastal resources.

Temporary events located solely within the Coastal Commission's original coastal development permit jurisdiction area require review and determination of coastal development permit requirement or temporary event exemption from the Coastal Commission.

PR-I-9 **Fees and Time Restrictions.** Ensure that public beaches and parks in the Coastal Zone are free to access or maintain lower-cost user fees and parking fees, and minimize parking lot and beach curfews to the extent feasible in order to maximize public access and recreation opportunities.

PR-I-10 **Northern Coastal Bluffs.** Promote potential trail improvements by GGNRA to create controlled public access to the bluffs, while protecting Northern Coastal scrub and other vegetation. (See Points 1 and 2 on the Coastal Access map, Figure 3-1.)

PR-I-11 **Esplanade Bluff.** Develop a small public park or viewing area and a trail on City-owned bluff top land along the 400-block of Esplanade Avenue (Point 5 on the Coastal Access map, Figure 3-1), if such improvements are feasible[2].

[2] See Glossary for Coastal Act definition of "feasible."

PR-I-12 **Coastal Access Point South of San Francisco RV Park.** Complete planned improvements to public access along easement south of the San Francisco RV Park (Point 7 on the Coastal Access map, Figure 3-1), including trail improvements and natural restoration.

PR-I-13 **Beach Boulevard.** Ensure that public access to the coast at the Promenade and Pier (Points 10 and 11 on the Coastal Access map, Figure 3-1) is maintained and enhanced by redevelopment at the City-owned 2212 Beach Boulevard site, including continuation of public parking.

PR-I-14 **Rockaway Beach.** Ensure that public access to Rockaway Beach (from Points 17 through 19 on the Coastal Access map, Figure 3-1) is maintained.

PR-I-15 **Aramai Point** Provide public trail to overlook point as part of development or land conservation (Point 20 on the Coastal Access map, Figure 3-1).

PR-I-16 **Central Pacifica State Beach.** Provide additional signage and amenities at Crespi Drive parking lot in relation to a proposed trail route connection between the coast and the Baquiano Trail in Sweeney Ridge (Point 22 on the Coastal Access map, Figure 3-1).

PR-I-17 **North Side of Pedro Point Shopping Center.** Construct a new segment of Coastal Trail along the former Ocean Shore Railroad Berm (Point 24 on the Coastal Access map, Figure 3-1).

PR-I-18 **Pedro Point Headlands.** Extend trails on Pedro Point Headlands to a coastal overlook point. (See Point 27 on the Coastal Access map, Figure 3-1)

PR-I-19 **Rockaway Quarry.** If a safe public route can be developed on the Quarry uplands, create coastal access along a new trail connecting Rockaway Beach with Mori Point, as part of a conservation proposal or new development.

PR-I-20 **New Coastal Access Points.** Pursue development of new coastal access points wherever possible based on new acquisitions of public land or easements, within fiscal limitations for maintenance of the access points.

3.3 OPEN SPACE AND RECREATION

The Coastal Act seeks to protect, encourage, and provide lower-cost visitor and recreational facilities and maximize public recreational opportunities in the Coastal Zone (Section 30213), as well as to preserve areas especially suited for ocean-oriented recreational use (Section 30220) unless the demand is not likely in the foreseeable future or similar recreation is already adequately provided for locally (Section 30221). Upland areas necessary to support coastal recreational uses should also be preserved (Section 30223). Section 30224 specifically promotes development of facilities for boating use. New

development along the coast should ensure that the recreational needs of new residents will not overload coastal recreation areas (Section 30252).

Parks and recreation facilities provide community gathering places, opportunities for relaxation, passive and active recreation, enjoyment of the natural environment, and a break from the stresses of everyday life. Public open space in Pacifica also defines neighborhoods, establishes urban edges, creates scenic vistas, protects coastal resources, and protects rare and endangered or threatened plants and animals and their habitats.

Pacifica has over six miles of coastline and beaches, offering recreation opportunities that include isolated beach experiences, outstanding fishing, surfing, tide-pooling and diving. Trails provide public access along much of Pacifica's coastline. Pacifica also provides City parks in a variety of sizes for local residents and visitors, maintains a partnership with local school districts making school play fields available for community use, and has a historic coastal public golf course and club house. Existing parks and proposed improvements are shown on **Figure 3-2**, Parks and Open Space System.

In addition to the extensive public land in Pacifica's Coastal Zone and the recreation opportunities it affords, the Local Coastal Land Use Plan designates certain areas for Low-Intensity Visitor-Serving Commercial uses. This development priority is covered in Chapter 2.

Regional Parks and Beaches

Regional Parks

Regional parks and beaches in the Coastal Zone total approximately 450 acres, and are listed in **Table 3-2**. This park land is owned and managed by various agencies, including the National Park Service, the State of California, the City and County of San Francisco, and the City of Pacifica. The City does not have permitting authority over park land owned by other public agencies. While the California red-legged frog and the endangered San Francisco garter snake are noted within the Mori Point and Sharp Park areas, these or other sensitive species may be present in other regional park or beach areas.

TABLE 3-2: REGIONAL PARKS AND BEACHES IN THE COASTAL ZONE		
Park Name or Category	Owner	Acres
Regional Parks		
Mori Point (GGNRA)	National Park Service	106
Northern Coastal Bluffs (GGNRA)	National Park Service	17
Pedro Point Headlands (GGNRA)[1]	City of Pacifica, State of California	160
Sharp Park[2]	City and County of San Francisco	128
Subtotal		*410*
Beaches		
Sharp Park Beach	City and County of SF, State of California	14
Rockaway Beach	Private	5
Pacifica State Beach	State of California, City of Pacifica	21
Subtotal		*40*
Total		450

Notes:
(1) As of 2012, Pedro Point Headlands is owned by the City of Pacifica and the California Coastal Conservancy.
(2) Only portion within Coastal Zone is counted. Portion of Sharp Park Beach within Sharp Park is calculated under "Beaches".

Source: San Mateo County Assessor's Office, 2008; City of Pacifica, 2010; Dyett & Bhatia, 2012.

GOLDEN GATE NATIONAL RECREATION AREA

Mori Point and land on Pacifica's Northern Coastal Bluffs are part of the National Park Service's Golden Gate National Recreation Area (GGNRA), which extends in segments from Point Reyes, through San Francisco, to the Santa Cruz Mountains. Additional land owned by the California Coastal Conservancy and the City of Pacifica on Pedro Point Headlands may be added to the GGNRA in the future. As of 2018, GGNRA estimated approximately 17 million visitors to the Recreation Area as a whole.[3] Protected ridges and coastal bluffs in and adjacent to the GGNRA are features of major local and regional significance as well as being vantage points for impressive views of the coast and bayside ridges and valleys.

NORTHERN COASTAL BLUFFS

GGNRA manages approximately 17 acres of bluffs along the ocean in the far northern end of Pacifica, nearly contiguous with GGNRA-managed coastal land around Mussel Rock in Daly City. This land offers wide open views from Palmetto Avenue. There is currently no improved public access. GGNRA intends to preserve and enhance the natural and scenic values of their cliffs, with some public access.

MORI POINT

Mori Point, a 106-acre promontory between Sharp Park and Rockaway beaches, was added to the GGNRA in 2002. Mori Point is accessible from the Coastal Trail along Calera Creek, from the Sharp Park levee at Clarendon and Beach Boulevard, or from Mori Point Road in the West Fairway Park neighborhood. The San Francisco garter snake and California red-legged frog are found on Mori Point,

[3] National Park Service, http://www.nps.gov/goga/parkmgmt/statistics.htm, accessed 2009.

and the unit is managed for the protection of these species, while trail enhancements are also being provided.

SHARP PARK

The 400-acre Sharp Park is the result of a 1917 land bequest by the Murphey family to the City and County of San Francisco, on the condition that the land remains in recreational use. Sharp Park contains an 18-hole public golf course, occupying 128 acres between the ocean berm and Highway 1. It was established in 1932 and designed by British golf course architect, Alister MacKenzie. The Park provides low-cost golf to the general public, with reduced greens fees for Pacifica and San Francisco residents. The golf course also includes habitat for the California red-legged frog and the endangered San Francisco garter snake. In 2009, the San Francisco Recreation and Park Commission adopted a restoration plan that would retain the golf course, while also creating more habitat by realigning parts of the course.

PEDRO POINT HEADLANDS

Pedro Point Headlands is the coastal extension of San Pedro Mountain, jutting into the Pacific west of Highway 1 north of Devil's Slide. Most of Pedro Point Headlands within the Planning Area are now owned by the State of California or the City of Pacifica. The Headlands will be managed for habitat protection and public enjoyment. The construction of the Devil's Slide Tunnel allowed the bypassed highway segment to be converted to a trail in 2014. Parking areas and trailheads are also now available at this segment, and new trails have been developed to link the trailhead at the north end with trails on Pedro Point Headlands. The Headlands will be managed for habitat protection and public enjoyment.

Beaches

PACIFICA STATE BEACH

Pacifica State Beach, stretching more than a half mile between Pedro Point and Aramai Point, is one of the most popular surfing and beach bathing spots in the San Francisco area. Most of the beach and dunes are owned by the State and are part of the state parks system, but are managed by the City of Pacifica. Improvements completed in 2004 included rehabilitation of the Linda Mar Sewage Pumping Station, wetlands restoration, shoreline protection, dune restoration, improvements to the Coastal Trail, and new public restrooms.

Figure 3-2: Parks and Open Space System

ROCKAWAY BEACH

Rockaway Beach lies on a small bay between rocky headlands. The north end of the beach may be accessed from a seafront plaza at the end of Rockaway Beach Avenue. A parking lot connects the south end of the beach to a new segment of the Coastal Trail crossing the Headlands between Rockaway Beach and Pacifica State Beach. The new section of Coastal Trail along Calera Creek can be reached from the south end of Rockaway Beach.

SHARP PARK BEACH AND PACIFICA PIER

Sharp Park Beach extends from Mori Point along the west side of the Sharp Park levee to the West Sharp Park neighborhood. The southern section is owned by the City and County of San Francisco as part of Sharp Park, while the northern portion is owned by the State. The beach is open to the public, and is popular for walking. It is reached from the south from a small trailhead at Mori Point, and from the north at the Beach Boulevard Promenade, where public parking is available. The Promenade also provides access to Pacifica Pier, where crabbing and fishing are popular activities.

Open Space Task Force Recommendation

An Open Space Task Force, convened by City Council in 1984 "to identify, prioritize, and seek means for long-range preservation of significant open space in Pacifica," identified 51 properties as priorities for preservation. Preservation strategies include public acquisition of land or conservation easements; General Plan and zoning changes; use of Transfer of Development Rights; and action by a local land trust. The Open Space Task Force recommendations include land that has been permanently preserved since the Report was produced. Land on Mori Point, Pedro Point Headlands, the Northern Coastal Bluffs, Esplanade Bluff, Sharp Park Beach, and Pacifica State Beach were acquired by land trusts, the City of Pacifica, the California Coastal Conservancy, or the National Park Service for conservation.

Priorities for Regional Park Land in the Planning Area

The General Plan identifies land on the Northern Coastal Bluffs and the bluffs along Esplanade Avenue as priorities for permanent conservation because of the presence of sensitive natural communities and the risks of development along the coast. This land may be managed by GGNRA, the City, or others, with development rights transferred with use of the City's TDR program.

On a variety of other sites shown on **Figure 3-1** as "Partial Conservation with Development," open space is expected to be preserved as part of development.

City Parks and Playfields

Section 30252 of the Coastal Act states that new development along the coast should ensure that the recreational needs of new residents will not overload coastal recreation areas.

City parks and playfields provide active use areas and areas for local passive enjoyment for Pacifica residents. These include district parks, neighborhood parks, pocket parks, special facilities, and school grounds. City parks and school grounds in the Coastal Zone total approximately 10 acres. The Coastal Zone includes one neighborhood park, Fairmont West, which covers five acres and includes a soccer field, basketball hoops, and public restrooms. Palmetto Mini-Park provides a small playlot for the West Sharp Park neighborhood, while more ample playfields are available for after-school use at Ingrid B. Lacy Middle School.

The most prominent City of Pacifica recreational facilities in the Coastal Zone are Beach Boulevard Promenade and the Pacifica Municipal Pier. Beach Boulevard Promenade is located above the seawall in the West Sharp Park neighborhood. It is served by public parking, and is popular for walking and jogging. The Promenade provides access to the Pacifica Pier and Sharp Park Beach. Pacifica Municipal Pier, built in 1973, is one of the Bay Area's most popular places to fish. No fishing license is needed, and several types of fish can be caught from the pier. The pier is adjacent to the Promenade and picnic area along Beach Boulevard. A café is located at the foot of the pier.

Park Standards

The City's park standards are intended to meet the needs for active and passive recreation and enjoyment of Pacifica residents and visitors over the planning period. Pacifica requires developers to dedicate land or pay an in-lieu fee to provide park land at a ratio of five acres per 1,000 residents. All residents should be within a short walk (one-quarter to one-half mile) of either a neighborhood park or usable outdoor area at a school site, but not necessarily both.

Parks and Recreation Priorities

According to the California Parks and Recreation Society, the most valued feature of parks is the preservation of and access to outdoor spaces, particularly minimally-developed areas in a nearly natural state and areas with facilities for children's play and for exercise and group sports. Parks also provide a sense of social connectedness.[4] The desire for natural areas is abundantly met in Pacifica.

While Pacifica has a good inventory of park land, some built-out neighborhoods with limited existing parkland may experience increasing in-fill density, leading to unique park needs. Additionally, fiscal constraints make park maintenance a challenge in the future. Pacifica is likely to focus on solutions to address park access in built-out neighborhoods, such as rooftop parks or public plazas, enhancing existing parks, and evaluating opportunities to create new parks on underused public land and as part of new development. Opportunity sites for new parks and park improvements are shown in **Figure 3-2**.

[4] California Park & Recreation Society. Market Research to Support CRPS Building the Brand Initiative. March 2009.

Policies

Guiding Policies

PR-G-5 **Coastal Areas Suited for Water-Oriented Recreation.** Continue to protect coastal areas suited for water-oriented recreational activities.

This policy applies to but is not limited to the following: fishing at Pacifica Pier, surfing and other water recreation at Pacifica State Beach. The policy is based on Section 30220 of the California Coastal Act.

PR-G-6 **Development of City Parks.** Create and enhance neighborhood and pocket parks and plazas to provide access to local recreational space to all Pacifica residents.

PR-G-7 **Recreation Facilities.** Enhance outdoor recreation facilities and services in local parks, in coordination with youth and adult leagues and community groups with priority given to sports fields and off-leash dog play areas.

PR-G-8 **Community Gathering Place.** Create or enhance one or more public plazas or central gathering places where all Pacifica residents come together. This place or places should be connected with concentrated, mixed use areas.

PR-G-9 **School Playfields.** Continue to cooperate with the school districts to make school playfields available for public use after school hours.

PR-G-10 **Open Space Preservation.** Preserve open space that protects natural resources, visual amenities, and public health and safety.

The top priority areas for conservation are beaches, oceanfront bluffs, ridgelines, hillsides areas adjacent to existing open space, and areas that support critical wildlife habitat and endangered species.

Implementing Policies

REGIONAL PARKS AND BEACHES

PR-I-21 **Public Access Improvements and Habitat Restoration.** Support GGNRA in implementing habitat restoration and public access improvements at its park units in the Planning Area, including Sweeney Ridge, Milagra Ridge, Mori Point, and the Northern Coastal Bluffs.

PR-I-22 **Pedro Point Headlands.** Complete the planned transfer of City-owned land on Pedro Point Headlands to an appropriate public or private land steward, and pursue land and/or trail easement acquisition if necessary to connect Headlands trails with the Coastal Trail in Pacifica.

PR-I-23 **Northern Coastal Bluffs.** Promote the permanent conservation of private land on the Northern Coastal Bluffs to protect sensitive natural communities and protect against coastal erosion. Manage protected land together with adjacent GGNRA land.

PR-I-24 **Sharp Park.** Support the continued operation of golf at Sharp Park Golf Course consistent with resource protection, natural hazard, and coastal vulnerability policies, CDP terms and conditions, and support development of additional recreational uses in upland portions of the Park located outside the Coastal Zone east of Highway 1.

The long-term management approach should protect existing development from hazards; protect and restore habitat; and maintain public access to and along the beach.

PR-I-25 **Sharp Park and Pacifica State Beaches.** Maintain partnership with the State of California in ownership and management of Sharp Park Beach and Pacifica State Beach, balancing public access with protection of habitat and shoreline conditions.

PR-I-26 **Rockaway Beach.** Ensure that public access to Rockaway Beach from designated Coastal Access points is maintained.

PR-I-27 **Fees and Time Restrictions.** Ensure that public beaches and parks in the Coastal Zone maintain free and lower-cost user fees and parking fees, and minimize parking lot and beach curfews to the extent feasible in order to maximize public access and recreation opportunities.

CITY PARKS AND SCHOOL PLAYFIELDS

PR-I-28 **Park Land Dedication or In-Lieu Fees.** For new land divisions and residential development, continue to require the dedication of land or payment of in-lieu fees to provide park land at a ratio of five acres per 1,000 residents.

PR-I-29 **Park Development to Meet Park Standards.** Develop new parks in a timely manner using in-lieu fees or land dedicated as part of new development, to ensure that Citywide park and recreation space is available to the community at a ratio of 6.3 acres per 1,000 residents by 2040.

PR-I-30 **Community Use of School Grounds and Recreation Facilities.** Explore joint-use agreements and seek to strengthen these as needed to ensure community use of play areas and indoor recreation facilities at school sites.

PR-I-31 **Parks as Part of Future Development.** Create future public spaces, accessible to the community, as part of the redevelopment of publicly-owned sites and of larger privately-owned sites, including the Rockaway Quarry site, the undeveloped San Pedro Avenue site, and the Milagra Canyon site.

PR-I-32 **Pocket Park Opportunity Sites on Public Land.** Explore opportunities to develop pocket parks on public land that is not otherwise needed as neighborhood gathering places and play areas.

Potential sites are on street stubs or right-of-way not needed to serve future development, and within easy walking distance to adjacent residences. Amenities should include, but not be limited to, play or exercise equipment in park-deficient areas, and benches or picnic tables at scenic overlook points.

3.4 TRAIL SYSTEM

Trails play an important role in enhancing the recreational use of the coastline. Coastal Act provisions call for upland areas necessary to support coastal recreational uses to be preserved (Section 30223).

Existing Trails in the Planning Area

The Pacifica Planning Area has 67 miles of trails through GGNRA land, in San Pedro Valley County Park, and along the coast, including segments along City streets. Historically, the City has sought to create a system that includes a coastal trail, a ridgeline trail, and lateral trails connecting the ridgeline to the coast, as shown in **Figure 3-3**.

Coastal Trail

Pacifica's Coastal Trail currently runs almost the length of the Planning Area, from the Daly City boundary to Pedro Point Shopping Center. The route follows Palmetto Avenue alongside the Northern Coastal Bluffs, turns onto Esplanade Avenue through the West Edgemar-Pacific Manor neighborhood, and follows Palmetto again through West Sharp Park. The trail then branches into two parallel routes. The western route travels along the levee between Sharp Park Golf Course and Sharp Park Beach, and then east along the north side of Mori Point. The eastern route follows Francisco Boulevard south, meeting the other trail at the Mori Point trailhead. From this point, the Coastal Trail follows a path alongside Highway 1 and then arcs west along the restored section of Calera Creek in the Rockaway Quarry site. After a short on-street segment in the Rockaway Beach district, the trail follows a path over the Aramai Point and then along the inland side of the dunes at Pacifica State Beach. The trail currently comes to an end at the south end of the beach.

The City in 2015 acquired an approximately five acre parcel in the Pedro Point Headlands, known as the Colt property, which provided a critical link to other publicly-owned land in the Headlands. As a result, it should be possible to construct a trail west of Highway 1 to extend the Coastal Trail from its current terminus southward through the Pedro Point Headlands to connect with the Devil's Slide Trail.

Ridge Trails

Lateral trail connections to the Bay Area Ridge Trail along Sweeney Ridge exist along Milagra Ridge, Mori Ridge and Cattle Hill. Trailheads with parking lots are at Milagra Ridge, Skyline College, Sneath Lane, Devil's Slide, and Shelldance Nursery off of Highway 1. Connections between the Coastal Trail and the Ridge trails are currently lacking.

Pedro Point Headlands

Trails at Pedro Point bring hikers from a trailhead on Highway 1 to an overlook point and to Pedro Summit. They are minimally improved, although the trailhead created with the opening of the Devil's

Slide Tunnels in 2014 has created a new public parking lot. As mentioned above, a trail connection is planned to fill the gap in the Coastal Trail between Pedro Point Shopping Center and Devil's Slide Trail.

Trailheads and Parking Areas

Existing trailheads in the Coastal Zone exist at the Beach Boulevard Promenade; Mori's Point Road; Shelldance Nursery; Rockaway Beach; and Pacifica State Beach. Planning Area trails also can be reached from trailheads east of the ridge at Skyline College and at Sneath Lane. A trailhead with parking exists on Highway 1 approaching Devil's Slide Trail.

Priorities for Enhancing Pacifica's Trail System

Developing an integrated trail system, as proposed in this Plan, will enhance access to and enjoyment of Pacifica's natural resources for both residents and visitors. It will make possible a variety of loop walks taking in a diversity of scenery and connecting large open spaces with Pacifica's activity centers. The trail system will function both as a system with a Pacifica identity, and as a link in regional and state trail systems.

The Plan proposes four areas of improvement. First, new trail segments are needed to connect the Coastal and Ridge trails and to provide better access to and through Pacifica's neighborhoods. Second, new and improved, wildlife-friendly crossings of Highway 1 are needed to make the new trail connections work. Third, new trailheads and improvements are needed to assure access at locations that reinforce existing activity centers. And fourth, a signage and wayfinding program is proposed to make the overall system legible both as a Pacifica system and as part of the California Coastal Trail and Bay Area Ridge Trail.

Figure 3-3: Trail System

Policies

Guiding Policies

PR-G-11 **Trail System Expansion.** Expand the trail system in Pacifica to create a connected trail network with communitywide links to open space and recreation facilities, as shown on Figure 3-3, and to enhance and augment California Coastal Trail connections and connectivity.

Implementing Policies

PR-I-33 **New Segments of California Coastal Trail in Pacifica.** Create new trail segments through Rockaway Quarry uplands and the Headlands as part of development or as separate Coastal Trail initiatives.

PR-I-34 **Coastal Trail Between Pacifica and Devil's Slide.** Work with involved agencies and property owners to achieve a trail connection west of Highway 1 between Pedro Point Shopping Center and the new north Devil's Slide trailhead.

PR-I-35 **Pedro Point Headlands Trails.** In coordination with GGNRA and the California Coastal Conservancy, support trail improvements on Pedro Point Headlands, and extension of these trails to the new trailhead at the north end of Devil's Slide.

PR-I-36 **Pedestrian Improvements on Palmetto and Esplanade.** Make sidewalk and streetscape improvements along Coastal Trail segments of Palmetto and Esplanade Avenues a priority.

Streetscape improvements for Palmetto Avenue will also support a pedestrian-oriented mixed use district in West Sharp Park and may provide for a separated path along the Northern Coastal Bluffs.

PR-I-37 **Lateral Ridge Trail Extensions.** In coordination with GGNRA, pursue lateral ridge trail extensions, providing new connections between the Coast and Sweeney Ridge.

- Extend the Baquiano Trail and Ahni Trail down Fassler Avenue and across private land to Crespi Drive and Highway 1 as part of the Ohlone-Portola Heritage Trail. This would connect the Portola Expedition Camp with the San Francisco Bay Discovery Site on Sweeney Ridge, giving visitors the experience of this historic route.
- Extend the Farallon View Trail spur west on a new easement with a new trailhead on Caltrans land, or a shared parking agreement with the church at the base of the hill.
- Extend the Milagra Ridge trail west across preserved land on the lower ridge.
- Provide a safe and attractive connection between the foot of the Milagra Ridge Trail and the coastal access point north of the San Francisco RV Park.

PR-I-38 **Highway 1 Over-Crossing at Mori Point.** Support the development of a new wildlife-friendly over-crossing between Shelldance Nursery and Mori Point, in coordination with GGNRA and Caltrans to enhance visitor facilities in Pacifica. As an interim alternative, strengthen signage and safe connections to the existing Sharp Park Golf Course undercrossing in the East Fairway Park neighborhood.

PR-I-39 **Harry Dean Trail.** Improve and extend existing trails connecting City-owned parks and open spaces in Pacifica's northern neighborhoods to reach Skyline Boulevard on the east and Westline Drive along the Northern Coastal Bluffs.

PR-I-40 **Pier to Ridge Trail.** Develop a direct pedestrian route between the Sharp Park Beach Promenade and upper Sharp Park Road, also connecting the West and East Sharp Park neighborhoods. Improvements should include:

- A new trail extending east from the top of Talbot Road to Sharp Park Road, with a public access easement; and
- Pedestrian improvements and trail signage along Talbot Road and San Jose or Santa Rosa Avenue.

PR-I-41 **Enhanced Visitor Services at Shelldance Nursery.** Support the proposal for enhanced visitor services at the Shelldance Nursery site, including an education/visitors' center, additional parking, and better access, to be implemented by GGNRA.

Shelldance Nursery may become the hub of Pacifica's trail system, with direct access to coastal and ridge trails, visitor amenities, and proximity to visitor-oriented commercial areas.

PR-I-42 **Hikers' Facilities Related Amenities.** Support the development of hikers' facilities and related amenities where sufficient management and services can be provided by the property owner or operator.

PR-I-43 **Signage and Wayfinding.** Develop the overall image and accessibility of Pacifica's natural assets, through a program of consistent and attractive signage for the trail system.

- Provide wayfinding signage along all on-street portions of the trail system; at junctions of off-street trails; and at trailheads.
- Provide interpretive signage to identify landforms visible from viewpoints; provide information about the natural environment and sensitive species; information about historical and cultural points of interest; information about unique features of Pacifica; and other subjects.

Each trail should have an identity as part of the Pacifica trail system (e.g., Trail 1—Coastal Trail). Where routes are shared with the California Coastal Trail or the Bay Area Ridge Trail, these should also be identified.

PR-I-44 **Pacifica Parks and Trails Map and Guide.** Develop a map of Pacifica's parks and trails to support recreation activities, marketing and outreach efforts.

3.5 BICYCLE AND PEDESTRIAN NETWORK

As with the multi-use trail system described above, bicycle facilities expand access to the coastline for both local residents and recreational users, and support Coastal Act provisions for recreational use of upland areas (Section 30223) and maintenance and enhancement of public access (Section 30252).

Bicycle Circulation

Pacifica's highly scenic setting, recreational amenities, and connections to major regional open spaces and trails make it ideal for recreational bicycle riding, and for local trips along the coastline or in the valley neighborhoods. However, the network of bicycle routes is inconsistently developed and not always well marked.

The proposed bicycle system, shown in **Figure 3-4**, is a critical component of the circulation network. It shows both bicycle routes and improved signage to improve access and safety. It provides bicyclists with a complete network of continuous and safe access along the coastal corridor and between neighborhoods. These designations support the 2020 Bicycle and Pedestrian Master Plan.

The Bicycle System includes four types of bikeway classifications, consistent with Chapter 1000 of the Caltrans Highway Design Manual:

- Class I facilities (bike paths or trails) are paved trails wholly separated from the street. They allow two-way travel by people bicycling and walking, and are often considered the most comfortable facilities for children and inexperienced riders as there are few potential conflicts between people bicycling and people driving.
- Class II facilities (bike lanes) are marked by painted stripes on the roadway. While the striping provides preferred space for bicycles, they are still part of the paved road and are not exclusive for bicycles.
- Class III facilities (bike routes) share traffic lanes with automobiles and are only identified by signage.
- Class IV facilities (separated bikeways) are for the exclusive use of bicycles and includes a separation required between the separated bikeway and the through vehicular traffic. The separation may include, but is not limited to, grade separation, flexible posts, inflexible posts, inflexible barriers, or on-street parking.

North-South Bikeway

Pacifica's north-south bikeway primarily runs parallel to and along SR 1. The northern segment includes a Class III facility (a signed bike route) along Esplanade Avenue, a Class II facility (bike lane) along Esplanade and Palmetto Avenues, and another stretch of Class III bike route on Francisco Boulevard to Mori Point Road and State Route 1. At this point, the bikeway becomes a Class I facility (bike path) between Mori's Point Road and Reina del Mar Avenue. From here, the north-south bike route goes along a Class I facility along Calera Creek through the Rockaway Quarry site to Rockaway Beach. From here the route has two branches: a bike path over the Rockaway Headlands and along the dunes from Rockaway Beach to Pacifica State Beach; and an unofficial route with a 9-foot-wide striped lane along SR 1. An enhanced north-south bikeway following Plan policies will provide options for more direct travel on major roadways, or more sheltered travel on Class I facilities or low-traffic streets.

Other Bikeways

A Class II (striped bike lane) and Class III (signed bike route) facility runs east-west along Sharp Park Road between SR 1 and SR 35, providing a primary connection to the coastline from the east. Sharp Park Road has a continuous eastbound bike lane; the westbound bike lane currently exists only between College Drive and SR 35. No immediate bikeway improvements are proposed for the east-west route along Sharp Park Road.

A series of additional bikeways are proposed to serve the Sharp Park, Vallemar, Rockaway Beach, Linda Mar, and Pedro Point neighborhoods. These routes are planned to provide convenient access to most Pacifica residents, to follow streets with gradual slopes, and to use through streets with adequate right-of-way for bicycle facilities where possible. Proposed routes within the Coastal Zone are shown on **Figure 3-4**.

Bicycle Parking and Amenities

Facilities are an essential component of Pacifica's bicycle network. End-of-trip facilities include bicycle parking (short-term and long-term parking), self-repair stations, and lockers and changing areas in existing or new buildings. Outdoor facilities, especially bicycle parking, is an important factor because potential users may be less likely to complete a trip by bicycle if they do not believe they have a safe and secure location to lock their bike.

Current bicycle parking is limited in Pacifica. Bike racks are close to most major destinations along the two bike routes, but are not present at Rockaway Beach, the beach access location at the end of Esplanade Avenue, in the Pedro Point area, at some of the public schools, or in the Pacific Manor commercial area. Improved parking and amenities will increase the comfort and appeal of biking in Pacifica during the planning period.

Pedestrian Circulation

Walking is a basic and often overlooked part of all trips that also involve transit or automobiles. Walking can be ideal for short, local trips for shopping, school, and recreation. Adequate facilities for pedestrians help to ensure access to and along the coast. This section focuses on pedestrian facilities that support comfortable and safe day-to-day pedestrian travel. See Section 3.4 for a discussion of the trail system in Pacifica, and Section 3.6 for a discussion of complete streets.

Sidewalks and Crosswalks

Where sidewalks are present in Pacifica, they are generally between five and 10 feet wide and in good condition. Crosswalks are provided at all studied intersections with appropriate striping and, where appropriate, pedestrian signals. Under the Plan, pedestrian facilities will be improved and enhanced, especially where pedestrian activity is a priority. Pedestrian Priority Zones are shown on **Figure 3-5**, Roadway Network and Planned Improvements.

Pedestrian and Bicycle Crossings of Highway 1

Along SR 1, there are five east-west crossings for automobiles, pedestrians and bikes, at Gateway Drive, Manor Drive, Paloma Avenue, Clarendon Road, and Sharp Park Road. In addition, there are pedestrian/bicycle overcrossings at Milagra Drive and San Jose Avenue, and an undercrossing at Sharp Park Golf Course.

Figure 3-4: Bicycle Network

Policies

Guiding Policies

PR-G-12 **Bicycle and Pedestrian Routes.** Establish trails, bike routes and pedestrian amenities connecting neighborhoods to major shopping and public facility destinations, and fill in gaps in the existing network.

PR-G-13 **Recreational Access.** Provide recreational access to coastal resources and public open space in keeping with Pacifica's natural environment, with links to regional trails and bicycle corridors.

PR-G-14 **Mobility for All Users.** Create a safe and attractive walking environment accessible for all users, particularly persons with disabilities, seniors, and younger residents and visitors.

PR-G-15 **Connections Across Highway 1.** Enhance under- and over-crossings of Highway 1 for pedestrians and bikes to improve accessibility and connect neighborhoods to each other and to the coast.

PR-G-16 **Coastal Trail and North-South Bikeway.** Complete the Coastal Trail and the north-south bikeway from the north to sound end of the City parallel to Highway 1, providing clear, safe and efficient means to traverse coastal Pacifica.

Implementing Policies

PEDESTRIAN ACCESS

See also policies that support pedestrian circulation listed under Section 3.4: Trail System and Section 3.6: Roadway Network and Planned Improvements.

PR-I-45 **Pedestrian-Oriented Street Improvements.** To the extent they are consistent with all LCP policies, implement Bicycle and Pedestrian Master Plan recommendations to improve pedestrian-orientated safety and comfort. Priority locations for pedestrian-oriented design improvements include:

- Pedestrian Priority Zones (including Manor, Sharp Park, Vallemar/Fairway Park, and Linda Mar PPAs,), which include mixed use and higher-intensity areas;
- Streets that are part of Pacifica's proposed trail system improvements;
- Streets adjacent to schools; and
- Locations where pedestrian-automobile collisions have occurred.

BICYCLE FACILITIES

PR-I-46 **Direct North-South Bikeway.** Complete the City's direct north-south bicycle route to optimize safety and comfort and enhance access to and along the coast. Improvements should include the following, from north to south:

- Class II bike lanes along Westline Drive north of Palmetto Avenue;
- A continuous Class II bikeway on Palmetto Avenue between Westline Drive and the San Francisco RV Park;
- A Class II bikeway on Clarendon Road, Lakeside Road, Francisco Boulevard, and Bradford Way, improving the bikeway between West Sharp Park and Mori Point;
- A reconstructed Class I path between Mori Point and Reina del Mar Avenue that is wider and more sheltered from the highway than the current trail;
- A Class II bikeway on SR 1 between Reina del Mar Avenue and San Pedro Creek, providing a direct travel route along SR 1 through southern Pacifica with well-marked and buffered lanes; and
- A Class III bikeway along SR 1 between San Pedro Creek and the Devil's Slide bypass.

PR-I-47 **Parallel North-South Bikeway West of SR 1.** Create and upgrade bicycle facilities that provide an alternative for north-south bicycle travel west of Highway 1. Improvements should include the following, from north to south:

- A Class I trail in a public access easement along the west side of the San Francisco RV park as part of any development or change in use, ensuring public access along the coast (a previous path was lost to erosion);
- A Class III route along Beach Boulevard between Paloma Avenue and Clarendon Road;
- A Class III bikeway along Dondee Drive in the Rockaway Beach district, connecting existing Class I trails along Calera Creek to the north and Rockaway Headlands to the south;
- A Class I trail parallel west of SR 1 from San Pedro Creek to the Devil's Slide bypass.

Many sections of the parallel north-south bikeway are shared with the Coastal Trail for pedestrians, covered in Section 3.4: Trail System. These sections should be evaluated for their functionality for both pedestrians and cyclists.

PR-I-48 **Bicycle Lockers at Public Parking Lots.** Replace existing bicycle lockers at the public parking lot on Crespi Drive, and add lockers at the park-and-ride lot on Linda Mar Boulevard.

PR-I-49 **Bicycle Parking at Recreation and Shopping Areas.** Provide bicycle parking at the following locations:

- Park and beach access at the northern end of Esplanade Drive (Lands End Apartments); and
- Pedro Point Headlands/Devil's Slide.

PR-I-50 **Bicycle Parking Requirements for New Development.** Continue to require bicycle parking facilities in new high density residential, mixed use, and non-residential development.

PR-I-51 **Bicycle Parking at Schools and Workplaces.** Work with the school districts and employers to provide adequate bicycle parking at all schools and workplaces with 30 or more employees.

PR-I-52 **Funding for Bicycle Facilities.** Designate a portion of the City's annual street construction and improvement budget to fund bikeway design and construction, and continue to pursue potential funding from MTC and San Mateo County, as well as appropriate Federal and State programs.

PR-I-53 **Eligibility Criteria for Improvements.** Review eligibility criteria for funding for improvements from the State, to obtain additional funding for bicycle facilities.

3.6 ROADWAY NETWORK AND PLANNED IMPROVEMENTS

Section 30254 of the Coastal Act states that new or expanded public works facilities must be designed and limited to accommodate needs generated by development or uses permitted consistent with the Coastal Act.

Roadway Network

Three major routes connect Pacifica to the rest of the region. State Route (SR) 1 (Coast Highway) traverses the City from north to south, connecting Pacifica to Daly City and San Francisco to the north, and to Half Moon Bay and the San Mateo County coastline to the south, and providing continuous access to the Pacifica coast. SR 35 (Skyline Boulevard) generally runs along the eastern edge of Pacifica, and is a major north-south route connecting to Santa Clara County and San Francisco. Sharp Park Road follows a southwest-northeast route through the center of Pacifica, connecting SR 1 with SR 35. It continues east of SR 35 in South San Francisco as Westborough Boulevard. Each of these major roadways intersects with I-280, an eight-lane major regional freeway on the Peninsula located between one-half and two miles from the Planning Area.

Roadway Classification

Pacifica's roadway network is comprised of freeways, highways, arterials, collector streets and local streets. Each classification reflects the character of the roadway as well as its function within the context of the circulation system. **Figure 3-5** illustrates the roadway network with street classifications.

Mode Priorities

Table 3-3 shows generally how vehicle modes of travel are accommodated on each type of roadway with the City. This table provides a guide for how future roadway improvements should help to produce a complete streets network in Pacifica, with different roadways balancing needs differently to create a system that functions optimally for all users.

TABLE 3-3: MODE PRIORITIES BY ROADWAY TYPE

Facility	Transit	Bicycles	Pedestrians	Trucks	Automobiles
Freeways and Multilane Highways	□	X	X	■	■
Two-lane Highways	□	□	O	■	■
Arterials	□	□	□	O	□
Collectors	O	□	□	O	□
Local	O	□	□	X	□

■ = Dominant
□ = Accommodated
O = Incidental
X = Prohibited

[1] *Transit has priority over bicycles on Arterials, where conflicts exist.*

Streetscape Improvements in Pedestrian Priority Zones

Pedestrian Priority Areas (PPAs), shown on **Figure 3-5**, are areas within proximity to one or more schools, trailheads, and a crossing of Highway 1 that have potential to generate substantial volumes of pedestrians. While pedestrian improvements are not limited to within these areas, areas with highest needs include the Manor, Sharp Park, Vallemar/Fairway Park, and Linda Mar PPAs. The Bicycle and Pedestrian Master Plan provides specific recommendations for each PPA, but pedestrian infrastructure improvements fall into six general categories, including pavement markings; pedestrian-actuated beacons; street furniture; sidewalks, trails, and medians; intersection and street design; and studies.

The City of Pacifica has made public realm improvements in Rockaway Beach and completed the first phase of streetscape improvement program for Palmetto Avenue, from Clarendon Road north to Paloma Avenue in 2017. Improvements included additions of new bikeways with green pavement markings, landscaping and bulbouts, lighting, and undergrounding utilities. The Sharp Park Specific Plan includes several policies to further enhance the comfort, atmosphere, and navigability of the streetscape for pedestrians and bicyclists within the Sharp Park neighborhood. During the planning period, additional attention will be paid to streetscape improvements in the City's mixed use centers and visitor-oriented commercial areas.

Roadway Improvements and Complete Streets

Roadway improvements will follow design standards for each roadway classification that take into account a facility's relation to the larger circulation system; appropriate travel speeds; surrounding land uses; conditions for managing local access; safety; and mode priority, as described in this chapter. These standards will be based on "Complete Streets" concepts, and State and federal requirements for "routine accommodation" of cyclists and pedestrians. They will be flexible enough to adopt the latest and best ideas, and allowing for adjustment to existing right-of-way and special circumstances.

Figure 3-5: Roadway Network and Planned Improvements

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Many roadways in Pacifica offer opportunities for redesign of the existing right-of-way to balance the needs of all users and create a safer and more attractive public realm. Roadway improvements that do not require adjustments to curbs may involve the narrowing of travel lanes to a more compact 10 or 11 feet to accommodate bicycle lanes, or the conversion of four-lane streets to three lanes, with one travel lane in each direction and a continuous center left-turn lane.

Level of Service Standards

Level of Service (LOS) is a measure of the degree of vehicle congestion that occurs during peak travel periods and is the traditional measure of roadway and intersection performance. Level of Service can range from "A" representing free-flow conditions, to "F" representing extremely long delays. LOS B and C signify stable conditions with acceptable delays. LOS D is typically considered acceptable for a peak hour in urban areas. LOS E is approaching capacity and LOS F represents conditions at or above capacity.

In Pacifica's Coastal Zone, the most critical congestion occurs on SR 1, where certain intersections and roadway segments currently operate at LOS E or F during peak periods. The City's policy is to limit further deterioration of traffic conditions by evaluating the significance of impacts of new development on highway congestion, and requiring mitigation to maintain, if possible, LOS D for City streets and the LOS standards set by the City/County Association of Governments (C/CAG) for roadway segments included in the San Mateo County Congestion Management Program (CMP).

Multi-Modal Level of Service

To apply the Complete Streets framework, this Plan identifies qualitative indicators that may be used to prioritize improvements and evaluate projects, for all users, including transit riders, pedestrians, and cyclists, based on the National Cooperative Highway Research Program.[5] An LOS grade is established for each mode, based on the user's perceptions of the quality of service provided by the street. These grades correspond to numerical scores, which are calculated using a variety of inputs that cover the facility design, facility controls, and volumes by mode. The thresholds for each grade are shown in **Table 3-4**.

[5] National Cooperative Highway Research Program. "Multimodal Level of Service Analysis for Urban Streets" Report 616. Washington, DC: 2008.

TABLE 3-4: DEFINITION OF MULTI-MODAL LEVEL OF SERVICE INDICATORS			
LOS	Transit	Bicycle	Pedestrian
A	(Good walk access to bus stops, frequent service, good bus stop amenities.)	(Few driveway and cross street conflicts, good pavement condition, ample width of outside lane, including parking and bike lanes.)	(Low traffic volumes, wide buffer separating sidewalk from traffic, numerous street trees, and high parking occupancy.)
B			
C			
D			
E			
F	(Poor walk access to bus stops, infrequent service, poor schedule adherence, no bus stop amenities.)	(Poor pavement condition, narrow width of outside lane, frequent driveways and cross streets.)	(High traffic volumes, limited buffer separating sidewalk from traffic, few street trees, low parking occupancy.)

Source: Dowling Associates, 2010.

Planned Improvements

The City currently has one roadway improvement project in the planning stage in the Coastal Zone. This improvement is part of the Manor Drive Overcrossing project, described below and shown in **Figure 3-5**. Other improvements to the roadway network are expected to be needed during the planning period to achieve a balance between existing and future land use and traffic carrying capacity.

Manor Drive Overcrossing

The Manor Drive overcrossing is planned to be widened, and signal control is recommended to be added at the intersections of Manor Drive with Oceana Boulevard and Palmetto Avenue. This project could potentially include a new on-ramp to SR 1 from Oceana Boulevard at Milagra Drive, though other alternatives that achieve similar congestion relief objectives should also be considered.

Additional Improvements to Accommodate Buildout

Additional improvements are justified based on the analysis of existing and projected future traffic conditions with projected growth during the planning period, compared to the City's level of service standards. These potential additional improvements should be considered in coordination with Caltrans and the County of San Mateo.

Policies

Guiding Policies

PR-G-17 **Comprehensive Circulation System.** Create a comprehensive, multi-modal transportation system with streets and highways; transit facilities; a continuous network of sidewalks and bicycle routes.

PR-G-18 **Serve All Users.** Plan, design, build, and maintain transportation improvements to support safe and convenient access for all users with priority for "complete streets" projects that facilitate walking, bicycling and transit use wherever possible.

PR-G-19 **Context Sensitivity.** Plan, design, and build transportation improvements so that they respect the design and intensity of use of the surrounding environment.

PR-G-20 **Congestion on Highway 1.** In consultation with Caltrans, seek solutions to ease the traffic congestion that occurs on Highway 1 near the Reina Del Mar, Fassler Avenue, and Linda Mar Boulevard intersections. Strive for the greatest benefit with the least environmental impact possible.

PR-G-21 **Coordination of Local and Regional Actions.** Coordinate local transportation planning and improvements with State, Regional and County agencies to ensure consistency with the Regional Transportation Plan, the Congestion Management Program, and other regional actions.

PR-G-22 **Walkable Neighborhoods.** Improve pedestrian amenities to create more walkable neighborhoods, especially in mixed use activity centers and around schools.

PR-G-23 **Abandonment of Public Rights-of-Way.** Ensure that abandonment or vacation of public rights-of-way does not adversely impact coastal access or emergency access.

Implementing Policies

COMPLETE STREETS IMPLEMENTATION

PR-I-54 **Connective Street Network.** Require new streets created as part of new development to continue existing street patterns, and include stub access points to adjacent undeveloped areas.

PR-I-55 **Complete Streets Design Approach.** Update the City's engineering design standards to implement Complete Streets concepts, and include Complete Streets design principles in the planning of all circulation improvement projects. These principles include, but are not limited to:

- Maximizing connections with the existing circulation network;
- Minimizing ingress and egress points and consolidating entries;
- Providing public transit facilities and improvements;
- Providing bicycle and pedestrian facilities (bike lanes and sidewalks);
- Minimizing pedestrian crossing distances by providing curb extensions; medians with safety refuges, and other treatments;
- Improving safety by providing lighting and traffic calming devices for residential streets;
- Including landscaping (trees, medians, key intersections and gateways);

- Providing appropriate signage, including street signs, entry signs, directional signs, and coastal access identification signs;
- Providing street furniture; and
- Maintaining on-street parking.

Any proposed development or transportation project that does not adequately incorporate Complete Streets concepts should be supported by findings of why all travel modes have not been accommodated. The Complete Streets approach should be applied to new roadway construction as well as to retrofit projects.

PR-I-56 **Complete Streets in the Project Development Process.** Incorporate complete streets concepts at each stage of the development process for projects affecting the right-of-way, including the following:

- As part of design review, both at Phase I and Phase II, require documentation of how the "routine accommodation" of bicyclists and pedestrians has been satisfied in planning and design;
- During project review and approval, ensure that the objectives and purpose are consistent with MTC directives on Complete Streets and Routine Accommodation;
- For projects subject to MTC's Resolution 3765, as amended, work with MTC to secure approval of the Complete Streets checklist and submittal to MTC of all required documents.

Integrating Complete Streets considerations should require only minor additions to normal design, acquisitions, and approval guidelines.

PR-I-57 **Bicycle Roadway Retrofits.** Identify opportunities to retrofit existing roadways to create complete streets, giving priority to arterial and collector streets where travel lanes may be narrowed or where four lanes may be converted to three, including a center left turn lane, with bicycle facilities added in both cases.

Palmetto Avenue and Esplanade Avenue may present opportunities for roadway retrofits. Roadway retrofits will also help to complete the bicycle network, as described in Section 5.4, and provide safety for cyclists. Ten- and eleven-foot travel lanes are often acceptable for auto and transit use, respectively, without adversely affecting capacity. Additional analysis will be required to identify roadway retrofits to create complete streets. Retrofits will be consistent with this LCLUP.

PR-I-58 **Streetscape in Mixed Use Areas.** Require pedestrian-oriented amenities and design in visitor-oriented commercial and mixed use areas, including wider sidewalks, curb bulb-outs at key intersections, outdoor seating, and public art.

Priority streetscapes include Palmetto between Paloma and Clarendon; Montecito, Santa Rosa, and San Jose Avenues in West Sharp Park; Rockaway Beach Avenue and Dondee Way in Rockaway Beach; and Manor Drive and Aura Vista Drive in West Edgemar-Pacific Manor.

PR-I-59 **Block Size and Maximum Street Spacing.** For new development at the Quarry site, require streets to be designed to maximize connectivity for automobiles,

cyclists, and pedestrians, with blocks between 200 and 600 feet in length. Provide mid-block pedestrian connections where blocks exceed 500 feet in length.

The intent of these standards is to prevent development of introverted neighborhoods, provide flexibility in circulation, and promote access for bicyclists and pedestrians.

PR-I-60 **Roadway Abandonment/Vacation and Public Access.** Do not abandon, vacate, or render unusable any City-owned roadways and/or right-of-ways, unless necessary for reasons of public safety or environmental conservation. Whenever public roadways and/or right-of-ways are proposed to be abandoned, assess the value of maintaining public pedestrian and/or bicycle access, especially where coastal access can be maintained or improved. Abandonment/vacation of any public roadways and/or right-of-ways may require a coastal development permit, which shall only be approved if coastal resources can be protected in as good or better conditions as exist at the time of permit evaluation, and subject to terms and conditions to ensure the public's interests are maintained moving forward.

PR-I-61 **Bicycle and Pedestrian Advisory Committee.** Create and solicit input from a Bicycle and Pedestrian Advisory Committee (BPAC) on planning and funding for transportation improvement projects.

PR-I-62 **Sharp Park Area Public Realm.** Use development guidelines and design standards specified in the Sharp Park Specific Plan to expand the improvements completed as part of Phase I of the Palmetto Streetscape Plan. These improvements will upgrade the appearance and function of Palmetto Avenue and connecting streets and make them more attractive to pedestrians.

PR-I-63 **Additional Pedestrian Facilities on Large Sites.** Enhance the pedestrian network with an interconnected system of walkways, continuous sidewalks on both sides of the street, and pedestrian crossings as part of higher-intensity redevelopment of large sites.

PR-I-64 **Universal Design.** Require all pedestrian facilities to be ADA compliant and accessible to persons with disabilities.

ROADWAY IMPROVEMENTS TO EASE CONGESTION AND IMPROVE LEVEL OF SERVICE

PR-I-65 **SR 1 Improvements Between South of Fassler and North of Reina del Mar.** Continue to work with the California Department of Transportation (Caltrans) and the San Mateo County Transportation Authority (SMCTA) to improve operations along SR 1. Strategies could include installation of a pedestrian overcrossing, allowing for safer grade-separated crossings of pedestrians.

Improvements to SR 1 should alleviate traffic congestion between north of Reina del Mar and south of Fassler Avenue while minimizing environmental impacts and impacts to adjacent land uses, ensuring adequate local access, and enhancing the community's image.

PR-I-66 **SR 1 and Linda Mar Operations.** Work with San Mateo County to evaluate, design and implement improvements to the intersection of Linda Mar Boulevard and SR 1. Improvements that would mitigate regional growth may include providing a westbound right turn overlap phase and increasing the overall cycle length, if warranted.

PR-I-67 **Manor Drive Overcrossing Improvements.** Complete planned improvements to the Manor Drive overcrossing to facilitate traffic movement across SR 1 for all modes.

Improvements should include widening of the overcrossing, possible signal control at the intersections of Manor Drive with Palmetto Avenue and Oceana Boulevard. Additional alternatives that achieve similar or greater congestion relief objectives should also be considered.

PR-I-68 **Strategies to Reduce School-Related Peak Hour Auto Congestion.** Work with Pacifica School District and Jefferson Union High School District to promote adoption of staggered hours, car-pooling, and use of transit to reduce traffic congestion during peak hours.

This policy applies especially to Vallemar School and the Pacifica School District offices, where trips contribute to traffic congestion around SR 1 and Reina del Mar Avenue.

3.7 PUBLIC TRANSPORTATION

Section 30252 of the Coastal Act states that new development should maintain and enhance access along the coast by facilitating transit service and providing adequate parking or providing a substitute means of serving the development with public transportation, among other means.

Pacifica's location at the edge of the metropolitan area and its relatively low density makes extensive transit service or use challenging. Just one percent of all trips to or from Pacifica are made using transit. While as much as four percent of trips between Pacifica and San Francisco are made by transit, only a fraction (under 0.5 percent) of trips within Pacifica are transit trips. Growth during the planning period is expected to be limited, but the LCLUP aims to concentrate new development in mixed use, transit-accessible locations.

Figure 3-6: Transit Routes and Facilities

Transit Service

The San Mateo County Transit District (SamTrans) provides bus service throughout San Mateo County and into San Francisco and Palo Alto. SamTrans provides local service in Pacifica as well as service to and from BART and Caltrain stations. In 2021, the City of Pacifica adopted Resolution No. 18-2021 supporting Seamless Transit Principles, seven guiding principles that seek to create a unified, easy-to-use, accessible system across all Bay Area transit networks.

Bus Routes

As of 2019, ten SamTrans bus routes serve Pacifica's Coastal Zone (see **Figure 3-6**).

- Routes 14 and 16 make loops through the southern and northern areas of Pacifica serving shopping areas, schools, and services.
- Routes 19 and 49 provide service on school days to serve students. Route 19 makes loops through southern Pacifica and up to Ingrid B Lacy Middle School, and Route 49 connects northern Pacifica to Terra Nova High School.
- Routes 110 and 112 provide service between the Highway 1 corridor in Pacifica and the Daly City and Colma BART stations, respectively. Both terminate at Linda Mar Shopping Center.
- Route 118 provides service to Colma BART station during the AM and PM peak hour periods of weekdays.
- Route 121 runs through Pacifica's northern upland neighborhoods, serving Fairmont Shopping Center and providing connections to Skyline College in San Bruno, Serramonte Shopping Center and Seton Medical Center in Daly City, and the Daly City and Colma BART stations.
- Route 140 connects the Pacific Manor shopping center on Palmetto Avenue and Manor Drive to Skyline College and the San Bruno BART station to the east. It extends to Terra Nova High School on school days to serve students.
- Route 17 connects the Linda Mar Park and Ride to Half Moon Bay and the Hillsdale Caltrain station in San Mateo.

Dial-a-Ride Service

All SamTrans buses are accessible to persons with disabilities. The San Mateo County Transit District also operates dial-a-ride (or paratransit) service for persons who cannot use fixed-route bus service. Paratransit service in the Planning Area is called RediCoast.

SamTrans OnDemand

In 2019, SamTrans initiated the SamTrans OnDemand rideshare service pilot in the Linda Mar neighborhood in Pacifica. The service offers point-to-point shuttle service within the coverage area for the standard SamTrans fare. Trips can be booked via a smartphone app or through the SamTrans Customer Service Call Center.

Planned Transit Improvements

In Summer 2019, the San Mateo County Transit District launched Reimagine SamTrans, a comprehensive operational analysis (COA) to redesign the entire SamTrans bus system. Reimagine SamTrans began its work by evaluating every element of the SamTrans system to identify improvements to local and regional travel connections, route design, how often the buses run, best practices for operations

and public health, and more. Reimagine SamTrans utilized data and public input to pinpoint the strengths and challenges in the current bus system. The recommended SamTrans changes are slated to be adopted in Winter 2021 and implemented in summer 2022. Changes include shortening of Route 112 to provide more streamlined service; elimination of the FLX Pacifica route, to be covered by Route 110; and direct service on Route 118 to/from Daly City BART only. Neither BART nor Caltrain have planned improvements that would change service levels in the vicinity of Pacifica.

Park-and-Ride Facilities

Commuter parking is provided at the park-and-ride lot on Linda Mar Boulevard., shown on Figure 3-6. The lot currently has capacity for 70 vehicles.

Policies

Guiding Policies

PR-G-24 **Improved Public Transit.** Advocate for SamTrans and other public transit providers to improve transit service and facilities, to enable trips to be made without use of a car. In particular, advocate for the expansion of public transit services and facilities to improve public access and recreation opportunities along the coast.

PR-G-25 **Transportation Demand Management (TDM).** Support TDM strategies to reduce congestion and single-occupant vehicle travel.

Implementing Policies

PR-I-69 **Service Optimization.** Continue coordination efforts with transit agencies (i.e., SamTrans) to maintain transit service that is safe and efficient, provides convenient connections to high-use activity areas and key destinations outside the City, enhances access to the coast, and responds to the needs of all passengers, including seniors, youth, and persons with disabilities.

PR-I-70 **Improved Transit Stops.** Work with transit agencies to improve transit stops and access to facilities.

PR-I-71 **Park-and-Ride Locations and Attributes.** Work with Samtrans to identify changes that would improve the convenience and functionality of Park-and-Ride facilities, and result in increased ridership.

PR-I-72 **Transit-Oriented Development.** Work with Samtrans to facilitate transit-oriented development on all or part of the Linda Mar Boulevard Park-and-Ride lot and on any future Park-and-Ride lots that may be developed by SamTrans.

PR-I-73 **Promotion of Transit Use.** Lead an initiative to promote transit use and reduce reliance on the private automobile in order to reduce congestion, reduce greenhouse gas emissions, and improve quality of life.

PR-I-74 **Transportation Demand Management Measures.** Require transportation demand management (TDM) consistent with the Congestion Management Program (CMP) and monitoring plans to ensure trip reduction targets are met or exceeded as conditions of approval for development projects that exceed the CMP threshold for impacts to the transportation network. Require TDM measures for development projects below the CMP threshold whenever feasible, but do not require a monitoring plan for these smaller projects.

PR-I-75 **Local Transportation Services.** Support expanded funding for Local Transportation Services tailored to the schedules and destinations of students, seniors, and recreational visitors.

3.8 PARKING

Section 30252 of the Coastal Act states that new development should maintain and enhance access along the coast by providing adequate parking or providing a substitute means of serving the development with public transportation, among other means. Section 30212.5 directs that public facilities, including parking areas, shall be distributed so as to mitigate against any impacts related to overcrowding or overuse by the public of any single area.

Parking policies are intended to accommodate parked vehicles used by occupants, visitors, customers, clientele, and employees of a variety of buildings in the City. These policies seek to provide accessible, attractive, secured parking facilities, and to ensure adequate access to beaches and recreational open spaces along the coastline.

On-Street Parking

On-street parking is an important contributor to a street's functionality. On-street parking is permitted on most residential streets in Pacifica. It is allowed and encouraged on collector streets, and on most arterials in pedestrian-oriented commercial areas. On-street parking can complement both automobile and pedestrian use, and provide a buffer between the two. On-street parking is not permitted on high-traffic roadways such as SR 1, where smooth traffic flow is prioritized.

Off-Street Parking

The City requires off-street parking and loading facilities for all new developments. Off-street parking is available in public lots in the Planning Area that serve commuters, beach visitors and visitors to recreational open space areas.

- Commuter parking is provided at the park-and-ride lot on Linda Mar Boulevard.
- Public parking lots for beach visitors exist at Pacifica State Beach, Rockaway Beach, and Sharp Park Beach and Promenade. The public parking lot on Crespi Drive serves the Community Center as well as beach visitors.
- The Northern Coastal Bluffs and the Esplanade bluff are publicly protected open space with limited trail or beach access, and are served by on-street parking.
- Trailhead parking is provided on GGNRA land at Shelldance Nursery.

Parking for open space and beach users is shown on **Figure 3-3**, Trails and Parking Areas. **Table 3-5** provides a current inventory of off-street parking for beach visitors in the Planning Area. While the Crespi Drive beach visitor lot is outside the Coastal Zone, it is an important source of parking for coastal and recreational users.

TABLE 3-5: BEACH VISITOR PARKING	
Type and Location	Capacity (approx.)
Crespi Drive	110
Pacifica State Beach (south)	54
Pacifica State Beach (north)	135
Rockaway Beach (south)	50
Rockaway Beach (north)	54
Sharp Park Beach Promenade/Pier	53
Total	456

Source: Dyett & Bhatia, 2020.

In summer 2013, Pacifica State Beach began a parking program, wherein a parking receipt or pass is required to park in both the north and south Pacifica State Beach parking lots on Highway 1, the Crespi Drive lot, and SR 1 adjacent to the Pacifica Community Center. Recently constructed parking areas include a lot at the north tunnel entrance at Devil's Slide, enhanced visitor services at Shelldance Nursery provide access to GGNRA lands. In the future, the public parking area at Sharp Park Beach/Pacifica Pier may be reconfigured as part of redevelopment of the former Wastewater Treatment Plant site.

The City should support the development of centralized off-street parking facilities in areas with multiple attractions or where pedestrian and bicycle circulation patterns should be prioritized. Centralized off-street parking facilities can increase the efficiency of parking for visitors to attractions and can minimize the number of curb cuts for driveways which can disrupt safe pedestrian and bicycle circulation. One tool to accomplish development of centralized off-street parking facilities is payment of in-lieu parking fees by developers. In 2020, the City Council updated the fee for the Rockaway Beach Specific Plan area and enacted a new in-lieu parking fee for the Sharp Park Specific Plan area.

Policies

Guiding Policies

PR-G-26 **Private Parking.** Ensure adequate off-street parking in all new development.

PR-G-27 **Public and Visitor Parking.** Facilitate beach and recreational use by providing safe and well-located public parking. When appropriate and feasible, distribute parking areas throughout the Coastal Zone to mitigate against the impacts of overcrowding or overuse by the public of any single area.

Implementing Policies

PR-I-76 **On-Street Parking.** Revise the zoning code to preserve on-street parking by limiting the number and location of curb cuts.

PR-I-77 **New and Enhanced Trailhead Parking.** Support GGNRA, the Coastal Conservancy and others in developing and enhancing new public parking for recreational users at Devil's Slide Trail and Shelldance Nursery.

PR-I-78 **Parking at Sharp Park Beach.** Ensure that adequate and well-located public parking is preserved for Sharp Park Beach, the Promenade and Pier as part of any redevelopment of the City-owned 2212 Beach Boulevard property.

PR-I-79 **Signage for Visitor-Serving Parking.** Undertake a citywide program for improving signs for public visitor-serving parking. This may include incorporating smart parking technology for high-demand parking lots to alert drivers to the location of available parking.

PR-I-80 **Parking Enforcement.** Continue to make parking enforcement a priority at public visitor parking areas.

3.9 ENVIRONMENTAL JUSTICE

In 2019, the Coastal Commission adopted its first environmental justice policy[6]. The policy is designed to achieve more meaningful engagement, equitable process, effective communication, and stronger coastal protection benefits under the Coastal Act that are accessible to everyone.

Policies

Guiding Policies

PR-G-28 **Environmental Justice.** Strive to implement processes and procedures that promote environmental justice in support of the Coastal Commission's environmental justice policy.

Implementing Policies

PR-I-81 **Inclusive Engagement.** Expand notification efforts for major policy documents and projects within Pacifica's Coastal Zone to underrepresented communities outside of Pacifica.

PR-I-82 **Removal of Barriers to Public Participation.** Implement efforts to remove barriers that may prevent underrepresented communities from public participation opportunities. Efforts should be made to provide a welcoming, understandable and respectful atmosphere, and to be considerate of the timing, location, and accessibility of any meeting to accommodate the underrepresented communities.

[6] California Coastal Commission Environmental Justice Policy, Adopted March 8, 2019, https://documents.coastal.ca.gov/assets/env-justice/CCC_EJ_Policy_FINAL.pdf

4 ENVIRONMENTAL AND SCENIC RESOURCES

The purpose of this chapter is to provide policy guidance to protect, preserve, and enhance Pacifica's environmental and scenic resources. Topics covered in this element include hydrology and water quality; biological resources; forest, agricultural, and soil resources; and cultural and historic resources. The protection of environmental resources is a critical subject of regulation at the federal and State levels, and is a focus of the California Coastal Act.

4.1 COASTAL ACT FRAMEWORK

The California Coastal Act provides extensive policies concerning the protection, use, and experience of the coastal environment. Policies from Chapter 3 of the Coastal Act which are most relevant to the subject matter of this chapter include, but are not limited to, the policies listed below. Chapter 3 of the Coastal Act, available in Appendix A, is incorporated by reference into this chapter.

Coastal Act Policies

Article 4: Marine Environment

- **Section 30230** Marine resources; maintenance
- **Section 30231** Biological productivity; waste water
- **Section 30232** Oil and hazardous substance spills
- **Section 30233** Diking, filling or dredging continued movement of sediment and nutrients
- **Section 30234** Commercial fishing and recreational boating facilities
- **Section 30234.5** Economic, commercial, and recreational importance of fishing
- **Section 30235** Construction altering natural shoreline
- **Section 30236** Water supply and flood control

Article 5: Land Resources

- **Section 30240** Environmentally sensitive habitat areas; adjacent developments
- **Section 30241** Prime agricultural land; maintenance in agricultural production
- **Section 30241.5** Agricultural lands; determination of viability of uses; economic feasibility evaluation
- **Section 30242** Lands suitable for agricultural use; conversion
- **Section 30243** Productivity of soils and timberlands; conversions
- **Section 30244** Archaeological or paleontological resources

Article 6: Development

- **Section 30251** Scenic and visual qualities
- **Section 30253** Minimization of adverse impacts
- **Section 30254** Public works facilities

For the purpose of this chapter, these policies may be grouped in six areas: protection of water quality; protection of sensitive habitat on land; protection of natural shorelines; maintenance of land and water for resource-based uses including fishing and farming; protection of cultural resources; and protection of scenic and visual resources. Each of these areas is discussed in the sections that follow.

4.2 HYDROLOGY AND WATER QUALITY

Under the Coastal Act, marine resources are to be "maintained, enhanced, and where feasible, restored" (Section 30230). This is to be achieved by controlling the quality of runoff, supporting natural infiltration and similar means (Section 30231); protecting against oil and gas spills or leaks (Section 30232); and minimizing diking, dredging, or filling of coastal water, including wetlands (Section 30233).

Pacifica's water resources are unique and numerous, and they provide important benefits to the city, including wildlife habitat, scenic natural corridors, and flood control. Careful management of urban waterways ensures maintenance of water quality, preservation of ecological functions, and safety of surrounding development. Understanding Pacifica's surface water and groundwater resources provides a context for policies for hydrology, water quality, and management.

Surface Water

The City of Pacifica's Coastal Zone is part of eight watersheds, shown on **Figure 4-1**, Hydrology. The watersheds largely drains west towards the Pacific Ocean. From north to south, the major watersheds are Milagra Creek, Sanchez Creek (also known as Sharp Park Creek), Calera Creek, and San Pedro Creek.[1] A small portion of the watersheds drains to the east, contributing to the upper basin of San Mateo Creek watershed.

Milagra Creek

Milagra Creek drains approximately 460 acres. The drainage area has varied land cover types, including undeveloped portions of the Golden Gate National Recreation Area (GGNRA), and residential and commercial development near Highway 1. The lower reaches of Milagra Creek have been altered and the channel hardened in the Coastal Zone reach below Highway 1 to the ocean.

Sanchez Creek

Sanchez Creek watershed, located almost entirely within the City, drains approximately 1,070 acres. Most of the steep hillsides and higher elevations are GGNRA protected open space, while valley bottoms and flatter portions of the hillsides include residential development, Highway 1, and Sharp Park Golf Course. Sanchez Creek has intermittent flow in most years.

At its mouth within the Coastal Zone, Sanchez Creek flows through Horse Stable Pond and exchanges water with Laguna Salada within the Sharp Park Golf Course. Creek flow is then conveyed through a levee to the ocean via a system of pipes. The discharge point of the pipe(s) is often buried in beach sands and is occasionally excavated to allow for free drainage. During high flows, water from the golf course is pumped over the levee into the ocean. There are also several depressional and formerly estuarine wetlands near the mouth of Sanchez Creek at Horse Stable Pond and Laguna Salada.

Calera Creek

Calera Creek drains approximately 1,600 acres in the central portion of the City, onto the north Rockaway Beach. Land use is dominated by residential neighborhoods with some businesses along main roads. The contributing area of Calera Creek is altered along the valley bottom and near the mouth.

The lower reach of Calera Creek, in the Coastal Zone, was part of a significant restoration project implemented in 1997 and 1998, which included excavation of a new stream channel, restoration of 16 acres of wetlands and 12 acres of uplands. The restoration site receives additional tertiary-treated wastewater from the Calera Creek Water Recycling Plant (CCWRP), adding approximately 3.6 million gallons per day (mgd) to the lower reach. The amount of flow generated by the CCWRP varies with rainfall and usage. The creek is now perennial in the lower reach due to the input from the CCWRP. The creek was likely intermittent in at least some years, and is still intermittent with residual pools above the CCWRP discharge point.

Rockaway Creek

Rockaway Creek is south of Calera Creek in the larger Calera Creek watershed. Rockaway Creek parallels Rockaway Beach Avenue, and flows into the southern end of Rockaway Beach. The upper portions of the watershed are primarily open space, while the valley bottom is comprised of a small residential area, which follows the creek.

San Pedro Creek

San Pedro Creek watershed is the largest in Pacifica, draining approximately 5,300 acres. The watershed extends north to Sweeney Ridge, east to Spring Valley Ridge, and south into the slopes of Montara Mountain. San Pedro Creek has several tributaries extending past the City boundaries. These tributaries include the South Fork, Middle Fork, North Fork, and Brooks/Sanchez Creek.

San Pedro Creek supports anadromous steelhead trout, a federally-listed endangered species. This creek also has one of the only functioning estuaries between the Devil's Slide area and the Golden Gate Bridge. Wetlands along San Pedro Creek provide habitat for the threatened California red-legged frog.

The upper watershed is largely undeveloped, while the lower portion is highly developed with residential subdivisions and commercial shopping centers at Park Mall and near Highway 1. Alterations from historical agricultural and more recent urban development have resulted in a deep channel with steep banks. Channel downcutting and erosion throughout the reach has threatened roads and structures, as many residential lots back up against the creek. In order to protect the banks, formal and informal bank stabilization techniques have been installed over the years.

The City and stakeholders (including the California Coastal Conservancy, Go Native, the Pacifica Land Trust, the San Pedro Creek Watershed Coalition, the California Department of Fish and Game, the Army Corps of Engineers, the State Water Resources Control Board, and the Pacifica Beach Coalition) have implemented restoration projects and clean-up efforts along the creek resulting in reduced flooding of homes and businesses, reduced erosion of Pacifica/Linda Mar State Beach, and the conservation habitat for steelhead trout.

Other creek restoration efforts included:

- Earthwork and planting completed in 2000 which established a more natural channel, improved flood storage, and restored ecosystem functioning.

- Installation of rock weirs in 2005 to stabilize the degrading channel bed, smooth the longitudinal profile, and improve fish passage further upstream at the Capistrano bridge

Figure 4-1: Hydrology

Groundwater

The 700-acre San Pedro Valley Groundwater Basin lies within the City. Alluvial deposits consisting primarily of clays, sands, silts, and some gravels are found throughout the majority of the basin and are the primary water-bearing formation in the Planning Area.[1] These deposits are approximately 150 feet thick or more. Water quality, groundwater level, and groundwater storage data for the basin is minimal. The outflow of water from the aquifer occurs by evapotranspiration and seepage to streams, springs, and the ocean. The water table fluctuates seasonally.

In a 1992 study, groundwater wells in the City were monitored to determine the location of seasonally shallow groundwater. The groundwater was mapped for three depths below the ground surface: less than 1.5 feet; less than 3.0 feet; and less than 6.0 feet. Areas within the Coastal Zone with seasonally shallow groundwater include Pedro Point, Fairway Park, and Sharp Park.

Due to the existing development pattern in Pacifica where urbanized land uses are located in close proximity to creeks and streams, there are few areas outside of the creekbeds and streambeds themselves to establish groundwater recharge sites. Existing flood corridors such as lower San Pedro Creek and the surrounding riparian habitat have been designed through previous flood control projects to manage flood flows until water recedes, but have not been designed to retain flood water for the purpose of groundwater recharge. The sloping topography of much of the City also presents challenges to identifying suitable areas for stormwater collection and recharge of groundwater storage areas. The largest area of public land that may be topographically suitable to accommodate stormwater and floodwater for purposes of groundwater recharge and stormwater management is the Sharp Park Golf Course, owned and operated by the City and County of San Francisco. The Laguna Salada is an existing water feature with varying water levels throughout the year. However, the recreational uses of the remainder of the site preclude their function as a dedicated groundwater recharge site. There are no rivers located in Pacifica.

Wetlands

The Coastal Act defines wetlands as "lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens" (Section 30121). Areas where the water table is at, near, or above the land surface at some time during each year may be identified as wetlands. The criteria for wetland boundary determinations are detailed in California Code of Regulations section 13577(b). Importantly, wetlands in the coastal zone only need to meet one parameter (i.e., hydrology, hydric soils, or hydrophytic species) to be considered a wetland, as differentiated from three parameter delineations which require all three to be present (e.g., U.S. Army Corps of Engineer delineations).

Seasonal wetlands occur in smaller drainages and localized depressions, forming ponds or flowing water, and are underlain by saturated soils during the winter and spring. Seasonal wetlands also occur along the banks and sediments that accumulate in creeks.

Wetlands in Pacifica are found along riparian areas, drainages, along the coast, and as fresh and brackish water marshes (such as on the Sharp Park Golf Course). The National Wetlands Inventory (USFWS, 2020) has

[1] Department of Water Resources (DWR), 2004.

identified different types of wetlands within the Planning Area (Cowardin et al., 1979). These include estuarine and marine wetlands, freshwater emergent wetlands, and freshwater pond.

Impaired Water Bodies

The federal Clean Water Act requires a Total Maximum Daily Load (TMDL) be established for the pollutants identified as causing the impairment of surface water quality. TMDL refers to the maximum amount of a pollutant that a water body can receive and still meet water quality standards. Generally, TMDL is the sum of the loads of a single pollutant from point and nonpoint sources. In Pacifica's Coastal Zone, San Pedro Creek is listed as impaired by coliform bacteria and Pacifica State Beach is listed as impaired by diazinon (insecticide).

The Environmental Protection Agency approved the TMDL for San Pedro Creek and Pacifica State Beach on August 1, 2013.

Stormwater

Pacifica's storm drainage system consists of a collection system and two pump stations. This drainage system acts to convey drainage to area creeks or the ocean. Overall, the City's system serves 178 miles of roads and 986 inlets, only a small portion of which is within the Coastal Zone.[2]

San Mateo Countywide Water Pollution Prevention Program

The San Mateo County Water Pollution Prevention Program (SMCWPPP) was established in 1990 with the assistance of the San Mateo County City/County Association of Governments. The primary goal is to reduce pollution carried by stormwater, and to maintain compliance with the San Francisco Bay Municipal Regional Stormwater National Pollutant Discharge Elimination System (NPDES) permit. Participating agencies, including the City of Pacifica, must comply with the NPDES Permit by ensuring that municipal operations, new development and redevelopment, industrial and commercial site controls, and construction site controls mitigate water quality impacts to stormwater runoff during construction and operation phases of projects. As part of the NPDES permit requirement, the City of Pacifica completed a Green Infrastructure Plan in 2019, which describes how low impact development (LID) drainage design will be incorporated into public and private streets, parking lots, building roofs and other facilities to achieve water quality, flow reduction and other environmental and community benefits.

Stormwater Management and Site Planning

New development and redevelopment projects are subject to NPDES permit requirements, and are grouped into categories based on project type. Depending on their category, projects are required to include stormwater controls, including site design measures, source controls, treatment measures, low impact development, hydromodification management, and construction best management practices (BMPs). Construction BMPs include scheduling grading and excavation work in dry weather only; installing temporary erosion controls until vegetation is reestablished; effectively managing all run-off within the site and from off-site. Post-construction stormwater treatment measures that remove pollutants from stormwater during project operations include rain gardens; bioretention areas; and flow-through planters.

[2] San Mateo Countywide Water Pollution Prevention Program. Annual report, 2007-08. August 29, 2008.

San Pedro Creek/Linda Mar Storm Drain Treatment/Diversion Project

In 2004, the City completed the Pacifica State Beach Improvement Project. This project has successfully redirected polluted water from first-flush release into the ocean to two constructed wetland treatment swales, and, together with other elements of the project, improved water quality.

Policies

Guiding Policies

ER-G-1 **Water Quality**. Support the improvement of Pacifica's water quality, including both surface water and groundwater, through Best Management Practices (BMPs) for stormwater management, stream restoration, and riparian habitat restoration.

ER-G-2 **Watershed Management.** Recognize the interrelated nature of Pacifica's hydrology system, its watersheds, and development in the Planning Area, and protect water resources through comprehensive management of entire watersheds.

ER-G-3 **Maintain Creeks as a Resource.** Ensure both access to and ecological functionality of the creeks in Pacifica.

ER-G-4 **Retain Natural Processes.** Enable natural processes to occur on developed sites, and utilize these processes to enhance the built environment and users' experiences of it.

Implementing Policies

CREEKS, WETLANDS, AND COASTAL WATERS

ER-I-1 **Creek Protection and Restoration.** Maintain, protect, and restore Pacifica's creeks, including San Pedro, Rockaway, Calera, Sanchez, and Milagra creeks, as environmental and aesthetic resources. Actions will include, but are not limited to:

- Continuing restoration efforts along San Pedro Creek to improve conditions for steelhead by removing obstacles to fish passage, placing rock weirs to facilitate fish passage, and by monitoring the effectiveness of these projects;
- Partnering with local organizations, such as the San Pedro Creek Watershed Coalition, Go Native, the Pacifica Land Trust, and others, on restoration efforts;
- Exploring opportunities to collaborate with other agencies and organizations on stream restoration and riparian habitat restoration along Sanchez and Calera creeks;
- Enforcing restrictions on the planting of invasive species near creek areas;
- Identifying and working with property owners to take advantage of unique opportunities where human active use (e.g., through trail development) would enhance creek appreciation without disrupting ecological function;
- Requiring a minimum of 100 feet buffers from the top of creek banks, or from the outer edge of riparian vegetation, where it exists, whichever is further, for development

proposed adjacent to creeks, in keeping with City regulations and Best Management Practices. The 100-foot buffer may be reduced by the minimum necessary to avoid a taking (for private development), provided that any unavoidable impacts are commensurately mitigated. The 100 foot buffer may also be reduced to provide required incidental public services (for public development, such as burying cables and pipes or inspection of piers, maintenance of existing intake and outfall lines, and emergency repairs), provided that any unavoidable impacts are commensurately mitigated, that the buffer is as close to 100 feet as possible, and no less than 50 feet in any case, and provided that creek resource impacts are avoided as much as possible, and unavoidable impacts commensurately mitigated, all as conclusively demonstrated by a qualified biologist to the satisfaction of the City and applicable resource agencies, except that the 50-foot minimum shall not apply to low intensity public access and recreation maintenance and improvement services.

- Permitted uses within buffer zones are limited to uses dependent on the resources within these areas and their buffer zones (i.e., habitat management and restoration, scientific research and educational activities, and low-intensity public access and recreation), Temporary disruption (e.g. less than six months), as determined by a qualified biologist in consideration of on-site specific biological resources, for the construction, alteration, repair, and maintenance of existing or newly permitted facilities or structures is allowed if there are no feasible alternatives, the disruption area is restored to its pre-disruption state or better within one year from the initial point of impact and there is no significant ground disturbance.

ER-I-2 **Improvement of Impaired Waterways**. Strive to improve water quality in San Pedro Creek, which is listed on the Clean Water Act 303(d) list of impaired water bodies, and any other waterway that may be listed as impaired in the future.

ER-I-3 **Funding for Creek Maintenance**. Establish funding mechanism to require property owners with parcels adjacent to creeks to pay for creek improvement maintenance.

ER-I-4 **Wetlands Preservation.** Prohibit new development in existing wetlands except as allowed under the federal Clean Water Act and the California Coastal Act. Continue to require formal delineations of wetlands subject to State or federal regulations prior to any proposed development project where potential wetlands have been identified. If impacts on wetlands are unavoidable, compensation measure should be in line with the State's no-net-loss goal regarding wetlands.

ER-I-5 **Limitations on Diking, Filling or Dredging.** Only permit the diking, filling, or dredging of open coastal waters, wetlands, and lakes for the following purposes where there is no feasible, less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects:

- New port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities.
- New boating facilities and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities.

- Incidental public service purposes, including, but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.
- Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas.
- Restoration activities;
- Nature study, aquaculture, or similar resource-dependent activities.
- No new development shall be allowed within wetlands except as described in Policy ER-1-4 and Policy ER-I-5.

ER-I-6 **Minimize Disruption of Dredging.** Require any proposed dredging and spoils disposal to be planned and carried out in a way that will avoid significant disruption to marine and wildlife habitats.

ER-I-7 **Maintain Functional Capacity of Wetlands.** Ensure that any diking, filling, or dredging in existing wetlands maintains or enhances their functional capacity.

Any alteration of coastal wetlands identified by the Department of Fish and Wildlife or as defined by the Coastal Commission shall be limited to very minor incidental public facilities, restorative measures, or nature study.

ER-I-8 **Continued Movement of Sediment and Nutrients.** Allow suitable sediment removed from erosion and flood control facilities to be placed at appropriate points on the shoreline, where environmental effects will be minimal.

STORMWATER MANAGEMENT

ER-I-9 **Countywide Water Pollution Prevention Program**. Continue to participate in the San Mateo Countywide Water Pollution Prevention Program.

The Program represents a collaborative effort amongst the County and its municipalities, consisting of five major areas of water pollution prevention and control:

- *Municipal maintenance activities*
- *Industrial and illicit discharge*
- *Public information and participation*
- *New development and construction controls*
- *Watershed monitoring*

ER-I-10 **Stormwater Discharge**. Ensure compliance with the Municipal Regional Permit, the Construction General Permit and the Construction Dewatering Permit, which regulate stormwater discharge from new and existing development.

These permits are established by the National Pollutant Discharge Elimination System (NPDES) and administered by the Regional Water Quality Control Board. They require that new development incorporate

Best Management Practices (BMPs) and Green Infrastructure Plan requirements in site design, construction, and management to minimize storm water runoff rates and volumes, control water pollution, and maximize infiltration.

ER-I-11 **Protect Water Quality through Best Management Practices.** Continue to require the use of best management practices to reduce water quality impacts from construction and development. Measures include:

- ***Site Design and Source Control***. Ensure that all new development incorporates site design and source control BMPs into the project design in order to preserve the infiltration, purification, and retention functions of each site's natural drainage systems, and to prevent or minimize the runoff of pollutants, sediments, waste, and pathogens from the site.
- ***Construction Pollution Control.*** Require all construction projects to adopt measures to avoid when possible, or minimize erosion and runoff of pollutants and sediments from construction-related activities, and to limit activities that result in the disturbance of land or natural vegetation.

  Construction projects will be required to use appropriate erosion prevention techniques, sediment control measures, and best management practices in accordance with City specifications and the San Mateo Countywide Water Pollution Prevention Program.
- ***Treatment Control.*** Require that new development implement treatment control BMPs (or structural treatment BMPs) where the combination of site design and source control BMPs is not sufficient to protect water quality and comply with applicable water quality permits.

  Stormwater treatment systems must meet the numeric sizing criteria established in the NPDES Permit, and must be operated and maintained in compliance with the NPDES Permit.

ER-I-12 **Infrastructure and Water Quality.** Ensure that the design and construction of new infrastructure elements does not contribute to stream bank or hillside erosion or creek or wetland siltation, and incorporates site design and source control BMPs, construction phase BMPs, and treatment control BMPs to minimize impacts to water quality, in compliance with the NPDES Permit.

ER-I-13 **Green Infrastructure.** Require that new development projects incorporate inclusion of low impact development drainage design into storm drain infrastructure on public and private lands, including streets, roads, storm drains, parking lots, building roofs, and other storm drain infrastructure elements.

ER-I-14 **Erosion Control.** Manage erosion in the Planning Area, particularly in watershed areas, through on-site erosion control.

Construction projects will be required to use appropriate erosion prevention techniques, sediment control measures, and best management practices in accordance with City Specifications and General Conditions of Approval and the San Mateo Countywide Water Pollution Prevention Program.

ER-I-15 **Minimize Site Disturbance**. Require the use of best practices during development design and construction to preserve natural resources, such as soil, trees, native plants, and permeable surfaces.

ER-I-16 **Reduce Impervious Surfaces.** Enable natural drainage by reducing the amount of impervious surfaces on a development site, whenever feasible.

Techniques that help accomplish this objective:

- *Designing development projects to share driveways;*
- *Placing parking lots under buildings, whenever feasible; and*
- *Using permeable paving materials on walkways and driveways, whenever feasible.*

ER-I-17 **On-site Stormwater Management**. Continue to require all small projects and detached single-family home projects, as defined under the NPDES Permit, to incorporate site design measures that facilitate groundwater recharge and natural hydrological processes, allowing stormwater to infiltrate the ground on-site and/or be collected for reuse in landscaping and designated to on-site stormwater detention facilities.

Techniques for on-site stormwater management include use of:

- *"Rain gardens" or bioretention areas in yards, parks, and parking lots;*
- *Landscaped drainage swales along roadways;*
- *Green roofs;*
- *Permeable pavers for walkways and parking areas;*
- *Rain barrels for harvesting runoff from rooftops;*
- *Tree box filters for on-street filtration;*
- *Parking areas that direct stormwater flow into vegetated areas;*
- *Grading that lengthens flow paths and increases runoff travel time to reduce the peak flow rate; and*
- *Cisterns or sub-surface retention facilities that capture rainwater for use in irrigation and non-potable uses.*

ER-I-18 **Prevent Contaminated Runoff.** Ensure that new parking lots and commercial development incorporate BMPs designed to prevent or minimize runoff of oil, grease, solvents, battery acid, coolant, gasoline, sediments, trash, and other pollutants from the site.

Runoff from areas serving vehicle traffic, structures, landscaping, loading areas, repair and maintenance bays, fueling areas, vehicle/equipment wash areas, outdoor material storage areas, and waste storage areas should be prevented or minimized.

ER-I-19 **Oil and Hazardous Substance Spills.** Provide protection against the spillage of crude oil, gas, petroleum products, or hazardous substances in relation to any development or transportation of such materials.

For any accidental spills that do occur, the City will require immediate and effective containment, and cleanup facilities and procedures.

WASTEWATER COLLECTION AND TREATMENT

ER-I-20 **Sanitary Sewer Discharge**. Ensure that discharges of treated wastewater from the Calera Creek Wastewater Recycling Plant continue to comply with the Sanitary Sewer System Permit.

The City will manage the release of treated wastewater as part of habitat restoration along Calera Creek, and pursue the use of recycled water for irrigation and other uses.

4.3 BIOLOGICAL RESOURCES

The Coastal Act seeks to protect Environmentally Sensitive Habitat Areas (ESHAs) from any significant disruption of their habitat values by providing strict limits on what may be allowed within these areas and ensuring that adjacent development will be compatible with habitat (Section 30240). Marine resources must also be maintained (Section 30230).

Pacifica contains some of the most natural habitat on the San Francisco Peninsula, providing for a wide variety of native plant and animal species, and natural communities. Some of these species and communities, have special legal status, having been listed under the federal or state Endangered Species Acts, or having been listed under the California Department of Fish and Wildlife Species of Concern, California Native Plant Society, USFWS Birds of Conservation Concern or other regulating authority. Portions of the Coastal Zone have been noted for high habitat value (providing important resources to plants and wildlife) use as a migration corridor, or their potential to be designated Environmentally Sensitive Habitat Area (ESHA) under the California Coastal Act.

Environmentally Sensitive Habitat Areas are defined by the California Coastal Act as "any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments." These areas are to be protected against any significant disruption of habitat values, and only uses dependent on those resources are to be allowed within those areas. Development in areas adjacent to environmentally sensitive habitat areas must be sited and designed to prevent impacts which would significantly degrade those areas, and be compatible with the continuance of those habitat and recreation areas.

Plant Communities and Wildlife Habitats

Plant communities and habitats found in Pacifica are briefly described below and depicted in **Figure 4-2**, Vegetation. The map is illustrative and for information purposes only; site-specific biological studies are required as part of proposed development review to determine the presence and extent of plant communities and habitat. The map is a tool to help identify areas where further evaluation for biological issues may be relevant.

Grasslands/Prairie

Grasslands/Coastal Prairie in Pacifica occur Milagra Ridge, Sweeney Ridge, Cattle Ridge, Mori Point, Aramai Point (formerly Rockaway Headland), San Pedro Valley Park, the San Pedro Mountain hills and Pedro Point Headlands and often in a mosaic with coastal scrub Grasslands attract reptiles and amphibians, including several lizard species and the western rattlesnake. Grasslands are important foraging grounds for bats and other mammals such as coyote, black-tailed deer, jackrabbits, and various rodents. Small rodents attract raptors (birds

of prey) including hawks, owls, and turkey vultures. The grasslands in Pacifica are limited and highly disturbed nature, having been damaged through unauthorized vehicle activity that has created off-road trails on hillsides.

Over the past thirty years extensive work has been accomplished to protect, preserve and restore native, perennial grasses and forbs at Pedro Point Headlands (PPH), Aramai Point, Mori Point and Milagra Ridge. The Pedro Point Headlands restoration was supported by a grant awarded by California State Parks and Recreation Division to the Pacifica Land Trust to repair off- highway vehicle damage. Grassland and prairie are being protected in other publicly managed lands as well. Unprotected grassland/ prairie remnants continue on Harmony 1, Rockaway Rock, the Quarry, Cattle Hill, along Fassler, Esplanade, Palmetto, and Fish and Bowl.

SPECIAL-STATUS SPECIES IN GRASSLAND HABITATS

Special-status species[3] that have the potential to occur in grassland habitats around Pacifica include the Mission blue butterfly, San Bruno elfin butterfly, Crystal Springs fountain thistle, Marin western flax, San Mateo thorn-mint, white-rayed pentachaeta, Crystal Springs lessingia, pappose tarplant, and San Francisco owl's clover.[4]

Coastal Bluff Scrub

Coastal bluff scrub is found along Highway 1, consists of a mosaic of open sand, native low growing shrubs and herbaceous perennials. Native species present include dwarf coyote brush, silver bush lupine, yellow bush lupine, seaside woolly sunflower, bunchgrass, buckhorn plantain, beach evening primrose, beach bur, yellow sand verbena, beach saltbush, and beach morning glory. Other exotic species are Italian ryegrass, bull thistle, and fennel.[5] Non-native iceplant (Carpobrotus edulis) New Zealand spinach (Tetragonia tetragonioides) have been virtually eradicated and replaced with appropriate natives grown and planted by volunteers.

SPECIAL-STATUS SPECIES IN COASTAL BLUFF SCRUB HABITAT

Special-status species that may be found in this habitat around Pacifica are bumblebee scarab beetle, sandy beach tiger beetle, Hickman's cinquefoil, blue coast gilia, coast yellow leptosiphon, coastal marsh milk-vetch, coastal triquetrella, compact cobwebby thistle, Franciscan thistle, Point Reyes horkelia, rose leptosiphon, San Francisco Bay spineflower, and short-leaved evax. Bank swallows, double-crested cormorants, and big free-tailed bats may use cliff sides for nesting.

Northern Coastal Scrub

Northern coastal scrub habitat is found on undeveloped slopes, often in a mosaic with grasslands. Northern maritime chaparral, a special-status community, is included in this category. Northern coastal scrub is dominated by either coyote brush or California sagebrush, primarily depending on slope aspect. North facing slopes support a greater diversity of shrub species and canopy cover than south facing slopes. Coastal scrub habitat, often interspersed with other habitats, provides foraging and nesting habitat for species that are attracted to edges of plant communities. These include various bird species, including hummingbirds; small

[3] "Special-status" plant and animal species are defined in more detail in the Special-status Species section of this chapter. Briefly, they are:

- Species listed under the Federal Endangered Species Act, Marine Mammal Protection Act, California Endangered Species Act, California Fish and Game Code, and the Native Plant Protection Act as endangered, threatened, or depleted; species that are candidates or proposed for listing; or species that are designated as rare or fully protected.
- Locally rare species defined by CEQA Guidelines Sections, which may include species that are designated as sensitive, declining, rare, locally endemic, or as having limited or restricted distribution by various federal, state, and local agencies, organizations, and watch lists.

[4] John Northmore Roberts & Associates et al., 1992; State of California Department of Parks and Recreation, 1990.

[5] State of California Department of Parks and Recreation, 1990; ESA surveys, 2008

mammals including skunks, rabbits, gophers, and rodents; larger predators such as fox, coyotes, mountain lions, and bobcat; and small reptiles.[6]

SPECIAL-STATUS SPECIES IN NORTHERN COASTAL SCRUB HABITAT

Special-status animals that may use northern coastal scrub around Pacifica include merlins, dusky-footed woodrat, Mission blue butterfly, and San Bruno elfin butterflies. Special-status plants with the potential to occur include: Pacific manzanita, Presidio manzanita, San Bruno manzanita, San Francisco lessingia, Choris' popcorn-flower, Davidson's bush-mallow, fragrant fritillary, Kellogg's horkelia, Montara manzanita, Oregon polemonium, pale yellow hayfield tarplant, San Francisco campion, San Francisco collinsia, and San Francisco gumplant.

Eucalyptus

This habitat type is dominated by planted Eucalyptus species, primarily blue-gum eucalyptus. Groves of eucalyptus are dense and form a closed canopy, restricting other native overstory trees to clearings. Eucalyptus trees have allelopathic properties, releasing chemicals into the soil to reduce or inhibit growth of other plants. In addition, they produce extensive leaf and bark litter which further inhibits the growth of understory plants. Eucalyptus trees provide perching, roosting, and nesting sites for larger birds, such as crows, ravens, red-tailed hawks, red-shouldered hawks, and barn owls. The migratory monarch butterfly frequently roosts in eucalyptus trees in the winter.

Monterey Cypress

Small patches of Monterey cypress occur throughout the Planning Area in planted stands surrounded by a mosaic of scrub and grasslands. The largest stand occurs at the north end of the Planning Area. Although the small patches of Monterey cypress found in Pacifica are unlikely to support significant wildlife populations, they complement surrounding habitats by providing nesting and roosting substrates for birds as well as shelter for other animals.

Riparian Mixed Hardwood

Areas with riparian mixed hardwood habitat occur along San Pedro Creek, Rockaway Creek, Calera Creek, and Laguna Salada. Native trees that are found include red alder, various willow species, and creek dogwood. Riparian areas also host native herbs and emergent vegetation, as well as various nonnative ivies, grasses, blackberry, and other plants.[7] Riparian areas provide foraging ground for birds and small mammals, and habitat for small reptiles and amphibians.

SPECIAL-STATUS SPECIES IN RIPARIAN MIXED HARDWOOD HABITAT

Special-status wildlife that could be present in the riparian corridor includes tricolored blackbirds, raptors such as Cooper's hawk, sharp-shinned hawk, and great blue heron.

Wetlands and Ponds

Wetlands occur in smaller drainages and localized depressions, forming ponds or flowing water. Wetlands also occur along creeks, riparian areas, drainages, along the coast, and as fresh and brackish water marshes (such as on the Sharp Park Golf Course). Vegetation and wildlife found in wetlands varies with water characteristics, inundation patterns, surrounding habitat, and level of disturbance.

[6] John Northmore Roberts & Associates et al., 1992
[7] San Pedro Creek Watershed Coalition, 2005

SPECIAL-STATUS SPECIES IN WETLANDS AND PONDS

The California red-legged frog, San Francisco garter snake, Leech's skyline diving beetle, San Francisco forktail damselfly, Tomales isopod, western pond turtle, and bristly sedge are special-status species that may be found in wetlands in and around Pacifica. The wetlands in Sharp Park are also known to support saltmarsh common yellowthroat. Seasonal wetlands and ponds at Mori Point and Sharp Park Golf Course also known to support the California red-legged frog as well as the San Francisco garter snake.

Streams

Streams are important habitat features in Pacifica as they can function as movement corridors as well as providing protective cover. Wildlife species that are associated with stream habitat include river otters, great blue heron, snowy egret, belted kingfisher, dark-eyed junco, and black phoebe. Black-tailed deer, raccoon, opossum, and grey fox may use the creeks as movement corridors. Fish species present include the prickly sculpin, the Pacific lamprey, and the threespine stickleback.

SPECIAL-STATUS SPECIES IN STREAMS

The federally threatened steelhead trout use parts of San Pedro Creek for spawning, including the main portion parallel to Linda Mar Boulevard, as well as the middle and south forks in San Pedro County Park.[8] This is the only stream with a steelhead population between the Golden Gate Bridge and Half Moon Bay. Lower Calera Creek on the Quarry site supports the federally-threatened California red-legged frog and the Endangered San Francisco garter snake.

Beach/Intertidal

Significant expanses of continuous sandy shoreline occur along the San Mateo coastline, including in Pacifica. Beaches are dynamic systems that change with wind and waves; generally, sand is eroded from beaches in the winter and re-deposited in the summer, resulting in annual changes in beach slope and width.

Beach habitats can be divided into supratidal, intertidal, and subtidal. The supratidal beach fauna consists of sand crabs, California beach flea, amphipods, polychaete worms, flies, and isopods that feed on detritus; these species in turn are fed on by a variety of birds. The by-the-wind sailor, a jellyfish-like colony of organisms, frequently washes up on the upper beach areas. Exposed rocks or cobble, especially at the lower intertidal areas, can have attached algae, mussels, and barnacles. Intertidal areas are home to the Pacific egg cockle and spiny mole crab. The Subtidal zone is primarily inhabited by fish such as surf perch, striped bass, salmon, anchovies, sanddabs, California halibut, and the starry flounder. [9]

SPECIAL-STATUS SPECIES IN BEACH/INTERTIDAL HABITAT

Some special-status species may be found in the shallow waters off of Pacifica. Harbor seals and sea lions haul out on isolated beaches and sands spits. The endangered black abalone may be present in intertidal areas attached to rocks. The threatened green sturgeon may also forage in the shallow waters off of Pacifica. Both the gray whale and southern sea otter use the nearshore waters, and the California brown pelican is also frequently observed. Pacifica State Beach in the 1970s hosted nesting Western Snowy Plovers, a Federally listed threatened species. Since 2003 volunteers have regularly surveyed and monitored the plovers and have seen only wintering plovers in declining numbers. The northern half of the beach where plovers roost and feed qualifies as ESHA.

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8 San Pedro Creek Watershed Coalition, 2005

9 BLM, 1981; State of California Department of Parks and Recreation, 1990

Dunes

Dune habitat includes areas with sandy substrates proximate to the marine environment and may range from bare to vegetated with species typical of foredune and dune scrub communities, including non-natives such as iceplant and invasive grasses. Dune form topography may or may not be evident, depending on the condition of the dune and past land use or invasions, but may be readily restored. While most dunes occur near sea level, there are several examples of perched dune systems atop bluffs in Pacifica, where aeolian forces have created the substrate and processes appropriate to support dune vegetation. All areas that meet this definition of Dunes are categorically considered ESHA.

Figure 4-2: Vegetation

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Potential Environmentally Sensitive Habitat Areas (ESHAs)

Environmentally Sensitive Habitat Areas are defined by the California Coastal Act as "any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments." These areas are to be protected against any significant disruption of habitat values, and only uses dependent on those resources are to be allowed within those areas. Development in areas adjacent to environmentally sensitive habitat areas must be sited and designed to prevent impacts which would significantly degrade those areas, and be compatible with the continuance of those habitat and recreation areas.

Figure 4-3 identifies potential ESHAs in the Planning Area in three general categories: wetland, stream/riparian, and other terrestrial ESHAs. These potential ESHAs include all current designated critical habitat for Endangered or Threatened Species; known special status communities[10]; and areas designated as "other potential Environmentally Sensitive Habitat Areas". Figure 4-3 is meant to serve as a flag for further studies to be undertaken when development is proposed. However, the map is illustrative and for information purposes only; site-specific biological studies are required as part of proposed development review to determine the presence and extent of ESHA and its required buffer zone. Other information than Figure 4-3 may dictate the need for such studies as well (e.g., site evaluation, other studies nearby, etc.), even if the area is not mapped as potential ESHA on Figure 4-3.

Critical Habitat

Critical habitat areas are for species listed under the Federal Endangered Species Act. These areas contain features that are essential for the conservation of the species and may require special management and protection.

Critical habitat for the California red-legged frog has been designated in the southeast portion of the City of Pacifica, outside the Coastal Zone. This area contains both aquatic and upland areas with suitable breeding and non-breeding habitat[11]. A final ruling was issued in March 2010 to expand the current critical habitat from 450,288 acres to 1,804,865 acres statewide, including additional parts of the Planning Area, including on Pedro Point Headlands in the Coastal Zone (see **Figure 4-3**, Sensitive and Critical Habitat).

San Pedro Creek is known to support steelhead trout, a federally listed threatened species. They spawn in the main portion of the creek that runs parallel to Linda Mar Boulevard, as well as the middle and south forks in San Pedro County Park. However, conditions in parts of the creek limit its suitability for steelhead habitat, including barriers to fish passage at main stem road crossings, low base flows, mobilization and accumulation of fine sediments in the main stem, deterioration of water quality, disturbance, and exploitation.

Nearshore marine areas off of Pacifica are part of the Green Sturgeon Critical Habitat. The National Oceanic and Atmospheric Administration found that this, which includes Pacifica's shoreline, is of high conservation value.

Special-Status Communities

The California Natural Diversity Database (CNDDB) indicates that there is an area of northern maritime chaparral at the south end of the Planning Area, in San Pedro Valley County Park and on Whiting Ridge and Montara Mountain. This community is fairly open chaparral, with about 50–80 percent cover, and it is

[10] A "special-status natural community" is a natural habitat community that is unique in its constituent components, restricted in distribution, supported by distinctive soil conditions, considered locally rare, potentially supporting special-status plant or wildlife species, and/or that receives regulatory recognition from municipal, county, state, and/or federal entities such as the California Natural Diversity Database (CNDDB).

[11] San Pedro Creek Watershed Coalition, 2002

dominated by Manzanita or Ceanothus species. An area of coastal bluff scrub has been identified at the north end of Pacifica. Coastal bluff scrub communities are found on steep, exposed bluffs along the ocean and are dominated by low shrubs and ground-hugging herbaceous species. It is particularly important for stabilizing sand dunes. Both bluff and northern coastal scrub habitat has been damaged by unauthorized vehicle activity and pedestrian use.

Other Potential ESHA

Areas around Mori Point and Sharp Park Golf Course are likely to qualify as an Environmentally Sensitive Habitat Area. Grasslands/Prairie vegetation communities shown on Figure 4-2 are also mapped on Figure 4-3 as Potential ESHA. Any proposed development on land designated on the Potentially Environmentally Sensitive Habitat Areas map (**Figure 4-3**) as having potential to include an Environmentally Sensitive Habitat Area requires a site-specific evaluation by qualified biologists. The site evaluation will determine the precise location and extent of sensitive resources, if any, and establish appropriate development setbacks and standards to ensure that resources are protected.

Special-Status Species

Several species known to occur in the vicinity of the Planning Area are accorded "special-status" because of their recognized rarity or vulnerability to various causes of habitat loss or population decline. Some of these receive specific protections defined in federal or state endangered species legislation. Others have been designated as "sensitive" by state resource agencies or organizations with acknowledged expertise. For purposes of this Local Coastal Land Use Plan, special-status species include:

- Plant and animal species designated as rare, threatened or endangered under the federal or state endangered species acts (ESA);
- Species that are candidates for listing under either federal or state law;
- Species designated by the USFWS as species of concern or species of local concern, or by CDFG as species of special concern;
- Species protected by the federal Migratory Bird Treaty Act (16 U.S.C. 703-711);
- Bald and golden eagles protected by the federal Bald Eagle Protection Act (16 U.S.C. 668); and
- Species such as candidate species and CNPS List 1 and 2 species that may be considered rare or endangered pursuant to Section 15380(b) of the CEQA Guidelines.

Of particular interest are the Mission Blue Butterfly and the San Francisco garter snake, federally listed as Endangered; the California red-legged frog and the Central California Coast Steelhead trout, federally listed as Threatened; the Western snowy plover, which is federally listed as Threatened and a California Species of Special Concern; and Myrtle's Silverspot big free-tailed bat, a California Species of Special Concern. A comprehensive list of species that are either known or presumed to be in the Planning Area based on suitable habitat is in the EIR.

SPECIAL-STATUS WILDLIFE SPECIES

In addition to these species, additional migratory birds, raptors, and common bat species are subject to general protections provided by state and federal regulations.

Exhibit 2
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SPECIAL-STATUS PLANT SPECIES

The large number of special-status plants and the severity of their population declines are reflective of the degree of habitat loss that has occurred throughout the San Francisco Peninsula. Outside of San Bruno Mountain, Pacifica encompasses the northernmost natural habitat on the peninsula. Due to extensive coastal development throughout neighboring counties, beach and bluff species have also become rare.

Of the special-status plant species listed in the EIR, 38 special-status plants have the potential to occur within the Planning Area. These species have been recorded in the vicinity and/or may be present in suitable habitat on site.

Certain trees within the city limits are also protected, including heritage trees and street trees. Heritage trees are any trees in the city that have a trunk with a circumference of 50 inches or more, at 24 inches above grade, excluding eucalyptus. The City Council may also designate any tree or grove of trees with historical, environmental, or aesthetic value as Heritage Trees. Heritage Trees generally require special permits for removal, substantial trimming, or construction within its drip-line; in some cases, a Tree Protection Plan prepared by a qualified arborist, landscape architect, or horticulturalist may be required prior to project approval. The City is in the process of updating the Heritage Tree ordinance found at Chapter 12 of Title 4 of the Municipal Code.

Figure 4-3: Sensitive & Critical Habitat

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Policies

Guiding Policies

ER-G-5 **Wildlife and Critical Habitat**. Conserve and protect indigenous threatened, endangered, and other special status species by preserving critical habitat.

Habitat can be protected by allowing very limited or no development, by identifying habitat areas as top priorities for permanent conservation, and by managing public land to ensure species protection. Critical Habitat in the Coastal Zone is considered Environmentally Sensitive Habitat Area (ESHA).

ER-G-6 **Coastal Environment and Special Status Communities**. Conserve and protect beaches, sand dunes, coastal bluffs, and special status communities, particularly the Coastal bluff scrub on the northern bluffs. Prohibit development in coastal dunes to preserve dune formations, vegetation, and wildlife habitats. Prevent overuse in dune areas by mechanisms such as restricting parking and directing pedestrian traffic through signage and sand fencing to areas capable of sustaining such use. Prohibit motor vehicles in dune areas except for emergency purposes, and prohibit motor vehicles in non-dune beach areas except for emergency and essential maintenance purposes and where previously coastal permitted.

Special status communities in the Coastal Zone are considered Environmentally Sensitive Habitat Area (ESHA).

ER-G-7 **Creeks and Riparian Areas as Habitat**. Protect year-round and intermittent creeks and their riparian habitats.

San Pedro Creek has been designated an "impaired waterway" by the Regional Water Quality Control Board and provides critical habitat to a federally-listed threatened species, the California coast population of steelhead.

ER-G-8 **Other Environmentally Sensitive Areas.** Protect other potential Environmentally Sensitive Habitat Areas (ESHAs), High Value or High Habitat Value areas, and Wildlife Movement Corridors from development that would significantly disrupt habitat values.

ER-G-9 **Open Space Conservation and Habitat Protection.** Protect beaches, oceanfront bluffs, ridgelines, hillside areas adjacent to existing open space, and areas that support critical wildlife habitat and special status species.

Implementing Policies

ER-I-21 **Protection of Biological Resources with New Development**. Protect sensitive habitat areas and special-status species through implementation of the following measures:

1) The City should discourage development and/or buildout in critical habitat of special status species during the development review process in a manner that is consistent with LD-I-5 to avoid takings.

2) Pre-construction plant and wildlife surveys: Project applicants shall engage a qualified biologist to conduct presence/absence biological surveys for sensitive plant and

wildlife species prior to construction adjacent to or within areas identified as potential ESHAs on Figure 4-3, or as otherwise indicated and needed. If special status species are identified, the qualified biologist shall consult with the California Department of Fish and Wildlife (CDFW) and establish no-disturbance buffers around the special status specie to avoid disturbance and direct impacts to these resources during construction. If no special status species are detected during surveys, then construction-related activities may proceed. Nesting birds, in particular, are protected by two means; they receive protection under the Migratory Bird Treaty Act, and nesting raptors (in the order Falconiformes or Strigiformes) are protected under the State Fish and Game Code, §3503.5.

3) Require biological resource assessments be conducted prior to approval for any development within 300 feet of creeks, wetlands, or other sensitive habitat areas, such as but not limited to areas in Figure 4-3. Such assessment shall identify means to avoid impacts to any such resources (including through siting, design, and LCP required buffers), and means of enhancing resources and providing offsetting and commensurate mitigation for unavoidable impacts that are LCP allowable.

4) Require on-site monitoring of biological resources by a qualified biologist throughout the duration of construction activity and afterwards, should approval conditions warrant.

5) Require compensatory mitigation by means of habitat preservation, restoration, and enhancement; for the loss of any critical habitat and/or special status communities.

The City will coordinate with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, California Department of Fish and Wildlife, and Regional Water Quality Control Board in providing developers with the best guidance to avoid impacts to special status species and habitat areas including creeks, wetland features, woodlands, or other sensitive natural features.

ER-I-22 **Protection of Environmentally Sensitive Habitat Area (ESHA).** Protect all sensitive species with defined or potential habitat by establishing specific habitat survey requirements, development limitations, and other requirements to mitigate potential impacts.

ER-I-23 **Verification of ESHA.** Prior to any proposed development in an ESHA or potential ESHA, require that a habitat survey be conducted by a qualified botanist or biologist. The habitat survey will verify whether the site is an ESHA, and document the extent of the sensitive resources, document potential negative impacts to the habitat, and recommend appropriate mitigation measures. Verification of an ESHA shall be based on the following considerations:

- Presence of natural communities identified as rare by the California Department of Fish and Wildlife (determined by a state rarity ranking of S1 to S3 or global rarity ranking of G1 to G3).
- Recorded or potential presence of plant or animal species designated as rare, threatened or endangered under State or federal law.
- Recorded or potential presence of plant or animal species for which there is compelling evidence for rarity, such as a designation of 1B (rare or endangered in California or

elsewhere) or 2 (rare, threatened, or endangered in California, but more common elsewhere) by the California Native Plant Society.

- Presence of coastal waterways.
- Integrity of the habitat and its connectivity to other natural areas.
- Historical evidence of ESHA.

ER-I-24 **Management of ESHA and Wetlands.** If the area qualifies as an ESHA or wetlands under the California Coastal Act, the following regulations apply:

- No new development shall be allowed within ESHA with the exception of resource-dependent uses (i.e. habitat management and restoration, scientific research and educational activities, and low-intensity public access and recreation) that can be demonstrated to have no significant disruption of habitat values.
- Buffer areas shall be established around all ESHA and wetlands, providing a minimum of 100 feet, and may be expanded as needed to account for feeding, breeding, nesting, and other habitat requirements. However, the 100-foot buffer may be reduced by the minimum distance necessary to avoid a taking (for private development), provided that any unavoidable impacts are commensurately mitigated. The 100-foot buffer may also be reduced by the minimum distance necessary, but no less than 50 feet, to provide required incidental public services (for public development), such as burying cables and pipes or inspection of piers, maintenance of existing intake and outfall lines, maintenance of trails and property adjacent to rights of way, and emergency repairs), provided that that the buffer is as close to 100 feet as possible, and provided that ESHA or wetland resource impacts are avoided as much as possible, and unavoidable impacts commensurately mitigated, as conclusively demonstrated by a qualified biologist to the satisfaction of the City and applicable resource agencies, except that the 50-foot minimum shall not apply to low intensity public access and recreation maintenance and improvement services.
- Development shall be sited and designed to prevent impacts that would degrade adjacent habitat areas, taking into account drainage, vegetation, topography, and other considerations.
- Alteration of landforms, removal of vegetation, impervious surfaces, noise, light, and glare shall be minimized as much as possible.

ER-I-25 **Fencing.** Any fencing or barriers located within riparian ESHAs or wildlife corridors shall permit the free passage of wildlife.

ER-I-26 **Fuel Modification.** Ensure that new development is sited and designed to minimize the need for fuel modification and vegetation clearance in order to avoid or minimize the disturbance or destruction of habitat and existing hydrology while still providing for fire safety as necessitated by the North County Fire Authority's Vegetation Management Program. Prohibit new development that would require fuel modification within ESHAs.

ER-I-27 **Monitoring Requirements.** Require a Restoration and Monitoring Proposal for any proposed habitat restoration or mitigation. The Proposal should describe the methods and practices to be employed, and include:

- A clear statement of the goals of the restoration or mitigation for all habitat types;
- Sampling of reference habitat, with reporting of resultant data;
- Designation of a qualified biologist as the Restoration or Mitigation Manager responsible for all phases of the restoration;
- A specific grading plan, if the topography must be altered;
- A specific erosion control plan, if soil or other substrate will be disturbed during restoration;
- A weed eradication plan designed to eradicate existing weeds and control future invasion by exotic species;
- A planting plan based on the natural habitat type;
- An irrigation plan that describes the method and timing of watering and ensures removal of watering infrastructure by the end of the monitoring period;
- An interim monitoring plan with performance goals, assessment methods, and a schedule; and
- A final monitoring plan to determine whether the restoration has been successful.

ER-I-28 **Construction during Nesting Season**. If site work or construction occurs during the nesting season (February 1 through August 31), then pre-construction breeding bird surveys shall be performed by a qualified wildlife biologist prior to any site disturbance to ensure that no nests will be disturbed or destroyed during Project implementation. If an active nest is found sufficiently close to work areas to be disturbed by construction activities, then the biologist shall create a no-disturbance buffer of 250 feet around passerine nests and a 500 foot buffer around raptor nests. Work-free buffer zones shall be maintained until after the breeding season or until after the qualified biologist determines the young have fledged (usually late June through mid-July).

ER-I-29 **Pre-Construction Bat Surveys.** Pre-construction surveys for special-status and non-listed bat species will be performed by a qualified biologist if large trees (>4 ft. diameter at breast height) are to be removed or underutilized or vacant buildings are to be demolished. A no-disturbance buffer of 100 feet shall be created around active bat roosts being used for maternity or hibernation purposes.

ER-I-30 **Protection of the Californian Red-Legged Frog and San Francisco Garter Snake during Construction**. Allowed construction activity with the potential to impact California red-legged frogs and San Francisco garter snake shall be conducted during the dry season (May 1 through October 15) to protect California red-legged frog and San Francisco garter snake. In such cases a qualified biologist shall conduct presence/absence surveys for California red-legged frog and San Francisco garter snake prior to construction in or adjacent to riparian areas, grasslands near ponds/wetlands, or other sensitive habitat. Any

individuals identified shall be treated in consultation with USFWS. Construction shall follow accepted procedures for exclusion and avoidance of California red-legged frog and San Francisco garter snake and their habitat. Additionally, the biologist shall supervise the installation of exclusion fencing along the boundaries of the work area, shall conduct environmental awareness training for construction workers, and shall be present during initial vegetation clearing and ground-disturbing activities.

ER-I-31 **Invasive Plant Species**. Prohibit the use of invasive plant species (i.e., any California Invasive Plant Council (Cal-IPC)-listed species with a status of high or moderate, or identified as locally-threatening under the limited, alert, or watch status).

ER-I-32 **Beach Grooming.** Work with the State of California, GGNRA, and other partners in the management of beaches in Pacifica to ensure biological resources are not adversely affected by beach grooming. Specifically, protect beach wrack (the piles of plant and animal debris that wash ashore), which plays an important role in the beach ecosystem.

ER-I-33 **Biological Productivity.** Maintain—and where feasible, restore—the biological productivity and the quality of coastal waters, streams, wetlands, and lakes in order to maintain optimum populations of marine organisms and to protect human health.

Techniques may include:

- *Minimizing adverse effects of wastewater discharge;*
- *Controlling runoff, preventing depletion of ground water supplies and substantial interference with surface waterflow;*
- *Encouraging wastewater reclamation, maintaining natural vegetation buffer areas that protect riparian habitats; and*
- *Minimizing alteration of natural streams.*

ER-I-34 **Regulations and Incentives to Preserve Habitat.** Ensure that sensitive or critical habitat is protected, maintained, enhanced, or restored.

Possible techniques include:

- *Zoning for very low density and clustered development where appropriate;*
- *Requiring the preparation of a habitat survey in certain areas; and*
- *Identifying appropriate "sending sites" in the City's Transfer of Development Rights program.*

ER-I-35 **Protection through Land Acquisition or Conservation Easements.** Explore opportunities for public acquisition of land or conservation easements on parcels not currently designated for Conservation that have significant habitat value.

ER-I-36 **Public Land Management.** Coordinate with GGNRA, State and County Parks, and the City and County of San Francisco to ensure that public open space lands are managed to optimize habitat protection for special status species while also providing for public access and other goals.

Key issues include maintaining viable habitat for the Mission Blue butterfly on Milagra and Sweeney ridges; for the California red-legged frog and San Francisco garter snake populations associated with Mori Point and Laguna Salada; and supporting migrating Western snowy plover at Pacifica State Beach.

ER-I-37 **Management of Public Coastal Access.** Determinations for new access points to ensure regular public access should be made on a site-specific basis by considering:

- The capacity of the access way to sustain use;
- The intensity of access that can be sustained;
- The fragility of the natural resources in the accessing, and
- The proximity of the access to adjacent residential uses.

Innovative access management techniques, include but are not limited to, agreements with private organizations that would minimize management costs and the use of volunteer programs.

POLICIES FOR SPECIFIC SITES

ER-I-38 **Northern Coastal Bluffs.** Maintain the Planned Development zoning district for the private, developable land on the northern coastal bluffs to allow for the consideration of development standards that consider the potential environmental and scenic resources on the site.

Allowable density should be consistent with the Residential/Open Space/Agriculture designation. Where coastal bluff scrub vegetation is present, further analysis will be required prior to any development. Work with public agencies and others to facilitate permanent conservation of scenic resources in this area.

ER-I-39 **Bowl Site.** Establish appropriate zoning for the "Bowl" site along the east side of Palmetto Avenue in Fairmont West for Planned Development to ensure site planning that clusters development, avoiding potential flooding or geotechnical hazards and protecting open space resources, and taking all other coastal resources site constraints into consideration.

Allowable density should be consistent with the Medium Density Residential designation.

4.4 AGRICULTURE, FORESTRY AND FISHING

Several provisions of the Coastal Act aim to ensure that resource use activities may continue and thrive. Sections 30234 and 30234.5 promote the preservation and enhancement of facilities for fishing and recreational boating. Sections 30241, 30241.5, and 30242 call for prime agricultural land to be preserved to the greatest extent, including ensuring that its viability is not compromised by adjacent development. Section 30243 states that timberlands should be protected. Pacifica's Coastal Zone does not currently support any of these resource uses.

Agriculture

While agricultural operations are not predominant, approximately 360 acres in the City of Pacifica Planning Area currently have agriculture-related uses, mainly as horse boarding, but there are no agricultural uses within the Coastal Zone. No land in the Coastal Zone is classified as farmland by the California Department of Conservation's Farmland Mapping and Monitoring Program.

Forestry

Portions of Pacifica's Coastal Zone are forested, including Eucalyptus, Riparian Mixed Hardwood, and Monterey Cypress, as shown on Figure 4-2, Vegetation.

The City defines logging operations as any removal, destruction or harvesting of 20 or more trees within one year from any parcel or contiguous parcel in the same ownership, and prohibits logging operations unless one of the following conditions is met:

- Operations have received Planning Commission and/or City Council approval;
- Operations are necessary immediately for the safety of life or property, as determined by the Director of Public Works; or
- Operations occur on city-owned property and are necessary to maintain public health and safety.

Fishing and Recreational Boating

Pacifica does not currently have a marina or other facilities to support fishing or recreational boating. Previous studies have concluded that land adjacent to Rockaway Beach at the Quarry site does not provide a feasible location for a marina to be developed. Pacifica's beaches are popular for surfing and related water sports. This is important for the City's identity and economy, and is discussed in Chapter 3: Public Access and Recreation.

Policies

Guiding Policies

ER-G-10 **Preserve Agricultural Open Space**. Promote the preservation of agricultural open space in the Planning Area.

ER-G-11 **Trees**. Conserve trees and encourage native forestation and planting of appropriate trees and vegetation.

Implementing Policies

ER-I-40 **Continuation of Agricultural and Related Uses**. Where agricultural and related uses exist, allow compatible uses to continue.

ER-I-41 **Recreational Uses**. Promote recreational uses, such as horse boarding and trail riding, which retain open space character while contributing to a visitor-based economy.

4.5 CULTURAL RESOURCES

With Section 30244, the Coastal Act reinforces other State Law to ensure that mitigation is required where development would adversely impact archaeological or paleontological resources. Pacifica has a rich history with regional and statewide significance, as it was home to several Native American villages as well as the site of the discovery of the San Francisco Bay. The Sanchez Adobe Historical Site along San Pedro Creek features physical evidence of several significant periods in California history.

Historic Context

Native Americans had an extensive presence in the Planning Area. When Europeans arrived, the area was home was to persons who spoke Ramaytush dialect of the San Francisco Bay Costanoan/Ohlone language, and living in and around two villages: Pruristac, in San Pedro Valley, and Timiigtac, in Calera Valley. The village at Timigtac is the Ramaytush Ohlone people's ancestral village of origin within the territorial boundaries of the Aramai, an independent tribe of the Ramaytush Ohlone peoples. In 1769, an expedition led by Gaspar de Portola, governor of the Spanish territory covering California, discovered San Francisco Bay from a point on Pacifica's Sweeney Ridge, and camped in San Pedro Valley. Not long after, Mission San Francisco de Asis (Mission Dolores in present-day San Francisco) was established, and in 1786 the Mission developed an outpost in San Pedro Valley, alongside Pruristac. The Costanoan village was significantly affected by disease in 1791.[12]

Mexican independence from Spain was followed by a "secularization" program, and in 1839 the San Pedro mission outpost and its *rancho*, covering the majority of the Planning Area, was granted to Francisco Sanchez, who built the adobe house that stands today as the oldest structure in San Mateo County. Following his death, the land was divided and the area developed slowly.

In 1905 construction began on the Ocean Shore Railway, which was to connect San Francisco with Santa Cruz. The line was never completed, but operated as far south as Half Moon Bay until 1921, supporting a string of stops in present-day Pacifica including Tobin, Salada Beach, and Rockaway Beach. The communities surrounding the railway stops, including Edgemar, Sharp Park, Pacific Manor, Vallemar, Rockaway Beach, and San Pedro Terrace-by-the-Sea,grew slowly until the building boom following World War II. Pacifica incorporated as a City in 1957, as the union of these incorporated neighborhoods.

Native American Cultural Resources

Five Native American archaeological resources have been found and recorded in Pacifica, all classified as habitation sites. Two additional resources contain both Native American and historic-era archaeological value. The Sanchez Adobe, operated by the San Mateo County Historical Association as a historical site, is listed on the National Register of Historic Places and The Sanchez Adobe Park, site of the Pruristac village and the San Pedro mission outpost or asistencia San Pedro y San Pablo of the Mission San Franciso de Asis (Missin Dolores), also is listed in the National Register of Historic Places and the California Register of Historical Resources. The San Mateo County Historical Association recently dedicated in summer of 2021 a new building in Sanchez Adobe Park featuring the history and lifeways of the local Aramai-Ohlone who lived in the village of Pruristac. The facility is specifically designed to accommodate tours of school groups.

The Planning Area is rich with the types of environments where Native American cultural resources have been found: permanent and intermittent streams, productive coastal environments, and sheltered locations for

[12] California Historical Resources Information System (CHRIS), 2009

permanent habitations, as well as ridgelines, terraces, spurs and saddles. The Planning Area also includes a significant amount of alluvial soil, which in some cases is overlaid by artificial fill, increasing the probability for buried archaeological deposits. There is considered to be a high likelihood that unrecorded Native American cultural resources are present.

Contemporary Native American Resources

As part of the General Plan and Local Coastal Land Use Plan update process, the Native American Heritage Commission (NAHC) conducted a record search of the sacred lands file in 2020. The search did not indicate the presence of additional Native American cultural resources within the Planning Area. The NAHC response listed six tribes that may have historic ties to the Planning Area, and letters of inquiry were sent to the six tribal representatives; however, no responses were received.

Policies

Guiding Policies

ER-G-12 **Historic and Cultural Sites**. Conserve designated historic and cultural sites and structures that help define Pacifica's identity and character and increase public awareness and appreciation for them.

ER-G-13 **Ensure Mitigation**. Require mitigation for any new development that would adversely affect historic, cultural, archaeological or paleontological resources.

Implementing Policies

ER-I-42 **Resource Impact Mitigation.** Ensure that new development analyzes and avoids potential impacts to historic, archaeological, and paleontological resources by:

- Requiring a records review for development proposed in areas that are considered archaeologically or paleontologically sensitive;
- Requiring pre-construction surveys and monitoring during any ground disturbance for all development in areas of historic or archaeological sensitivity; and
- Implementing appropriate measures as a condition of project approval—such as avoidance, preservation in place, and excavation,—to reduce or avoid impacts.

In the event that historical, archaeological, or paleontological resources are accidentally discovered during construction, grading activity in the immediate area shall cease and materials and their surroundings shall not be altered or collected. A qualified archaeologist or paleontologist must make an immediate evaluation and avoidance measures or appropriate mitigation should be completed, according to CEQA Guidelines. The State Office of Historic Preservation has issued recommendations for the preparation of Archaeological Resource Management Reports that may be used as guidelines.

ER-I-43 **Native American Sites**. Work with local Native American tribes to protect recorded and unrecorded cultural and sacred sites, and educate developers and the community-at-large about the connections between Native American history and the environmental features that characterize the local landscape.

Development on archaeologically sensitive sites requires on-site monitoring by appropriate Native American consultant(s) and a qualified archaeologist of all grading, excavation, and site preparation activities that involve earth-moving operations.

4.6 SCENIC AND VISUAL QUALITIES

The Coastal Act provides a framework for protecting scenic views and enhancing the visual quality of the "visually degraded areas," by siting and designing development to protect views, protecting natural landforms, and other means (Section 30251). Section 30253 identifies the need to protect "special communities or neighborhoods that, because of their unique characteristics, are popular visitor destination points for recreational uses."

Hillside Preservation

To protect important views from public areas and the sensitive terrain of hillside areas, the City has special development regulations for the Hillside Preservation District (HPD), which requires submission of development plans, grading plans, and other documentation. Hillside development also receives special consideration in the Design Guidelines, which are used to evaluate proposed projects. The key issues for hillside development are slope stability, grading, and visual impact.

Prominent ridgelines are identified based on their visual importance or scenic quality. Owners must focus development on suitable portions of their property off the ridges, to protect the scenic quality of ridgelines, except where ridgelines are the only buildable portions of the property. Prominent ridgelines are shown on **Figure 4-4**.

Coastal Development

The sensitive natural and visual resources of hillsides also apply to the undeveloped coastal bluffs and promontories, including the Northern Coastal Bluffs, the Quarry site uplands, and Rockaway Headlands. Developed coastal areas also require special attention, not only because of their natural features but also for their potential as visitor destinations. The City's Coastal Zone Combining District (CZ) ensures that the goals and policies of the California Coastal Act are followed. These goals include the protection and enhancement of the coastal environment, including its visual resources. Coastal development is also among the special issues treated by Pacifica's Design Guidelines.

Three promontories dominate Pacifica's Coastal Zone and visually represent the coastal character of Pacifica. These landforms—Pedro Point Headlands, Rockaway Headlands, and Mori Point (including the Quarry site uplands)—are shown on **Figure 4-4**. While much of this area has been permanently preserved, development may occur on the Rockaway Headlands or the Quarry site.

Views to the ocean and along the panoramic coastline are an integral part of Pacifica's character, and a part that must be preserved for the future. Of primary importance are views of the ocean, landforms, and special coastal communities from public roadways, trails, and vista points. Important coastal view corridors are identified on **Figure 4-4**.

Scenic Routes

The State and County have identified Highway 1 and Sharp Park Road in Pacifica as eligible for scenic highway designation. Local scenic roadway designation requires a corridor study, a program to enhance the scenic

qualities, and adoption of the scenic roadway designation and its protection plan. Such a plan may be prepared in the future. For the purpose of this Plan, what is important is that the scenic qualities of these roadways are preserved and enhanced.

Coastal View Corridors

Highway 1 plays an important role in defining the image of Pacifica, creating a visual narrative for the traveler from one end of the City to the other. Sharp Park Road also represents an important visual summary of Pacifica, drawing travelers from the ridgeline at Skyline Boulevard to the coast, with views out to the Ocean and over the Sharp Park neighborhood and Golf Course. Several specific coastal view corridors from Highway 1 and Sharp Park Road are shown on **Figure 4-4**. Other defining views include the view over the West Sharp Park district and Pacifica Pier from Highway 1; views toward Cattle Hill and Fassler Ridge from Highway 1; and the view to the ocean from Grace McCarthy Vista Point on Sharp Park Road.

Roadway Enhancements

In addition to coastal view corridors from these roads, the character of the roadways themselves shapes visitors' and residents' experience of Pacifica. The appearance of the Coast Highway right-of-way in central Pacifica can be improved as part of roadway beautification projects in partnership with Caltrans. Other future improvements to the visual character of the Highway can include new and improved pedestrian over-crossings, and multi-use trails leading to the Devil's Slide area. On Sharp Park Road, completion of bicycle improvements will improve the character of this roadway and make its scenic quality available to cyclists.

Development Character in the Highway 1 Corridor

Future development along Highway 1 will also influence the scenic qualities of the corridor. Development can create a strong presence along the Highway, and harmonious transitions to adjacent neighborhoods. All new commercial development requires site development review, assisted by the Design Guidelines. The Guidelines will provide direction on how buildings should relate to Highway 1.

Gateways

Pacifica is introduced to southbound travelers with the experience of coming over the hill and seeing the expansive coastal vista. Northbound travelers come through the Devil's Slide Tunnel, wind around the forested Pedro Point Headlands, and arrive at the active intersection with Linda Mar Boulevard. Skyline Boulevard acts as a coherent eastern boundary for the City, as it travels along the crest of the ridge with mature trees along its edges. From Skyline, Pacifica is entered via Sharp Park Road, Manor Drive, and Hickey Boulevard. While the "gateways" into Pacifica are strong, entry points from the east can be made stronger, and all entries treated with a consistent signage theme. Gateway locations are shown on **Figure 4-4**.

Figure 4-4: Visual Resources

Policies

Guiding Policies

ER-G-14 **Hillsides and Prominent Ridgelines.** Maintain development standards that ensure that new development does not detract from the visual qualities of Pacifica's hillsides and visually prominent ridgelines.

ER-G-15 **Scenic and Visual Amenities of the Coastal Zone.** Protect the City's irreplaceable scenic and visual amenities in the Coastal Zone by protecting landforms, vegetation, special communities, and important coastal view corridors.

ER-G-16 **Views from Scenic Routes.** Ensure that coastal view corridors from Highway 1 and Sharp Park Road are preserved and enhanced. These views are an essential part of Pacifica's identity.

ER-G-17 **Gateways.** Create strong entrances and preserve the quality of the viewshed along primary travel routes, in particular along the coast.

Implementing Policies

HILLSIDE DEVELOPMENT

ER-I-44 **Minimize Visual Impacts of Hillside Development.** Require new development to employ innovative site planning, engineering and design techniques that:

- Seek first to avoid impacts to visual resources, such as those shown in Figure 4-4 through site planning and design;
- Minimize grading and conform with natural landforms to the greatest extent possible;
- Design structures so that they follow contours and limit their downslope exposure; and
- Use landscaping to screen and integrate buildings with the natural environment.

ER-I-45 **Protection of Ridgelines.** Protect visually prominent ridgelines from residential and commercial development.

Local access roads and trails may be allowed on visually prominent ridgelines provided they follow contours, minimize grading, and are unobtrusive in their design.

ER-I-46 **Hillside Preservation District Requirements.** Continue to implement the requirements of the Hillside Preservation District (HPD), including submission of siting and grading plans. Update the HPD to ensure that all steep slopes are covered and that sites on other terrain are not included.

ER-I-47 **Design Review.** Continue to use Design Guidelines to evaluate proposed projects in Planned Development, Hillside Development, and Special districts.

ER-I-48 **Minimize Impacts of Coastal Development on Landforms.** Ensure that negative visual impacts resulting from new development in the Coastal Zone are minimized in areas characterized by bluffs and landforms. Strategies to implement this policy include:

- Prohibiting development on slopes in excess of 35 percent and highly visible tops of prominent landforms;
- Requiring blufftop development to minimize impacts on the view from the ocean and beach below by implementing an appropriate setback from the bluff edge based on existing and projected height and location of the bluff edge from the beach;
- Requiring that development be clustered and contoured into the existing slope; and
- Requiring that new development be scaled and designed to be subordinate to landforms in the Coastal Zone.

ER-I-49 **Minimize Impacts of Coastal Development on Vegetation.** Continue to require that disturbance to vegetation be minimized in new development and that graded areas be promptly replanted with native vegetation.

ER-I-50 **Headlands Special Area.** In the zoning ordinance, update the Headlands Special Area for Aramai Point, to specify low-intensity visitor-serving uses such as hikers' huts and kiosks. A view restaurant may be appropriate if access can be created without harming biological or scenic resources.

ER-I-51 **Rockaway Quarry Site.** Development on the Quarry site should be prioritized in the "flats" and should connect with the adjacent Rockaway Beach district. Development in areas of the Quarry site that would impact the visual qualities of surrounding hillsides or ridgelines should be avoided to the greatest extent feasible.

ER-I-52 **Trail Design on Coastal Headlands and Bluffs.** Develop new trails on Pedro Point Headlands, Aramai Point, the Quarry site uplands, and the Northern Coastal Bluffs in such a way that native vegetation is protected by limiting pedestrians to designated trails and preventing access by motorized vehicles.

ER-I-53 **Underground Utilities.** Continue to require underground utilities in all new development. New developments should include undergrounding existing overhead utilities along each project frontage. Within coastal view corridors, place lines underground or located there so they do not break the view line of a roadway vista.

SCENIC ROUTES

ER-I-54 **Roadway Enhancements.** Coordinate with Caltrans in an effort to ensure that future changes to the Coast Highway will also upgrade the appearance of the right-of-way.

Improvements should include landscaping and roadway design, as well as trails and visually-appealing pedestrian over-crossings.

ER-I-55 **Coastal View Corridor Plans.** Seek grant funding to develop local coastal view corridor plans for Highway 1 and Sharp Park Road.

ER-I-56 **Parallel Trails for Non-Motorized Travel.** Improve walking, riding, and biking trails along roadways with the State scenic highway designation.

ER-I-57 **Other Scenic Trails.** Improve pedestrian routes along corridors that provide access to locations of significant scenic quality, recreation, historic and cultural importance in Pacifica.

ER-I-58 **Vehicle Access Points.** Maintain and improve existing scenic turnouts, public parking areas, access to regional parks, beaches and other recreation areas.

ER-I-59 **Roadway Design.** Ensure that any proposed new roads or modification to existing roads which traverse scenic areas minimize visual impacts to views from scenic routes.

Where possible, the physical form of structures, grading and alignment should be integrated into the natural setting. Views to and from ridges should be protected.

ER-I-60 **High-Quality Design at Key Points.** Ensure that new development directly adjacent to Highway 1 in West and East Sharp Park helps to create a strong image of Pacifica's cultural and civic core, and that new development in the Rockaway Quarry site has a visual quality that enhances the natural setting and draws travelers in from the highway.

ER-I-61 **Highway Frontage Design Guidelines.** Update the Design Guidelines to provide direction on how new buildings should relate to Highway 1, both in its freeway and highway configuration.

ER-I-62 **Gateway Signage.** Create unified gateway signage, for entrances along Highway 1, Sharp Park Road, Manor Drive, and Hickey Boulevard.

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5 NATURAL HAZARDS

Ensuring the safety of community members, through protection from hazards is an essential service of public agencies and a critical priority for maintaining community health. The purpose of the Natural Hazards chapter is to establish goals and policies to mitigate the potential impacts from natural and man-made hazards that pose a threat to public health, safety, and coastal resources.

5.1 COASTAL ACT FRAMEWORK

The Coastal Act seeks to ensure that new development minimizes risks to life and property, does not create unstable site conditions, does not create or contribute significantly to erosion, and does not require new protective devices along the shoreline (Section 30253). The same Coastal Act policy also states that new development must not require new protective devices to be built along the shoreline, reinforcing the requirement of Section 30235 that construction that alters the natural shoreline may only be permitted in specific cases, and when designed to mitigate adverse impacts on the local shoreline and sand supply. Meanwhile, Sections 30212 and 30214 specify that public access to the shoreline is to be consistent with public safety, including with regard to geologic site characteristics. Policies from Chapter 3 of the Coastal Act which are most relevant to the subject matter of this chapter include, but are not limited to, the policies listed below. Chapter 3 of the Coastal Act, available in Appendix A, is incorporated into this chapter.

Coastal Act Policies

Article 2: Public Access

- **Section 30212** New development projects
- **Section 30214** Implementation of public access policies; legislative intent

Article 4: Marine Environment

- **Section 30235** Construction altering natural shoreline
- **Section 30236** Water supply and flood control

Article 6: Development

- **Section 30250** Location; existing developed area
- **Section 30253** Minimization of adverse impacts

5.2 SEISMIC AND GEOLOGIC HAZARDS

The Planning Area lies within the geologically complex region of California known as the Coast Range geomorphic province. Much of the Coast Range province is composed of marine sedimentary deposits and volcanic rocks that form northwest trending mountain ridges and valleys, running subparallel to the San Andreas Fault Zone. West of the San Andreas Fault lies the Salinian Block, a granitic core that extends from the southern end of the province to north of the Farallon Islands.

Coastal Bluffs

Pacifica's Coastal Zone prominently features coastal bluffs. A coastal bluff is a bluff overlooking a beach or shoreline or that is subject to marine erosion. Many coastal bluffs consist of a gently sloping upper bluff and a steeper lower bluff or sea cliff. The term "coastal bluff" refers to the entire slope between a marine terrace or upland area and the sea. The term "sea cliff" refers to the lower, near vertical portion of a coastal bluff. For purposes of establishing jurisdictional and permit boundaries coastal bluffs include, (1) those bluffs, the toe of which is now or was historically (generally within the last 200 years) subject to marine erosion; and (2) those bluffs, the toe of which is not now or was not historically subject to marine erosion, but the toe of which lies within an area otherwise identified as an Appealable Area.

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The Bluff Edge is the upper termination of a bluff, cliff, or seacliff. In cases where the top edge of the bluff is rounded away from the face of the bluff as a result of erosional processes related to the presence of the steep bluff face, the bluff line or edge is defined as that point nearest the bluff beyond which the downward gradient of the surface increases more or less continuously until it reaches the general gradient of the bluff. In a case where there is a step-like feature at the top of the bluff face, the landward edge of the topmost riser shall be taken to be the bluff edge. Bluff edges typically retreat landward due to coastal erosion, landslides, development of gullies, or by grading (cut). In areas where the bluff top or bluff face has been cut or notched by grading, the bluff edge is the landward most position of either the current or historic bluff edge. In areas where fill has been placed near or over the historic bluff edge, the original natural bluff edge, even if buried beneath fill, shall be taken to be the bluff edge.

Seismic Hazards

Earthquakes can cause surface rupture from faulting or seismically induced effects, such as ground shaking and landslides. The challenge is to:

- **Minimize Earthquake Related Hazards, Liquefaction, and Landslides.** The San Andreas Fault, which traverses the northeast corner of Pacifica, is active and capable of causing a large earthquake. Areas located on or immediately adjacent to the mapped fault traces must be investigated prior to any development to ensure that fault rupture hazards be avoided or minimized.

  Areas located within the alluvial valleys could have a high potential for liquefaction. Site-specific geotechnical investigations can confirm the presence of liquefiable materials and provide foundation design criteria to mitigate the potentially damaging effects of liquefaction.

  The Planning Area also includes slopes that are susceptible to landslides, especially areas with greater than 50 percent inclines. Geotechnical engineering can typically overcome the challenges of development on steep terrain through drainage improvements, anchoring foundations in deeper materials, re-grading slopes, and other methods.

- **Minimize Hazards Related to Winter Storms and Coastal Erosion.** Much of Pacifica's coastline is subject to severe coastal erosion. Short term erosion hazards are generally mitigated through best management practices and use of soft stabilization techniques. In areas that are experiencing active coastal erosion, the most effective mitigation is to relocate development. With sea level rise, there is potential for more serious long-term coastal erosion, which could be a critical challenge within the Planning Area.

Modern seismic activity within the Coast Range continues to be associated with movement along the San Andreas system of faults. Regionally, this fault system is the boundary between large sections, or plates, of the earth's crust known as the North American Plate and Pacific Plate. The Bay Area is considered an area of high seismic activity, with an estimated 72 percent probability of an earthquake of magnitude 6.7 or higher occurring in the region over the next 30 years.[1]

The ***San Andreas Fault*** is the principal strike-slip boundary between the Pacific plate to the west and the North American plate to the east. Its main trace trends northwest through the Santa Cruz Mountains and the

[1] United States Geological Survey (USGS) Fact Sheet 2016-2030, Earthquake Outlook for the San Francisco Bay Region 2014-2043 Accessed at https://pubs.usgs. gov/fs/2016/3020/fs20163020.pdf

eastern side of the San Francisco Peninsula. Between Pacifica and San Mateo, Crystal Springs Reservoir and San Andreas Lake clearly mark the rupture zone.

The ***Hayward Fault*** trends to the northwest within the East Bay, extending from San Pablo Bay in Richmond, 60 miles south to San Jose. Although large earthquakes on the Hayward Fault have been rare since 1868, there is a 33 percent chance a large earthquake could occur on the Hayward fault by 2043[2].

The ***Calaveras Fault***, located in the eastern San Francisco Bay region, trends along the eastern side of the East Bay Hills, west of San Ramon Valley, down into the western Diablo Range, and eventually joining the San Andreas Fault Zone south of Hollister. The Calaveras Fault has been the source of numerous moderate magnitude earthquakes but the probability of a large earthquake is much lower (26 percent by 2043) than on the San Andreas or Hayward faults[3].

Fault Rupture

Fault rupture is the surface displacement of the earth's surface due to the movement along a fault associated with an earthquake. Ground displacement is generally experienced on or within the immediate vicinity of the mapped fault trace. The Alquist-Priolo Earthquake Fault Zoning Act of 1972 established the requirement to regulate development within Earthquake Fault zones associated with active faults. Development is feasible but requires detailed geologic and seismic evaluations by certified professionals prior to approval of a building permit.

An Alquist-Priolo fault hazard zone associated with the San Andreas Fault grazes the northeast corner of Pacifica's Coastal Zone, as shown in **Figure 5-1.** According to the City's Local Hazard Mitigation Plan Annex, there are approximately 952 single-family homes, 399 multiple-family units, 200 acres, and six miles of road within the Alquist-Priolo Study Zone.

Ground Shaking

Ground movement during an earthquake can vary depending on the overall magnitude, distance to the fault, focus of earthquake energy, and type of geologic material. The composition of underlying soils, even those relatively distant from faults, can intensify ground shaking. The strongest ground shaking anticipated to occur in Pacifica would come from the San Andreas Fault, and could cause strong to very violent ground shaking.

Liquefaction

Liquefaction is a transformation of soil from a solid to a liquefied state during which saturated soil temporarily loses strength resulting from the buildup of excess pore water pressure, especially during earthquake-induced cyclic loading. Soil susceptible to liquefaction includes loose to medium dense sand and gravel, low-plasticity silt, and some low-plasticity clay deposits. Four kinds of ground failure commonly result from liquefaction: lateral spread, flow failure, ground oscillation, and loss of bearing strength. Liquefaction and associated failures could damage foundations, roads, underground cables and pipelines, and disrupt utility service. The depth to groundwater influences the potential for liquefaction, in that sediments need to be saturated to have a potential for liquefaction.

In the Coastal Zone, areas surrounding some of the alluvial drainages (i.e., San Pedro Creek Valley and Sanchez Creek Valley) contain some areas of very high liquefaction potential. Medium liquefaction potential exists in

[2] Ibid.
[3] Ibid.

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many low-lying neighborhoods, including West Edgemar-Pacific Manor, West Sharp Park, Rockaway Beach and Quarry, and parts of Pedro Point.[4] The Liquefaction and Fault Lines map (**Figure 5-1)** shows more detail.

[4] Association of Bay Area Governments (ABAG). Liquefaction Susceptibility http://www.abag.ca.gov/bayarea/eqmaps/liquefac/liquefac.html. 2003.

Figure 5-1: Liquefaction and Fault Lines

Tsunami and Seiche

A tsunami is a wave generated by abrupt movement of the seabed, which can occur as an earthquake or after a significant landslide. By contrast, seiche is a standing wave in an enclosed body of water. Within Pacifica, only Laguna Salada might be subject to seiche, but the potential for significant risk is low.

Dam Failure

There are no dams within or above Pacifica, and therefore the city is not at risk from a seismically induced dam failure. However, a seismic event may cause water tanks located in the hills above populated areas to burst and inundate areas below.

Slope Failure and Erosion

Slope Failure

Slope failures, commonly referred to as landslides, include many phenomena that involve the downslope displacement and movement of material, and can be triggered by either static (i.e., gravity) or dynamic (i.e., earthquake) forces. The geology, structure, and amount of groundwater in the slope affect slope failure potential, as do external processes (i.e., climate, topography, slope geometry, and human activity). Slope failure may occur on slopes of 15 percent or less; however, the probability is greater on steeper slopes that exhibit old landslide features such as scarps, slanted vegetation, and transverse ridges. Landslide-susceptible areas are characterized by steep slopes and downslope creep of surface materials, and are more common in zones of active faulting.

Figure 5-2 shows three slope failure threat categories: Mostly Landslides, Few Landslides, and Not Landslide Prone.[5] Mostly Landslide areas consist of mapped landslides, intervening areas typically narrower than 1,500 feet, and narrow borders around landslides; defined by how groups of mapped landslides are clustered. Areas mapped as Few Landslides contain few, if any, large mapped landslides, but locally contain scattered small landslides and questionably identified larger landslides; defined in most of the region by excluding groups of mapped landslides. Steep slopes on Mori Point, Rockaway Headlands, and San Pedro Mountain are identified as likely sites of slope failures, as are small portions of areas in or near development in the Pedro Point and Fairmont neighborhoods. According to the City's Local Hazard Mitigation Plan, 45 acres of residential property and 37 acres of infrastructure are located in areas classified as mostly landslide area in the Planning Area. This includes 15 acres of residential property in the Coastal Zone.

SLOPE FAILURE IN THE COASTAL ZONE

The coastline of San Mateo County includes steep upland areas that are susceptible to slope failures. Most notably, the large coastal slide known as Devil's Slide is located at the southern end of the Planning Area. Devil's Slide has a long history of slope failures and rock slides that occasionally caused closures of Highway 1 before the highway was rerouted through the Devils Slide tunnels.

[5] United States Geological Survey (USGS), Open File Report 97-745, San Francisco Bay Landslide Folio, http://pubs.usgs.gov/of/1997/of97-745/. 1997.

SUBSIDENCE

Subsidence—the sinking of a portion of the ground surface—can occur from immediate settlement, consolidation, shrinkage of expansive soil, and liquefaction. Subsidence can also be caused by earthquakes or the excess extraction of groundwater.

Portions of Pacifica are underlain by relatively clean, poorly consolidated granular material, such as sand. In places there are perched layers of groundwater in places, potentially creating the conditions for liquefaction. Also, where materials are poorly consolidated, there may be ground subsidence or other forms of ground failure. Because the conditions at any particular site control the potential for any type of ground failure, only specific geotechnical investigations, including subsurface testing, can provide a basis for assessing such hazards.

Soil Erosion

Erosion is the wearing away of soil and rock by processes such as mechanical or chemical weathering; mass wasting; and the action of waves, wind, and underground water. Excessive soil erosion can eventually lead to damage of building foundations and roadways. The parts of the Planning Area where soils are most susceptible to erosion caused by wind or rainfall include the northern slope of Mori Point; upper Sharp Park; and along San Pedro Creek in San Pedro Valley County Park.

Bluff erosion is commonplace along much of the Pacifica coastline. In 2009-10, erosion on the northern coast of Pacifica resulted in the evacuation and demolition of three apartment buildings on the 300 block of Esplanade Avenue. Further severe weather in 2015 led to the City-mandated demolition of these buildings in 2016 to prevent their collapse onto the beach below[6]. The property owner demolished a 12-unit apartment building at 330 Esplanade Avenue and City demolished two 20-unit apartment buildings in common ownership at 310 and 320 Esplanade Avenue. Coastline segments that have experienced significant coastal erosion are shown in **Figure 5-2**. Short-term erosion hazards are generally mitigated through best management practices and use of soft stabilization techniques. With sea level rise, there is potential for more serious long-term coastal erosion, which could be a critical challenge within the Planning Area. Policies supporting coastal resilience against sea level rise impacts are provided in Chapter 6, Coastal Resilience.

[6] The property owner demolished a 12-unit apartment building at 330 Esplanade Avenue and City demolished two 20-unit apartment buildings in common ownership at 310 and 320 Esplanade Avenue.

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Figure 5-2: Slope Failure and Shoreline Protection Structures

In the early 1990s, the City of Pacifica, the California Coastal Conservancy, and the Pacifica Land Trust collaborated to improve steelhead trout habitat and preserve the sandy beach at Pacifica/Linda Mar State Beach, with the removal of vulnerable structures along the shore. The stabilization methods were used to expand and enhance the tidally influenced wetlands at the mouth of San Pedro Creek and restore more than 1900 feet of eroding creek banks. This restoration both enhanced steelhead trout habitat and achieved 100-year flood protection for the nearby community.

To address the remaining flood threat to homes and businesses, the City also removed the most vulnerable structures. In 2002, the City partnered with the Pacifica Land Trust and the California Coastal Conservancy to purchase two homes and their surrounding acreage and delivered 4,000 cubic yards of sand to rebuild dunes and restore four acres of beach and the nearby estuary.

In addition, the City is continuing to maintain and improve the existing seawall and revetment originally constructed in 1962 at Rockaway Beach. Repairs in the past have consisted of retrieval of displaced rip-rap, importation of additional rip-rap, and repair of the revetment. Other revetments are placed along the beaches of the Planning Area and a seawall has been constructed at Beach Boulevard between Clarendon Road and the northern terminus of Beach Boulevard. Existing shoreline protection structures are shown on the Slope Failure and Coastal Erosion map (**Figure 5-2**). Policies addressing future shoreline protection and sea level rise adaptation are provided in Chapter 6, Coastal Resilience.

In fall 2020, the City of Pacifica initiated the Beach Boulevard Infrastructure Resiliency Project, an infrastructure protection and improvement project that aims to replace the current seawall and outdated infrastructure while building climate resilience into the most vulnerable segment of the City of Pacifica's shoreline. The project is considered critical to the public health and safety of the citizens and visitors in and around the historic West Sharp Park neighborhood and serves to create a multi-benefit solution to protect public infrastructure, recreational activities, numerous homes, businesses, and the community at large, from further impacts due to continued coastal erosion.

Increased Coastal Erosion from Potential Sea Level Rise

The potential for increased coastal erosion from sea level rise has serious implications for Pacifica. Areas of the Sharp Park Golf Course, the Rockaway Beach district, and the West Linda Mar and West Sharp Park neighborhoods could be inundated. Meanwhile, coastal erosion processes that have caused damage along the high bluffs of Pacifica's northern neighborhoods would likely increase in magnitude.

Sea level rise resulting from global climate change is projected to cause more extensive erosion of beaches, dunes, bluffs and cliffs. The 2009 Pacific Institute study of the impacts of sea level rise on the California Coast developed erosion models for dune and cliff/ bluff backshore environments. Across the State, mean lateral erosion of dunes is estimated at 115 to 116 meters by 2025, 119 meters to 128 meters by 2050. Bluffs, meanwhile, are projected to have eroded by 8 meters to 9 meters by 2025, with geology, wave exposure, and bluff toe elevation all playing important roles in producing variation[7]. These models indicate that there could be new risks of erosion along the length of Pacifica's coastline in areas that are not currently exposed to wave action erosion, which could impact all of the coastal neighborhoods and coastal habitats.

[7] Heberger, M., H. Cooley, P. Herrera, P.H. Gleick, E. Moore of Pacific Institute. The Impacts of Sea Level Rise on the California Coast. A paper from the California Climate Change Center. May 2009.

Policy Framework

Enforcement of the State's latest building code, as required by law, will provide a base level of mitigation from ground shaking. The City also has a Coastal Zoning Combining District and coastal development regulations in its Zoning Ordinance. These regulations should be updated following adoption of the Local Coastal Land Use Plan, to complete the update of the Local Coastal Program and to reflect updates in State law, to better avoid or mitigate seismic and geologic hazards.

Policies

Guiding Policies

NH-G-1 **Reduce Risk.** Protect coastal resources, and minimize risks of property damage and personal injury posed by geologic, and seismic, and coastal hazards.

Implementing Policies

NH-I-1 **Hillside Preservation.** Update the Hillside Preservation District on the zoning map to ensure that all steep and sensitive terrain is subject to these regulations. The Hillside Preservation map (Figure 4-4 of the 2040 General Plan) should be used as a guide.

NH-I-2 **Transfer of Development Rights.** Amend the Transfer of Development Rights (TDR) program to reflect the following changes:

- Incorporate use of the TDR as described in Coastal Resilience Policy CR-I-7.
- Apply receiving status to sites designated for Mixed Use development in addition to the residential land use categories.

The TDR Program provides a mechanism to relocate potential development from areas where environmental or land use impacts could be severe to other areas more appropriate for development.

NH-I-3 **Fault Zone**. New development shall be sited and designed to minimize risks from seismic events. Continue to review projects located in identified fault zones subject to the Alquist-Priolo Earthquake Fault Zone Act. (See the Liquefaction and Fault Zones map, Figure 5-1).

NH-I-4 **Development in Hazardous Areas.** Prohibit development in areas of Mostly Landslides or High or Very High liquefaction risk as shown on the Slope Failure and Coastal Erosion Map (Figure 5-2), or on slopes steeper than 35 percent, unless detailed site investigations ensure that risks can be reduced to acceptable levels and that the structure will be protected for its design life.

NH-I-5 **Real Estate Disclosure.** Require real estate transactions, development approval processes, and property titles to declare known or suspected seismic or geologic hazards on a property, including Alquist-Priolo Fault Zones and areas suspected of high or very high risk of liquefaction, subsidence, or landslide.

NH-I-6 **Code Enforcement.** Continue to maintain and enforce appropriate building standards to ensure that new development is designed to meet current safety standards associated with seismic activity.

NH-I-7 **Seismic Rehabilitation Flagging**. Identify and catalogue structures that may be subject to serious structural damage in the event of a major earthquake, and provide information to property owners on ways to pay for rehabilitation or retrofit of existing buildings to minimize the potential for damage from an earthquake.

NH-I-8 **Restrictions on Mitigation Measures.** Prohibit development which would require mitigation measures for potential geotechnical hazards if those measures could adversely affect surrounding property, including the use of public rights-of-way or adversely affect public health, safety, and welfare.

NH-I-9 **Hillside Erosion Prevention.** Encourage erosion prevention of hillside areas to maintain slope stability by revegetation. Other slope stability methods may be acceptable, consistent with this LCP.

NH-I-10 **Geotechnical Studies.** Within the Coastal Zone and hillside areas, continue to require geotechnical site investigation for proposed development on sites located in any of the following areas, prior to allowing site development:

- On slopes greater than 15 percent.
- In areas showing evidence of landslides or landslide potential.
- In areas showing evidence of ground shaking or earth movement.
- Within 300 feet of a bluff edge in Coastal Vulnerability Zones.
- Within sand dune areas.

Geotechnical studies shall identify any geologic hazards affecting the proposed project site, any necessary mitigation measures, and a statement of the site's suitability for the proposed development and whether or not it will be safe from geologic hazard for its anticipated life. The study shall identify net developable areas, if any, based on landslide or ground shaking potential and/or erosion risk. Impacts from the development, such as those resulting from increased water runoff, shall also be determined. Such studies must be signed by a licensed Certified Engineering Geologist or Geotechnical Engineer and are subject to review and approval by City staff. As detailed in CR-I-19, further technical reports may be required for applicable projects.

NH-I-11 **Maintain Restrictions on Hazardous Areas.** Continue enforcing the existing Coastal Zone Combing District and Hillside Preservation District regulations that restrict development in hazardous areas where access is impractical and areas prone to hillside and coastal erosion, landslides, seismic shaking, tsunami inundation, or flooding.

NH-I-12 **Soil Study.** Require any geotechnical studies to include study of expansive and creeping soils, as well as analysis of erosion, seismic, tsunami, and other geotechnical hazards, and to make recommendations to mitigate these hazards, as warranted.

NH-I-13 **Grading and Drainage Plans.** Continue to require a grading and drainage plan for proposed development requiring a coastal development permit and a grading permit. The Plan should demonstrate how the project will maintain natural surface drainage and existing vegetation to the greatest extent feasible, by minimizing alteration of natural topography and removal of existing trees and vegetation; stabilizing cut-and-fill surfaces with native vegetation; restricting the movement of heavy equipment and machinery; and other means. Prohibit development-related grading and vegetation clearance on slopes steeper than 35 percent. Driveways and utilities may be allowed in the case that there is no less environmentally damaging alternative for providing access to the building site.

NH-I-14 **Bluff Drainage and Erosion.** The City will pursue feasible funding mechanisms to investigate areas that may be significantly contributing to groundwater flows to the bluffs and determine whether improving drainage and/or reducing irrigation could reduce bluff erosion. Measures to improve drainage and reduce over-watering shall be communicated to the public and property owners as part of existing water conservation outreach programs, and included as conditions on new development where applicable.

NH-I-15 **Geologic Hazard Abatement District.** Amend the Municipal Code to include provisions for formation of a geologic hazards abatement district for coastal bluffs and hillside areas at risk of landslides in Pacifica to enable cooperative efforts among property owners for protection of coastal bluffs from erosion and improvement and maintenance of drainage and protective infrastructure.

The Geologic Hazard Abatement District (GHAD) is a potentially useful tool to effectively abate a landslide hazard that crosses property boundaries. It is a mechanism that responds to the physical realities of landslides, and allows property owners to cooperate in solving a common problem. It removes much of the stigma of legal liabilities among adjacent landowners and allows them to cooperate rather than litigate. It also provides for a cost-effective solution, requiring only one geotechnical engineering firm and one plan to solve the problems of several landowners. The City may require the establishment of GHADs as a condition for new development proposed in areas of known bluff erosion or geologic hazard, such as areas identified in Figure 5-2 as "mostly landslides." The City may consider identifying where GHADs are appropriate or necessary.

NH-I-16 **Development in Coastal Zone.** Continue to enforce provisions of the California Coastal Act requiring new development within the Coastal Zone to:

- Minimize risks to life and property in areas of high geologic, flood, or fire hazard;
- Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs; and
- Not violate required coastal resource setback provisions.

NH-I-17 **Accessory Structures in Coastal Zone.** Amend the Zoning Ordinance to require new accessory structures within the Coastal Zone to be constructed so they can be easily relocated should they become threatened by erosion.

POLICIES FOR SPECIFIC SITES

NH-I-18 **Esplanade.** Establish appropriate zoning for privately-owned, undeveloped land on the west side of Esplanade Avenue to ensure minimal development consistent with the General Plan classification. New development shall preserve the view corridor to the ocean along Bill Drake Way and shall be sited and designed to ensure that any proposed development could withstand erosion resulting from a 100-year seismic or storm event and in accordance with CR-I-20 and preserve the view corridor to the ocean along Bill Drake Way.

NH-I-19 **Pedro Point Upper Slopes.** Maintain zoning for the upper slopes of Pedro Point to ensure that any new development is at a density appropriate to the steep slopes.

5.3 FLOODING

Under Section 30236, flood protection devices that alter rivers or streams must use the best mitigation measures, and are limited to necessary water supply projects or flood control projects where no other method is feasible, and where necessary to protect public safety or existing development. New development is expected to minimize risks to life and property in high flood hazard areas, under Section 30253.

Flooding has been an ongoing issue for low-lying areas of Pacifica, and likely will continue to be a challenge in the future, including possible inundation from a tsunami wave. Strategies to minimize flooding impacts will include limiting development in flood-prone areas and incorporating Federal Emergency Management Agency (FEMA) guidelines and suggested mitigation activities into the City's plans and procedures for managing flood hazards.

Flood Zones

Flood hazards mapped by FEMA to support the development of Flood Insurance Rate Maps (FIRMs) generally identify areas of greater flood risk (100 and 500 year events) in the lower reaches of the main stream channels, and the risk of coastal flooding along the shoreline, although they do not account for climate change or sea level rise, and thus should be reviewed in conjunction with Appendix B ("Coastal Zone Vulnerability Maps"). Flood zones based on the FIRMs are shown in **Figure 5-3.** The FIRMs represent the best available maps of flood hazard areas in Pacifica. Additional maps of flood hazard areas prepared by the U.S. Army Corps of Engineers and the California Department of Water Resources are not available for the city. The City's annex to the Multi-jurisdictional Local Hazard Mitigation Plan (MJ-LHMP) includes additional information on past flooding events and actions to mitigate flooding risk in Pacifica.

Areas of flood risk include:

- Broad flood inundation in several parts of Sharp Park Golf Course and the Rockaway Beach district.
- More narrowly confined flood hazards along the creeks; limiting potential flooding in these areas. For example, along Milagra Creek mapped flood hazards are typically within the active channel.

Coastal Flooding

Pacifica can also experience flooding from coastal sources, which occurs as some combination of high tides, large wind-driven waves, storm surge, and/or tsunami waves. Areas with the potential for coastal flooding are the low-lying areas along the coast, including the Sharp Park Golf Course/Laguna Salada area and Pacifica State Beach.

The only section of coastline protected by levees is the Sharp Park Golf Course area. However, drainage from Sanchez Creek and Laguna Salada to the ocean can be insufficient to prevent lowland flooding during high tide/high flow events. A seawall/revetment structure protects the area north of the Sharp Park Golf Course, generally along Beach Boulevard, including the Pacifica Pier. This structure has required maintenance to repair areas where beach erosion has undermined it. Policies addressing increased coastal flooding from potential sea level rise are provided in Chapter 6, Coastal Resilience.

Figure 5-3: Flood Zones

TSUNAMI

A tsunami can occur after a significant earthquake beneath the ocean. Coastal flooding, potentially severe damage, and threats to human health and safety can result from a tsunami. Recorded tsunami run-up magnitude is generally lower at Pacifica than other locations from San Francisco to Monterey, likely due to offshore bathymetry and shoreline alterations along the city. Tsunami hazards are generally coincident with the coastal flooding zones: at the Sharp Park Golf Course/Laguna Salada area, Lower Calera Creek, portions of Rockaway Beach, and the residential and commercial area at Linda Mar near the mouth of San Pedro Creek.

Tsunamis can reach Pacifica from several sources, including 'far-field' sources throughout the Pacific Ocean, a substantial earthquake along the Cascadia Subduction Zone in northern California north to Vancouver Island, movement along local fault lines such as the Seal Cove Fault or San Gregorio Fault, and local coastal landslides. Travel times, the degree of warning, and the magnitude of the wave will vary depending on the source and initial strength of the tsunami-generating event. Earthquakes along the Cascadia Subduction Zone are likely the most hazardous to Pacifica because of the potential for very large wave generation, and a relatively short travel time (on the order of one to three hours). However, smaller events along local faults could result in a wave that reaches Pacifica with essentially no warning time, potentially limiting the effectiveness of the existing tsunami warning system.

San Mateo County has an established emergency proposal for tsunamis. As part of this program, the City has installed a tsunami warning system, consisting of three solar powered alarm towers. One is located in the Sharp Park neighborhood, the second is located in the Rockaway Beach neighborhood, and the third tower stands at Pacifica State Beach. This system links into a San Mateo County alert system that can reach email and cell phones.

Policies

Guiding Policies

NH-G-2 **Development in Hazardous Areas.** Site and design development in 100-year floodplains and tsunami hazard zones to minimize hazard risk without the need for armoring (e.g. flood damage prevention programs).

Implementing Policies

NH-I-20 **Floodplain Management.** Continue to manage floodplains through zoning, development requirements, and ordinances, and take other actions as required by FEMA, in order to remain a participant of the National Flood Insurance Program.

NH-I-21 **Flood Map Review.** Periodically review maps prepared by FEMA and the State Department of Water Resources to identify changes in mapping of areas subject to flooding and amend the General Plan, Municipal Code, or LCP as warranted.

NH-I-22 **NDPES Enforcement.** Enforce NPDES permits, as well as the San Mateo Countywide Water Pollution Prevention Program, to mitigate potential flooding risks by slowing the release of stormwater from development sites into drainage channels.

NH-I-23 **Flood Insurance.** Inform households and businesses located in flood-prone areas about opportunities to purchase federal flood insurance.

NH-I-24 **Flood Control Maintenance.** Regularly maintain flood control structures, including, but not limited to drainage channels, pipes, and culverts, and stream beds. Routine maintenance of streambeds shall conform to the Coastal Act, including but not limited to Section 30236.

NH-I-25 **Flood Control Structures.** Require flood control devices that alter rivers and streams to incorporate the best mitigation measures feasible, and only permit them where no other method for protecting existing structures in the flood plain is feasible, where such protection is both necessary for public safety, including for water supply, and to protect existing development, or where the primary function is the improvement of fish and wildlife habitat.

NH-I-26 **Storm Drainage Impact Assessment.** Require developers to provide an assessment of a project's potential impacts on the local storm drainage system as part of the development review process.

If development is found to have a negative impact on storm drainage, require applicable and effective mitigation measures, such as the creation of permanent or temporary detention or retention basins, provision of additional landscaped areas and green roofs, installation of pump stations, and the use of permeable paving in driveways, walkways and parking areas.

NH-I-27 **No Adverse Impact Approach.** Update the Flood Hazard Reduction regulations to establish a "No Adverse Impact" standard to floodplain and coastal development.

In essence, NAI floodplain management takes place when the actions of one property owner are not allowed to adversely affect the rights of other property owners. No building permits should be issued for projects that increase the potential for flooding or erosion on and off site, degrade water quality, or increase potential public service costs for things such as emergency personnel and stormwater management, unless such projects are designed and completed in such a way that they will not:

- *pose a threat to public safety; and*
- *substantially increase flood or storm damage risk to public or private property.*

NH-I-28 **Tsunami Inundation Zone.** For new development in the tsunami inundation zone, require use of low impact engineering techniques, such as elevating structures above projected water levels, to mitigate impacts to people and structures.

NH-I-29 **Critical Facilities Location.** Site critical public facilities outside of the tsunami evacuation zone, 100-year flood plains, and other portions of the Coastal Vulnerability Zone over the anticipated life of the development. If no feasible alternative location is available and a new or expanded critical facility must be located in a shoreline hazard area, require the new development to incorporate siting and design measures based on worst-care sea level rise projections and extreme weather event scenarios to promote continued functionality and public services, resist structural damage, facilitate evacuation on short notice, and minimize risk to life, property, and coastal resources.

NH-I-30 **Existing Critical Facilities.** Coordinate with NCCWD and others to identify existing critical facilities that are vulnerable to shoreline hazards, and work to establish measures to protect continued function of critical infrastructure, or the basic facilities, service networks, and systems needed for the functioning of a community. Coordination efforts may include, but are not limited to:

- developing strategies for retiring, moving, or replacing infrastructure and public facilities at risk of damage from shoreline hazards including sea level rise impacts that may occur over the economic life of the structure (at least 150 years for critical facilities);
- providing for functional continuity of the critical services provided by infrastructure at risk from shoreline hazards and extreme weather events; and
- assessing options for the use of protective devices, if necessary to ensure the continuation of needed services, as a temporary option while longer-term strategies are identified and implemented. Update the LCP as necessary to incorporate additional strategies to address existing critical facilities and infrastructure.

5.4 FIRE HAZARDS

New development is expected to minimize risks to life and property in high fire hazard areas (Section 30253). Fire hazards in Pacifica include both urban and wildland fires. Urban fires involve the uncontrolled burning of built structures due to human-made causes; wildland fires affect grassland, forest, and brush (and the structures on them), and can result from either human or natural causes. Pacifica has a substantial risk of wildland fires, with many areas of high and very high threat within the Planning Area. The City's main challenges regarding these hazards are:

- *Actively Managing the Urban-Wildland Interface*. Pacifica's residents enjoy close contact with open ridges and woodlands. This brings with it the risk of proximity to wildland fires. Preparedness is essential, and the North County Fire Authority's fire prevention activities, especially its Vegetation Management Program, are important.
- *Maintaining and Enhancing Evacuation Routes*. It is critical that road capacity exists for local residents, workers, and visitors to evacuate in case of an environmental disaster, including fire.

Urban Fires

Urban fires are fires that begin in a building in urban centers. They are typically localized but have the potential to spread to an adjoining building. The risk of urban fires is highest where single-family homes, multi-family residences, and business facilities are clustered close together, increasing the possibility of rapid spread to an adjoining building. The risk to life and property can be reduced by adopting and funding adequate levels of fire protection and ensuring new buildings are built to include fire resistive features which conform to modern fire and building codes.

Wildland Fires

Wildland fires are fires that start in a wooded or undeveloped area. Their potential for damage is dependent on the extent and type of vegetation, known as surface fuels, as well as weather and wind conditions. Wildland fires occur infrequently but typically cause more damage than urban fires.

About two-thirds of Pacifica is undeveloped, and nearly half is protected open space. This undeveloped land is mainly on the rugged ridges that form the City's western edge and descend down to the ocean between Pacifica's valley communities. Coastal scrub is the predominant vegetation type, interspersed with annual grassland. Significant areas of eucalyptus forest and mixed woodland are present in eastern Sharp Park and on Cattle Hill and San Pedro Mountain. In California, most wildfire damage occurs in wildland urban interface areas, where homes and woodland vegetation are directly adjacent. The California Department of Forestry and Fire Protection (CAL FIRE) has designated Fire Hazard Severity Zones (FHSZs) throughout the state based on factors such as fuel, slope, and weather to indicate varying degrees of fire hazard (i.e., moderate, high, and very high). FHSZ maps evaluate physical conditions that create a likelihood that an area will burn over a 30- to 50-year period. CAL FIRE also has developed maps of fire threat, or a measure of fuel conditions and fire potential in the ecosystem that represent the relative likelihood of "damaging" or difficult to control wildfire occurring for a given area, available at their website[8].

CAL FIRE also designates land as either a Federal, State, or Local Responsibility Area (FRA, SRA, and LRA, respectively), based on population density, land use, and land ownership. Portions of the Planning Area within the SOI are designated State Responsibility Areas (SRA), where the State of California is financially responsible for the prevention and suppression of wildfires, while the NCFA has primary responsibility for Local Responsibility Areas (LRA) within the City limit.

Lands in Pacifica owned by the federal government and the County, including GGNRA lands are designated as a State Responsibility Area (SRAFRA) within the Pacifica LRA.

Some areas shown on Figure 5-4 along the southwestern perimeter within the Sphere of Influence are designated as Very High FHSZs. Most of this land in the Very High FHSZ is an urban reserve or park or other designations where extremely low densities of residential development may be permitted. Land adjacent to these areas that is within city limits is low- and very-low density residential development. To address this risk, the City cooperates with CAL FIRE and the North County Fire Authority (NCFA) through cooperative fire protection agreements.

CAL FIRE tracks the deadliest, largest, and most destructive wildfires that have occurred in the state, with the lists last updated in late March 2021. San Mateo County is not included in any of these lists. However, according to the San Mateo County Multijurisdictional Local Hazard Mitigation Plan (MJ-LHMP), it is likely that the risk of wildfires will continue to occur in San Mateo County. Wildfires are influenced by both weather and human activities. Based on its history of past events, San Mateo County has a high chance of a wildfire in any given year.

Fire and Emergency Services

The cities of Brisbane, Daly City, and Pacifica are contributing members of the North County Fire Authority (NCFA), a Joint Powers Authority established in 2003. The Fire Authority provides both emergency response and non-emergency public safety services to the three cities and their 185,000 residents in its service area. Two

[8] https://frap.fire.ca.gov/media/10315/firethreat_19_ada. pdf

of the Authority's 10 stations are in Pacifica. Fire Station 71, at 616 Edgemar Avenue, serves the north end of Pacifica, while Fire Station 72, at 1100 Linda Mar Boulevard, serves the south end. Neither is located in the Coastal Zone.

Figure 5-4: Fire Hazards

Fire and Emergency Response

NCFA has established the following service ratio and response time standards:

- Response time standards for fire service: Four-minute travel time to 90 percent of calls for fire service, and eight-minute travel time for all apparatus on-scene for fire calls for service.
- Response time standard for Emergency Medical Services (EMS): Under seven-minute travel time (6:59) for first response to 90 percent of calls.

Pacifica's long and narrow geography and its reliance on Highway 1 as the single north-south access route makes the City a challenge for fire response. A 2008 study determined that the Vallemar, West and East Fairway Park, Rockaway Beach, and Rockaway neighborhoods in central Pacifica are beyond four-minute travel distance from northern San Mateo County fire stations, corresponding with the standard response time for first-due fire apparatus. The full assignment response time standard cannot be met in Pacifica from Vallemar south.[9]

NCFA's EMS standard is for 90 percent of calls to be reached in less than seven minutes. This standard is met for 97 percent of calls in the North Zone, including approximately 93 percent of calls in Pacifica.

The NCFA needs additional facilities to meet its fire response standards for Vallemar and areas to the south. A third, mid-point station in Pacifica with a truck and engine company has been discussed for some time. The area that currently does not meet first-response time standards has a low density of development, and so it has fewer persons and structures threatened by fire. A new station would be needed if the central part of Pacifica were to experience significant new development, for example at the Quarry site.

Pacifica has an ISO rating of 4. The City's rating is unlikely to be affected by population growth, but population growth will increase existing deficiencies in service delivery.

Fire Prevention

The NCFA's Fire Services Prevention Bureau manages code enforcement, plan review and construction inspection, fire investigations, and public education. A key part of the Bureau's code enforcement activities is the annual safety inspection of every commercial business and multi-family residential property in its service area. The Fire Authority also conducts a Vegetation Management Program, promoting compliance with vegetation standards to reduce the threat of fire in the urban/wildland interface.

Local Hazard Mitigation Plan

The regional Local Hazard Mitigation Plan identifies several mitigation strategies for wildland fires in Pacifica, including update of its Emergency Operations Plan; pursuing opportunities to preserve and protect critical transportation infrastructure; and developing and delivering business programs and public outreach programs to promote resiliency and community preparedness.

State Requirements

In 2005, the California Building Code was amended to require that all new buildings located in any Fire Hazard Severity Zone in SRAs, or any Very High Fire Hazard Severity Zone in LRAs, must use building materials approved for use in wildland/urban interface areas. The code now specifies certain roof coverings, fire resistive

[9] Emergency Services Consulting, 2008.

wall and ceiling-floor assemblies, wall finish materials, hardware, insulation, and other building materials for use in high fire hazard areas. Also in 2005, Public Resources Code (PRC) 4291 was amended to expand the defensible space clearance requirement around buildings from 30 feet to 100 feet, in any SRA. Building owners must minimize potential fuel around structures, to minimize the risk of loss, and to improve firefighter safety.

Policies

Guiding Policy

NH-G-3 **Fire Prevention.** Protect Pacifica residents and businesses from potential wildland fire hazards.

Implementing Policies

NH-I-31 **Response Time.** Support efforts by North County Fire Authority to meet its response time standards throughout the City.

This effort may include construction of a third fire station in the central part of Pacifica, near the police station or the Quarry site. The City could provide land or shared facilities.

NH-I-32 **Adequate Fire Flow and Fire Flow Upgrades.** Work with the North Coast County Water District and the North County Fire Authority to maintain and establish priorities for upgrading fire flow capabilities in neighborhoods that may have inadequate fire flows. Work with NCCWD to maintain adequate water supply for firefighting, including capacity for peak load under a reasonable worst case wildland fire scenario, to be determined by the North County Fire Authority.

NH-I-33 **Water Storage Locations.** In evaluating sites for new water storage facilities, place a priority on locations least subject to impacts from seismic activity and landslides.

NH-I-34 **Development Review.** Review development proposals to ensure that they incorporate appropriate fire-mitigation measures, including adequate provisions for evacuation, access by emergency responders, and vegetation clearances that don't impact ESHAs or wetlands or their associated buffers, unless undertaken consistent with the City's ESHA and wetlands policies.

NH-I-35 **Plan Review in Fire-Prone Areas.** Continue to request North County Fire Authority participation in plan review of new buildings in potentially fire-prone areas.

NH-I-36 **Fire Prevention Inspections.** Continue to require a fire prevention inspection of every permitted business and multi-family development covered by the North County Fire Authority.

NH-I-37 **Fire Prevention Education.** Continue educating the public about local fire hazard prevention programs. Work cooperatively with the North County Fire Authority to promote public awareness of fire safety and emergency life support.

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NH-I-38 **Vegetation Management.** Promote and support the North County Fire Authority's Vegetation Management Program to reduce urban/wildland interface fire hazards, consistent with the LCP.

All vegetation management efforts should include coordination with applicable City Departments and State and Federal agencies.

NH-I-39 **Multi-Jurisdictional Approach.** Participate in State or regional efforts to develop a clear legislative and regulatory frame-work to manage the wildland-urban interface, including implementation of the Multi-Jurisdictional Local Hazard Mitigation Plan.

NH-I-40 **Rockaway Quarry Service.** Ensure that any new development at the Rockaway Quarry site is adequately served by public infrastructure, including fire and police services.

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6 COASTAL RESILIENCE

The purpose of this chapter is to provide policies which protect existing development from the hazard of sea level rise and which guide the design of new development to respond to sea level rise during the anticipated life of the project. Topics covered in this element include sea level rise projections, transfer of development rights (TDR), repair and replacement of existing shoreline protection structures (e.g., sea walls), and establishment of appropriate site design measures for new development. Balancing appropriate protection of property and coastal resources along the dynamic coastline is an important theme in this chapter.

6.1 COASTAL ACT FRAMEWORK

Sea level rise increases the risk of flooding, coastal erosion, and saltwater intrusion into freshwater supplies, which, if left unmanaged, have the potential to threaten many of the resources that are integral to the California coast, including coastal development, coastal access and recreation, habitats (*e.g.*, wetlands, coastal bluffs, dunes, and beaches), coastal agricultural lands, water quality and supply, cultural resources, community character, and scenic quality. Policies from Chapter 3 of the Coastal Act which are most relevant to Pacifica's plan to manage coastal resiliency through the increasing risks posed by sea level rise include, but are not limited to, the policies listed below. Chapter 3 of the Coastal Act, available in Appendix A, is incorporated into this chapter.

Coastal Act Policies

Article 2: Public Access

- **Section 30211** Development not to interfere with access
- **Section 30212** New development projects
- **Section 30214** Implementation of public access policies; legislative intent

Article 4: Marine Environment

- **Section 30235** Construction altering natural shoreline
- **Section 30236** Water supply and flood control

Article 6: Development

- **Section 30250** Location; existing developed area
- **Section 30253** Minimization of adverse impacts

Additionally, for all purposes with this LCLUP, no activity undertaken pursuant to Section 30610(g) of the Coastal Act shall be construed to be a Substantial Structural Modification as defined in this LCLUP.

This chapter will expand upon the relevant Coastal Act policies with additional legal considerations. In 2015, Governor Brown put into effect two regulatory requirements regarding climate change adaptation planning. The first, Senate Bill 379, requires local agencies to address climate adaptation and resiliency strategies in long range planning documents. The second, Governor's Executive Order No. B-30-15, directed state agencies to factor climate change into planning decisions. This order has been promulgated by the California Coastal Commission to include climate adaptation in Local Coastal Programs (LCP).

The purpose of this chapter is to address the above-mentioned regulatory requirements regarding climate change and to provide policy guidance to minimize the risk to persons and property posed by potential sea level rise. These policies recognize that sea level rise projections are continually evolving and the effectiveness of hybrid adaptation strategies is not well known. Therefore, the policies focus on protecting beaches and the natural shoreline while also allowing for protection and armoring of the shoreline for specific limited circumstances as provided for within the Coastal Act and reassessment of the adaptation plan in the future.

6.2 SEA LEVEL RISE KEY FINDINGS

Climate change is happening now. The accumulation of greenhouse gases in the Earth's atmosphere is causing and will continue to cause global warming and resultant climate change. For the coastal setting, the primary exposure will be an increase in sea level rise[1] due to thermal expansion of the ocean's waters and melting of ice sheets. Based on state level studies regarding sea level rise, seven key findings have been determined (CalNRA/OPC 2018):

- Scientific understanding of sea level rise is advancing at a rapid pace. Projections of future sea level rise have been adjusted to address improved understanding of sea level rise contributors and will continue to adjust as scientific understanding increases.

- The direction of sea level change is clear. Coastal California is already experiencing the early impacts of a rising sea level.

- The rate of ice loss from the Greenland and Antarctic Ice Sheets is increasing. These ice sheets will soon become the primary contributor to global sea level rise, overtaking the contributions from ocean thermal expansion and melting mountain glaciers and ice caps.

- New scientific evidence has highlighted the potential for extreme sea level rise. If greenhouse gas emissions continue unabated, key glaciological processes could cross thresholds that lead to rapidly accelerating and effectively irreversible ice loss.

- Probabilities of specific sea level increases can inform decisions. A probabilistic approach to sea level rise projections, combined with a clear articulation of the implications of uncertainty and the decision support needs of affected stakeholders, is the most appropriate approach for use in a policy setting.

- Current policy decisions are shaping our coastal future. Before 2050, differences in sea level rise projections under different emissions scenarios are minor but they diverge significantly past that point. After 2050, sea level rise projections increasingly depend on the trajectory of greenhouse gas emissions.

- Waiting for scientific certainty is neither a safe nor prudent option. High confidence in projections of sea level rise over the next three decades can inform preparedness efforts, adaptation actions and hazard mitigation undertaken today, and prevent much greater losses than will occur if action is not taken.

As further discussed below, impacts of sea level rise along Pacifica's coastline would be significant. High tides and larger storms will challenge and change Pacifica's existing shoreline, including portions of the shoreline with shoreline protection structures. Impacts to Pacifica's shoreline could affect existing coastal developments, coastal habitats, coastal access and recreation. The policies in this chapter will guide Pacifica in how to prepare for the challenges associated with sea level rise and to reduce risks to people and property.

[1] Sea level rise is the worldwide average rise in mean sea level.

6.3 PREPARATION OF POLICIES

The City of Pacifica received a Local Assistance Grant from the California Coastal Commission (CCC) and California Coastal Conservancy. The grant provided funding to the City of Pacifica to hire a consultant to conduct technical analyses for the CCC-recommended multi-step process to develop sea level rise and adaptation policies this LCLUP. The CCC-recommended steps included:

Step 1. Determine a range of sea level rise projections relevant to the LCP Planning Area/segment.

Step 2. Identify potential physical sea level rise impacts in the LCP Planning Area/segment.

Step 3. Assess potential risks from sea level rise to coastal resources and development in the LCP Planning Area/segment.

Step 4. Identify adaptation measures and LCP policy options.

Step 5. Draft an updated or new LCP for certification with the CCC.

Step 6. Implement the LCP and monitor and re-evaluate strategies as needed.

Steps 1 through 3 were completed through the preparation of the Vulnerability Assessment. Step 4 was completed through the preparation of the Adaptation Plan. Steps 1 through 4 are further discussed below. Step 5 was completed by CCC certification of this LCLUP. Step 6 will be ongoing throughout the implementation of this LCLUP.

Council Goals

In March 2018, the City Council unanimously adopted the following goals to help guide the direction of the planning effort for development of the Coastal Resiliency Policies. The goals included:

1. ***Bolster efficacy of public safety efforts.*** Evacuations of bluff top homes have been necessary to protect the health, safety, and wellness of residents. The Adaptation Plan will assist the City to protect human life, property, and critical infrastructure in response to a catastrophic event.

2. ***Respond to climate change.*** The Adaptation Plan will allow Pacifica to prepare for sea level rise and climate change impacts by identifying policies that enhance the Coastal Zone's adaptive capacity.

3. Preserve Existing Neighborhoods and Promote Environmental Justice and Local Economic Vitality. Pacifica's Coastal Zone includes:

    - 12% of the City's population.
    - The majority of older, and therefore more affordable, housing stock.
    - Five of six hotels (80% of the rooms) that generate transient occupancy tax revenues for City operations and bring visitors who patronize businesses.

- More than half of commercial businesses, which provide vitality to the community and tax revenue for City operations.
- Public facilities that include Civic Center, North Coast County Water District, Ingrid B. Lacy Middle School, the Pacifica Pier, drainage outfalls, waste water pumping stations, sewer force mains, and the Calera Creek Water Recycling Plant.
- Significant historical and public recreational assets including beaches, coastal trails, the Beach Boulevard promenade, parks and Sharp Park Golf Course.

The loss or disruption of these assets could have far reaching impacts and affect everyone in Pacifica, not just those living or doing business in the Coastal Zone. The Adaptation Plan will allow the City to create policies that will protect these areas from the impacts of sea level rise, erosion, and coastal flooding. Consistent with the Coastal Act, the Adaptation Plan shall protect existing homes, businesses, and infrastructure in Pacifica.

4. ***Preserve and enhance coastal access.*** Beach and bluff access to the coastline is a crucial element of Pacifica's coastal character and is valued by the community. The Adaptation Plan will allow the city to identify where bluff erosion, sedimentation, and sea level rise may threaten coastal access.

Vulnerability Assessment

In 2018, the City prepared a Sea Level Rise Vulnerability Assessment[2] which focused on determining the potential exposure of assets to flooding and erosion hazard under six sea level rise scenarios selected for study. Because future projections of sea level rise along California's coastline are uncertain (due to uncertainty associated with modeling and the trajectory of global emissions), it was recommended to consider a range of projections to understand the consequences of various decisions, determine the tolerance for risk associated with those decisions, and to inform adaptation strategies necessary to prepare for change in the face of uncertainty. The sea level rise scenarios include no sea level rise (existing conditions) as well as state-recommended scenarios listed in Table 6-1.

TABLE 6-1. PROPOSED FUTURE SEA LEVEL RISE (SLR) AMOUNTS FOR VARIOUS SCENARIOS WITH ASSOCIATED PROBABILITY OF OCCURRENCE (CALNRA & OPC 2017)

Year	Low (17% chance)	Med-High (0.5% chance)	Extreme (n/a)
2050	1 ft.	2 ft.	-
2100	3 ft.	6 ft.	10 ft. *

** SLR of 6 ft. at 2075 was considered in place of 10 ft. at 2100 to assess potential impacts under the Extreme scenario. This was recommended by ESA because of the lack of erosion and flooding data for 10 ft. of SLR.*

The current best available science was identified in the Vulnerability Assessment. Consistent with the San Mateo County Vulnerability Assessment[3], existing and future coastal flooding was evaluated using the Our Coast, Our

[2] Sea Level Rise Vulnerability Assessment, prepared by ESA. June 2018. Website: https://www.cityofpacifica.org/civicax/filebank/blobdload.aspx?t=67369.96&BlobID=14459.
[3] County of San Mateo Sea Level Rise Vulnerability Assessment, prepared by County of San Mateo et. al. Final Report, March 2018.

Future (OCOF; produced by US Geological Survey) mapping products, while future coastal erosion was evaluated using the Pacific Institute (PI) erosion maps.

Our Coast, Our Future

Our Coast Our Future (Ballard *et al.* 2016) is a collaborative project that provides online maps and tools to help users understand, visualize and anticipate vulnerabilities to sea level rise and storms. The project maps 40 different sea level rise and storm scenarios that were developed by the US Geological Survey (USGS) using their Coastal Storm Modeling System1 (CoSMoS 2.0, North-central California (outer coast)). Various OCOF mapping products were used to evaluate existing and future coastal flooding hazards due to sea level rise (for regular tidal inundation) and storm flooding (considering a 100-year coastal event). The OCOF/CoSMoS modeling used for the Vulnerability Assessment does not incorporate the long-term erosion of shorelines and bluffs and thus the flood layers may underestimate flood exposure. The modeling does however use recent (2013) topography that includes existing features such as the elevation of the Beach Boulevard seawall and the Sharp Park Golf Course levee. While potential erosion is not included in the OCOF maps, flooding shown beyond these built features essentially represents conditions for the ongoing maintenance of these elements at their current location and elevation. [4]

Pacific Institute Study

In 2009, Philip William and Associates, Ltd. (PWA, now ESA) was funded by the Ocean Protection Council to provide the technical hazards analysis supporting the Pacific Institute report on the "Impacts of Sea Level Rise to the California Coast" (PWA 2009; Pacific Institute 2009). In the course of this work, PWA projected future coastal flooding hazards for the entire state based on a review of existing Federal Emergency Management Agency (FEMA) hazard maps and projected future coastal erosion hazard areas for the northern and central California coastline, ending at Santa Barbara. These hazard areas were used in the Pacific Institute study, which evaluated potential socio-economic impacts of sea level rise. In order to maintain consistency with the Sea Change SMC study, ESA used the coastal erosion hazard maps in this Vulnerability Assessment to identify potential impacts to Pacifica. The erosion hazard zones produced for this study do not consider the effects of coastal armoring structures, but rather depict the potential extent of erosion in the case that armoring fails or is not maintained. It is important to understand the potential risk that coastal erosion poses to assets without assuming any given adaptation strategy, and the Pacific Institute erosion maps are the best available resource to do so in Pacifica.

The Vulnerability Assessment tabulated asset exposures within seven coastal sub-areas[5] to facilitate more focused development of adaptation strategies and policies. The subareas used in this assessment, and carried forward throughout this chapter are consistent with the seven subareas used in the other chapters of this LCLUP. The one exception is the West Sharp Park neighborhood. It was decided that the analysis should combine the portion of the West Sharp Park neighborhood along the public sea wall and retaining wall with the Sharp Park Golf Course, West Fairway Park and Mori Point subarea. This decision was made because this entire stretch of shoreline is publicly owned and fully government owned shoreline may have different policy or funding considerations. An additional subarea identified in this planning effort is the West Linda Mar neighborhood, which is not in the Coastal Zone, but will be affected by sea level rise coastal hazards. Figure 6-1 shows the subareas referenced in this Chapter.

[4] Erosion modeling was not included in the OCOF mapping data for the Pacifica area at the time of preparation of the Vulnerability Assessment.
[5] Eight subareas were analyzed under the Vulnerability Assessment. However, one of those subareas is a portion of West Linda Mar and is outside of the Coastal Zone.

Figure 6-1: Coastal Resilience Subareas

Based on the best available hazard data from OCOF and PI, the potential hazards for land within the City were identified and evaluated in the Vulnerability Assessment (ESA 2018a). Dominant coastal hazards in Pacifica include the following:

- long-term shoreline erosion
- storm-event coastal erosion of bluffs and beaches
- coastal flooding associated with major wave events
- rising groundwater levels in Linda Mar
- flooding from Laguna Salada and San Pedro Creek

Maps were developed for each subarea depicting the anticipated areas needing protection under the most extreme sea level rise projections. These Coastal Vulnerability Zone Maps are included as Appendix B to the LCP and relate to administration of Coastal Resilience Policies CR-I-1, CR-I-2, CR-I-7, CR-I-43, and other policies in this chapter.

The following public and private assets were determined to experience some form of existing or future risk and related vulnerability to sea level rise (e.g., coastal erosion and/or flooding):

- Property (public land and structures, private land and structures including homes, hotels, businesses, etc.)
- Public roads (local and regional)
- Drinking water system
- Wastewater pipes, mains and pump stations
- Stormwater pipes and pump stations
- Parks, trails, and coastal public access
- Beach and wetland habitats
- Other utilities (e.g. communications, electricity, gas)

During preparation of the Vulnerability Assessment, the City heard concerns from the public that the PI data used to project coastal erosion did not consider the effects of existing shoreline protection (i.e., coastal armoring) structures. As a result, commenters expressed that the projected area for erosion shown in the Coastal Vulnerability Zone Maps (Appendix B of the LCP) was more extreme than practical due to the protections provided by the existing shoreline protection structures and, therefore, the Maps were inappropriate for purposes of assessing actual vulnerability. However, because the Coastal Vulnerability Zone Maps show significant erosion for areas that are protected by existing shoreline protection structures, the Maps highlight the protection provided by the structures. The City acknowledges that the Coastal Vulnerability Zone Maps would not be appropriate for the use of site-specific erosion analyses, but the Maps do show important information necessary to make general planning-level decisions about the vulnerability of portions of the Coastal Zone. Revising the Maps to show the anticipated erosion associated with sea level rise with existing shoreline protection structures in place would result in a smaller projected area of vulnerability, but would not fully show what areas are in fact being protected by the shoreline protection structures and the value of the assets they protect would not be accurately captured.

The findings of the Vulnerability Assessment were used to inform which adaptation strategies may be appropriate to consider in each subarea and provide the background information for the subsequent study, the Adaptation Plan, which is discussed below. The Coastal Vulnerability Zone maps utilized the best available data at the time of preparation. The erosion scenario does not account for existing shoreline protection structures. This information is continually evolving and the maps reflect a long planning horizon recognizing typical design life of structures. Updated models and site-specific analysis could identify that the respective Coastal Vulnerability Zones may have shifted to include more or less area. Coastal Vulnerability Zone maps are not detailed to the parcel-scale and should not be used for real estate, financing, or insurance transactions, or other uses such as navigation, permitting, or regulatory uses. To confirm vulnerability potential, further studies should be performed for Coastal Vulnerability Zones. Coastal Vulnerability projections were sourced from publicly available data and existing models not created by the City of Pacifica.

Adaptation Plan

Following the above-mentioned Vulnerability Assessment, but also in 2018, the City prepared a Sea Level Rise Adaptation Plan[6]. The Adaptation Plan was prepared using information identified in the Vulnerability Assessment. The purpose of the Adaptation Plan was to be a background document that analyzed various adaptation strategies for each subarea, including the costs and benefits of each adaptation strategy, to inform future decisions on adaptation policies. The cost-benefit analysis section of the Adaptation Plan was not adopted or approved by the City of Pacifica. The purpose of the cost-benefit analysis was to provide information regarding various sea level rise scenarios and adaptation options and was not intended to prescribe specific adaptation policies. The cost-benefit analysis was perceived to require additional work to adequately analyze the value of public recreational amenities.

The Adaptation Plan modeled selected feasible adaptation strategies for each subarea. The plan identified environmental triggers for when an adaptation strategy would need to be implemented and the cost-benefit analysis of implementation. The cost-benefit analysis considered costs related to

- Engineering
- Flooding and erosion
- Transient occupancy, sales, and property tax receipts
- Property transactions

The estimated costs were then compared to the estimated benefits of the increased recreational value of expanded beach areas. The comparison was made using an economic methodology that detailed its assumptions as well as the limitations of the analysis and gaps in available data. The cost-benefit analysis was conducted using engineering unit cost estimates for adaptation measures and asset replacement, scheduling (and costing) of adaptation measures through time using a shoreline evolution model and flooding thresholds, and conducting a geographic information system (GIS) exposure analysis for the alternative adaptation strategies considered in each sub-area. The Table 6-2[7] below provides a summary of the methods and data sources used for the cost-benefit analysis.

[6] Final Draft Sea Level Rise Adaptation Plan, prepared by ESA. September 2018. Website: https://www.cityofpacifica.org/civicax/filebank/blobdload.aspx?t=58348.79&BlobID=14632. This footnote is for informational purposes only and does not constitute incorporation of the Final Draft Sea Level Rise Adaptation Plan into this LCLUP.

[7] Table 6-2 is a replication of Table 15 (page 69) from the ESA 2018b.

TABLE 6-2. SUMMARY OF METHODS AND DATA SOURCES FOR ECONOMIC ANALYSIS

Estimate	Valuation	Method	Source
Residential Land	Market	Update County Parcel Data	San Mateo County, Zillow
Commercial Land	Market	Update County Parcel Data	San Mateo County, Zillow
Publicly Owned Land, Land Trusts	Acquisition Cost	Apply acreage metric	Various
Publicly Owned Buildings	Appraisals		City of Pacifica
Demolition Costs	Removal Costs	Apply sq. ft. metric	ESA
Linda Mar Beach	Non-Market Valuation	Day Use Value X Attendance	City of Pacifica
Other Beaches	Non-Market Valuation	Day Use Value X Attendance	Pacifica CRSMP
Trails	None	Estimate Length of Trails Lost	City of Pacifica
Golf Course	Market and Non-Market	See Appendix B of Adaptation Plan	Various
Water Pipes	Replacement Costs	Apply linear ft. metric	NCCWD
Communication Conduits	Replacement Costs	Apply linear ft. metric	Comcast
Wastewater Pipes	Replacement Costs	Apply linear ft. metric	ESA/City
Wastewater Mains/Pumps	Replacement Costs	Apply linear ft. metric	ESA/City
Roads	Replacement Costs	Apply linear ft. metric	ESA/City
Stormwater Pipes/Pumps	Replacement Costs	Apply linear ft. metric	ESA/City

Source: ESA 2018b; Table 15, Page 69

During preparation of the Adaptation Plan, the City heard concerns from the public that the cost-benefit analysis did not include consideration of some assets, which undervalued the assets needing protection. Examples provided by the public included the recreational values of Sharp Park Golf Course and coastal trails. The Adaptation Plan provides a detailed description of what assets were considered in the cost-benefit analysis and which items were either not included or discussed only at a qualitative value and the reasoning for such actions. An analysis of the recreational value of the Sharp Park Golf Course in the Adaptation Plan concludes that the recreational value of the Golf Course is approximately even with the operation costs for the golf course. For this reason and other factors provided in the Adaptation Plan, and with the recommendation from a qualified economic consultant, the loss of the Sharp Park Golf Course was only evaluated as a loss of public property.

Other public comments related to the valuation assigned to trails. Pacifica has a number of coastal hiking trails which are popular with various user types. However, no reliable source to quantify trail use could be found for inclusion in the Adaptation Plan. The Adaptation Plan recognizes that a recreational value for the trails was not provided, but also assumed that trails are an asset that can naturally be relocated. The cost-benefit analysis does qualitatively value the estimated loss of trails by acknowledging the loss of trails in linear feet for each alternative.

Additionally, the City also heard concerns from the public regarding the recreational beach value used in the cost-benefit analysis. Commenters were concerned that the $40/day per person-visit value was an unsupported value and the analysis overestimated beach attendance. Concerns were that an overestimated value would set a standard for future mitigation costs for maintaining current shoreline protection structures and would create an imbalance on the analysis in favor of managed retreat. The cost-benefit analysis in the Adaptation Plan was prepared to support and inform the comparison of various adaptation strategies. The cost-benefit analysis is not intended to establish a standardized statewide beach recreation value. As fully discussed in the Adaptation Plan, the City did address concerns that the $40/day per person-visit value was too high for Pacifica's beaches and that the number of people using the beach was very small, lower than the estimates used in the Adaptation

Plan. In response, a sensitivity analysis was applied using a lower day-use value ($10/day per person-visit)[8]. In summary, significantly lowering the value of a beach day, or significantly lowering attendance, did not change the rank ordering of the alternatives in economic terms, except at Rockaway Beach, where a higher attendance estimate would justify beach nourishment, which would also help protect the hotels, restaurants and other businesses there.

The findings of the Adaptation Plan are just one of the considerations that were used to develop the Coastal Resilience policies below and, as discussed, the Coastal Resilience policies focus on protection and armoring of the shoreline for specific limited circumstances as provided for within the Coastal Act and reassessment of the Adaptation Plan in the future. Therefore, changes to the cost-benefit analysis are not necessary to inform the Coastal Resiliency policies.

The Adaptation Plan was prepared to inform City decision making about a variety of sea level rise adaptation policies, but does not include or dictate the ultimate policies selected by the City. Although managed retreat alternatives are analyzed in the Adaptation Plan in accordance with the City's grant agreement with the CCC, these analyses do not, in themselves, equate to a managed retreat policy. The City uses other sea level rise adaptation policy in this LCP and any future changes to policy will require an amendment to this LCP.

As mentioned above, there are many unknowns associated with sea level rise. The science and modeling of sea level rise projections are inherently uncertain. The rate of sea level rise is highly dependent on whether global greenhouse gas emissions will continue to increase or whether global emissions will be reduced. The rate of sea level rise could be higher, or lower, than current projections. The Vulnerability Assessment and the Adaptation Plan are the background documents that were prepared to inform the development of the Coastal Resilience policies contained in the LCP. The background documents were prepared based on the best available science and available data at the time of preparation. As discussed in the policies, updates to these background documents may be appropriate as future best available science progresses, which may warrant the consideration of new or revised Coastal Resilience policies.

6.4 GENERAL POLICIES

Based on the results of the Adaptation Plan, consideration given to the Coastal Act, stakeholder input[9], and Council goals, the below Coastal Resilience policies were developed and selected for inclusion in the LCP.

Guiding Policies

CR-G-1 **Key Coastal Act Policies.** The City of Pacifica adopts the following key policies derived from the Coastal Act to address coastal resilience:

> **PRC 30235**. Revetments, breakwaters, groins, harbor channels, seawalls, cliff retaining walls, and other such construction that alters natural shoreline processes shall be permitted when required to serve coastal-dependent uses or to protect

[8] Note that the effect of lowering the beach value by 75% yields the same result as lowering attendance by 75% or reducing both attendance and unit value by 50%.

[9] Public comments were received throughout the process of preparing the Coastal Resilience policies. Comments and responses to those comments were published after public review of each of the deliverables. Please see https://CityofPacifica.org/sealevelrise for more information.

existing structures or public beaches in danger from erosion, and when designed to eliminate or mitigate adverse impacts on local shoreline sand supply.

PRC 30253. New development shall: (1) minimize risks to life and property in areas of high geologic, flood, and fire hazard; and (2) assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs; and,

The Coastal Resilience policies adopted herein are intended to achieve and are consistent with these key policies, subject to periodic updates as resource and development monitoring and program implementation may dictate.

CR-G-2 **Sea Level Rise and Best Available Science.** Planning and development reviews shall use, as applicable, the best available science about projected sea level rise and other climate change-related environmental changes when addressing coastal erosion, bluff failure, flooding, and other coastal hazards.

6.5 COASTAL RESILIENCE POLICIES

Implementing Policies

CR-I-1 **Coastal Vulnerability Zones.** Those areas of the City that are predicted to be vulnerable to coastal hazards have been mapped as Coastal Vulnerability Zones in Appendix B, where such mapping is based on the best available science about projected sea level rise, erosion, flooding, and other coastal hazards at the time of LCLUP adoption. It is likely that such areas will change over time, and Appendix B shall be regularly updated to guide implementation of the LCP's coastal resiliency provisions. In any case, however, if best available science at the time an application is reviewed shows that proposed development located outside of such mapped area is also vulnerable to coastal hazards, then such application shall be reviewed as though such development was located in the Coastal Vulnerability Zones.

CR-I-2 **Development in Coastal Vulnerability Zones.** Development located in Coastal Vulnerability Zones may only be approved if such development, as measured over its full anticipated life, is sited, designed, and conditioned:

a. to avoid, and where unavoidable, to minimize risks from coastal hazards to the maximum extent feasible;

b. to avoid, and where unavoidable, to minimize and mitigate to the maximum extent;

c. to avoid creating a nuisance;

d. To avoid encroachment onto public trust lands; and

e. to assure stability and structural integrity without reliance on shoreline protection devices except as provided in CR-I-38, CR-I-39, and CR-I-40.

CR-I-3 **Monitoring Shoreline Change.** The City shall implement a monitoring program for sea level rise, beach width, bluff offset, flooding and storm damage, and other potential measures or triggers for guiding implementation of the Coastal Resilience policies. The monitoring program shall include biannual (minimum following winter and summer) shoreline and bluff edge surveys and also establish thresholds for reassessing the City's Shoreline Adaptation Program.

The City, in coordination with Coastal Commission staff, shall create an alternating schedule to perform half of the required surveys each year.

CR-I-4 **Assessing Coastal Resiliency Provisions Implementation.** The City shall assess implementation of the LCP's coastal resiliency provisions at least every five years, where such assessment shall at minimum consider the following:

- The efficacy of such provisions at protecting and enhancing the City's beach and shoreline area resources, critical infrastructure, and other built and natural environment features.
- Updated sea level rise projections and risks.
- The potential need to revise coastal resiliency measures and/or implement new measures, including review of emerging engineering, science, and technologies.
- Funding needs and potential funding sources.
- The results of the City's shoreline monitoring program (CR-I-3), shoreline adaption program (CR-I-5), adaptation funding efforts (CR-I-6), consideration of an LCP transfer of development rights program (CR-I-7), critical transportation infrastructure efforts (CR-I-8), hazard prone infrastructure efforts (CR-I-9), business outreach efforts (CR-I-10), high water mark efforts (CR-I-11), flood ordinance and LHMP consistency efforts (CR-I-11 and CR-I-12), sediment management and beach nourishment programs (CR-I-14 and CR-I-15), additional flood protection efforts (CR-I-16), groundwater monitoring efforts (CR-I-17), and Caltrans coordination efforts (CR-I-18).

The City shall use such assessment efforts to form the basis for LCP updates and changes to better address coastal hazards in a way that can protect and enhance bluff, shoreline, offshore, and sandy beach recreational areas for public use and enjoyment while ensuring all development (including private structures and public infrastructure) are safe from coastal hazards as much as possible both now and in the future.

CR-I-5 **Shoreline Adaptation Program.** Within 10 years of certification this LCLUP update, the City shall develop a Shoreline Adaptation Program for the City's shoreline and obtain Coastal Commission certification of an LCP amendment informed by the Program. The Program is encouraged to be made up of sub-area plans for smaller sections of the coastline that share similar attributes, shall build on past adaptation planning work, and identify adaptation approaches that will be implemented to address vulnerabilities and protect coastal resources throughout the City.

The Program shall be consistent with and help to support and implement the Coastal Access and Resilience Program developed per CR-I-44 and at a minimum address the following topics:

a. Existing and Future Conditions. Leveraging any existing relevant data or studies, describe the relevant shoreline area in terms of its resources and constraints. Identify baseline conditions in terms of existing public and private development; shoreline, sandy beach, and offshore public access and recreational areas; and environmental resources. Include an assessment of beach widths throughout tidal and seasonal ranges. Additionally, analyze how conditions are expected to change as coastal hazards (including short- and long-term erosion and flooding) are exacerbated by sea level rise. Describe how the presence or absence of development and shoreline protection structures has impacted and is projected to impact conditions over time, particularly how such development would or would not allow for natural migration of beaches over time and impact public use and availability of the sandy beach/shoreline. Identify areas where beaches would likely be able to persist if able to migrate as sea levels rise versus those areas where the geology/conditions are such that the continued presence of beaches in such areas is unlikely.

b. Goals and Actions. Describe the overall vision for Pacifica's coastline (and each sub-area) over the short-, medium-, and long-term horizon. This vision shall relate to the opportunities and constraints identified above and shall include specific goals and actions for protection of public access and coastal resources and minimization of coastal hazard risks. The Program shall provide requirements for adapting existing and future development, including public and private structures, community infrastructure, coastal accessways, and other shoreline area development to meet specific goals in line with the overall vision of the City's shoreline (and each sub-area), including as such objectives may differ by sub-areas. Strategies to consider shall include but are not limited to sediment management, beach nourishment, green infrastructure, shoreline protection structures, elevation of development, structural modifications, and removal of development as part of a Transfer of Development Rights Program (Policy CR-I-7) or other voluntary process for property owners. Additionally, the Program shall identify the timeline over which different options may be applied, including how different strategies would be phased over time, and shall explicitly define triggers for when different adaptation options would need to be implemented. The Program shall also describe the policy options (e.g., land use and zoning requirements, development approval conditions, deed restrictions, design guidelines, etc.), specific projects, and funding mechanisms necessary to ensure adaptation actions are carried out.

c. Special Shoreline Resilience Areas. Considering the existing and future shoreline conditions and the City's goals and actions described in parts (a) and (b) above, evaluate phased adaptation approaches for the Special Shoreline Resilience Areas. Consider the extent to which shoreline protection structures may continue to be the preferred adaptation approach or whether alternatives may better achieve City goals and result in preferred coastal resource outcomes. Furthermore, analyze the ability of the shoreline protection structures to withstand coastal hazard conditions over time

as sea levels rise, the feasibility and costs of anticipated maintenance activities, any anticipated augmentations or replacement that may be necessary over time as sea levels rise, and any threshold hazard conditions beyond which the shoreline protection structures may not be able to function and the associated adaptation measures that would be necessitated for the development that relies on the shoreline protection structures.

d. Sandy Beach Areas. The City shall identify all sandy beach areas that provide for associated recreational opportunities, including but not limited to Sharp Park south of the Pacifica pier, southern Rockaway Beach, and Pacifica State Beach. For areas where public beach access has already been or is likely to be limited and eventually lost due to the presence of development that prevents natural beach formation/migration, the Program shall focus on strategies that will result in the removal of development to allow for natural beach migration processes. The Program for these sandy beach areas (broken down by each sub-area as well as overall) shall also include the following:

    i. Minimum Sandy Beach Widths. An analysis of the minimum width of sandy beach necessary to maintain optimum public recreational access and habitat function. This analysis shall include considerations of daily tidal range, seasonal erosion, and short-term, storm-driven erosion when determining optimum beach widths. Additionally, the analysis shall assess the types of adaptation strategies, including but not limited to sediment management, beach nourishment, and removal of development (subject to voluntary mechanisms available to property owners, as described above), along with appropriate triggers for when different adaptation strategies should be implemented to ensure that minimum sandy beach widths are maintained over time as sea levels rise.

    ii. Sandy Beach Monitoring. The Program shall include monitoring protocols for the width of the beach as well as recreational access, sandy beach use, and habitat values throughout the year and over time. Such monitoring protocols shall identify and track locations, times, and durations throughout the year when the sandy beach is too narrow to be adequate for public recreation and/or lateral access. Such monitoring will ensure that the minimum beach width established through the analysis above is adequate for maintaining public access and coastal resource values and will provide the necessary information for when adaptation triggers are met, as described below.

    iii. Sandy Beach Adaptation. The Program shall identify the suite of actions and programs that will be implemented over time to maintain sandy beach utility. The Program shall also include explicit triggers for sediment management, beach nourishment, voluntary development removal, and/or alternative strategies that are designed to ensure that the identified minimum sandy beach width is maintained. The Program shall identify "maintenance" triggers for when beach nourishment or related strategies to protect sandy beach areas should occur as well as "adaptation" triggers for when new adaptation strategies will have to be implemented in order to preserve beach recreational access as sea levels rise and erosion worsens.

iv. Mitigation. The Program shall include provisions designed to offset loss of sandy beach area, including application of complementary provisions for offsetting such losses through enhancements in other beach/shoreline areas in the City if applicable.

e. Alternative Access. Where geologic conditions or land use patterns and shoreline armoring approaches will limit the ability of sandy beaches to persist (even without the presence of development and shoreline protection structures), the Program shall identify options to allow for alternative types of shoreline access. Such options may include, but are not limited to, vertical access to rocky shorelines or to the ocean, lateral access along blufftops or as part of shared vertical seawalls, viewing platforms, and parks. The Program shall identify preferred locations for such features and tools for ensuring such features are constructed and maintained (e.g. conditions of approval, shoreline protection structure design requirements, acquisition of easements or other areas, voluntary removal of development, etc.). Additionally, the Program shall identify and describe how such features should be adapted and modified over time as sea levels rise to ensure access is maintained over time.

f. Funding Opportunities. Identification of potential funding opportunities to support short-, medium-, and long-term adaptation options. This shall include funding for implementation of specific adaptation projects (e.g. sediment management, beach nourishment, green infrastructure, habitat restoration, development removal, etc.); construction of public access features; purchase of deed restrictions, easements, or similar interests; and structural buyouts and related opportunities for acquisition and removal of structures encroaching within the established sandy beach areas. Potential funding opportunities may include in-lieu fees (including those generated from mitigation for shoreline protection structures per Policy CR-I-34), grants, state/federal funds, and GHADs/CSAs. Opportunities to integrate adaptation strategies with other planning processes (e.g., Local Hazard Mitigation Plans, Capital Improvement Plans, Climate Action Plans, etc.), including in order to leverage funding options, shall also be explored.

g. GHADs/CSAs. Identification of measures necessary to support creation of Geologic Hazard Abatement Districts, City Service Areas, or other similar entities involving one or more sections of the coastline, as a preferred mechanism for implementation of Shoreline Adaptation Program (and related LCP amendment) requirements.

CR-I-6 **Adaptation Funding.** The City will pursue feasible grant funding sources or new funding mechanisms, such as the formation of Geologic Hazard Abatement Districts (GHADs) as supported by NH-I-16, or securing FEMA and other federal or state adaptation and hazard mitigation funds, to finance adaptation strategies for public infrastructure.

CR-I-7 **Transfer of Development Rights Program.** The City shall explore the ways in which the City's transfer of development rights (TDR) ordinance could be applied within the LCP to relocate development rights from Coastal Vulnerability Zones (sending sites) to receiving sites outside of Coastal Vulnerability Zones, including to identify areas where densities and heights may be increased using TDR credits, including to facilitate affordable housing.

CR-I-8 **Critical Transportation Infrastructure.** The City will pursue opportunities to preserve, protect, or relocate critical local transportation infrastructure, or provide alternative access, to mitigate against isolation and economic loss, and to ensure public safety, while avoiding (and where unavoidable minimizing and mitigating) impacts to coastal resources, including public access and recreation, to the maximum extent feasible, and being consistent with permit conditions and/or legal obligations pursuant to the California Coastal Act.

CR-I-9 **Hazard Prone Infrastructure.** Hazard prone infrastructure will be preserved, protected, or relocated to maintain critical services and protect coastal resources, including if required by permit conditions and/or legal obligations pursuant to the California Coastal Act. Preservation/protection in situ with shoreline armoring shall be required to meet the requirements of Policies CR-I-31 and CR-I-32.

CR-I-10 **Business Outreach.** The City's Economic Development Division shall provide nonfinancial assistance to businesses in evaluating options to promote business resiliency.

CR-I-11 **High Water Program.** The City will research and evaluate feasible new funding mechanisms to implement a program to record high water marks where feasible following high-water events**.**

CR-I-12 **Flood Ordinance Consistency.** The City will review and amend as necessary the flood damage prevention ordinance to assure consistency with the updated policies and ordinances of the LCP.

CR-I-13 **LHMP Alignment.** The City will coordinate its departments and programs to align the Local Hazard Mitigation Plan (LHMP) with the LCP to ensure proactive, coordinated and streamlined adaptation efforts and response to future coastal hazards. The City shall leverage FEMA funding opportunities for hazard mitigation and other related funding mechanisms to implement the LCP's coastal resiliency provisions.

CR-I-14 **Regional Sediment Management.** Participate in regional approaches to protecting, enhancing and restoring coastal beaches and watersheds through the California Coastal Sediment Management Workgroup, with a goal of minimizing coastal erosion.

CR-I-15 **Beach Nourishment.** In coordination with the California Coastal Commission and other permitting agencies (e.g. State Lands Commission, U.S. Army Corps of Engineers) the City shall evaluate a beach nourishment program, in conjunction with sand retention structures (see artificial headlands concept in the Adaptation Plan), to reduce shoreline protection structure maintenance requirements and maintain beaches of at least 100 feet in width on average, consistent with other LCP policies and the Coastal Act. The beach nourishment program will need to be evaluated to be the least environmentally damaging feasible alternative and will include measures to protect water quality and to avoid (and where unavoidable to minimize and mitigate) potential adverse coastal resource impacts, including biological resource impacts, from deposition of material, including measures such as sand compatibility specifications, restrictions on volume of deposition, timing or seasonal restrictions, and identification of environmentally preferred locations for deposits.

CR-I-16 **Additional Flood Protection Measures.** The City shall evaluate the need for additional flood protection measures, which may include:

- Clarendon Road and/or West Fairway Park stormwater basin, pump station, and/or interior Sharp Park Golf Course levee to help protect homes and businesses;
- A San Pedro Creek floodwall along commercial property to help manage flooding;
- Floodproofing at the Anza (stormwater) and/or Linda Mar (sewer and stormwater) pump stations to help protect against coastal storm flooding vulnerabilities; and
- Elevate and floodproof development structures if consistent with any permit conditions and/or legal obligations pursuant to the California Coastal Act as necessary to mitigate flood damage, consistent with height limitations.

CR-I-17 **Groundwater Monitoring.** The City shall begin groundwater monitoring to help determine needs for dewatering wells in the lowest portions of the coastal neighborhoods.

CR-I-18 **Caltrans Coordination.** The City shall coordinate with Caltrans to evaluate options for protecting Highway 1, if necessary.

6.6 SUB-AREA DESCRIPTIONS

The following section discusses implementation the near-term sea level rise adaptation priorities for each sub-area in Pacifica, and identifies mid- and long-term adaptation measures, subject to feasibility and monitoring concerns. These priorities were developed based on existing conditions and existing/near term vulnerabilities for each sub-area, as well as the City's adopted goals for sea level rise adaptation.

As required in Coastal Resilience Policy CR-I-44, the City shall monitor erosion, flooding, and sea level rise amount into the future to identify triggers for future adaptation measures beyond initial actions required due to existing conditions.

Generally, for land within the Coastal Vulnerability Zones, utilities, roadways and other public infrastructure should be floodproofed unless other adaptation alternatives are implemented and performing well, and only if consistent with LCP and Coastal Act policies. The City should incentivize risk reduction (e.g, floodproofing, etc.) that property owners can invest in, with grant funding or code updates. In addition, the City should, when appropriate, evaluate and pursue floodproofing infrastructure that may be currently exposed to coastal erosion and flooding to reduce the consequences of under-performance of protection measures, only if such floodproofing infrastructure is designed to eliminate or mitigate adverse impacts on local shoreline sand supply, consistent with LCP and Coastal Act policies (CR-I-15).

The City's overall approach to address coastal hazards is through siting and design of development to be out of harm's way and to limit shoreline armoring as much as possible, including to help preserve and protect the City's shoreline and beaches.

FAIRMONT WEST

The Fairmont West sub-area includes 0.6 miles of shoreline at the northern most portion of the City of Pacifica that includes open space west of and residential development east of Palmetto Ave and Westline Drive. The most seaward assets in this sub-area are the north end of Palmetto Avenue and Westline Drive which are beyond 300 feet from the current bluff edge, and the Dollaradio station (100 Palmetto Avenue), both of which were constructed prior to the Coastal Act. A rock revetment was constructed along the bluff toe in front of Dollaradio in 2010.

The roadway and utilities in Fairmont West are at risk after one to two feet of sea level rise. Some beach width may exist for access and other coastal resources, but given the high bluffs here, there is not adequate vertical access to the beach. Due to the undeveloped conditions of the bluffs in this sub-area, adaptation efforts are not required immediately. Beach nourishment, while a lower priority for this sub-area compared to other more developed sub-areas in the City, could take place at a later date with a larger volume of sand. CR-I-15 would direct the City to evaluate a citywide sand replenishment program in conjunction with sand retention structures to determine the City's preferred sand replenishment design.

WEST EDGEMAR AND PACIFIC MANOR

The West Edgemar and Pacific Manor sub-area includes all land west of Highway 1, south of Dollaradio Station to and including the San Francisco RV Resort. The sub-area includes 0.8 miles of coastline that consists of rip rap and a few short (100-400 feet) stretches of sandy beach. The backshore is characterized by tall bluffs (60-120 feet) with development on or near the edge of bluff. Approximately 80 percent of the backshore is currently armored in this sub-area, which highlights the erosion hazards posed to bluff top property and infrastructure.

Built assets and property are at risk from bluff erosion where unarmored now. Much of the armored areas may be overwhelmed by waves with as little as one foot of sea level rise, due to scour and structure sloughing, increased wave loads and overtopping of the structure. Beaches tend to exist in pockets, with armoring impeding lateral access from the degraded vertical access ways. Beach access is limited in West Edgemar and Pacific Manor.

NORTHWEST SHARP PARK

The Northwest Sharp Park sub-area includes land west of Highway 1 and between the SF RV Resort and Bella Vista Ave. This sub-area is the northern portion of the West Sharp Park sub-area for the remaining chapters of the LCP. For this chapter, the West Sharp Park sub-area from the LCP was divided along the parcel boundaries between Shoreview Avenue and Paloma Avenue for two reasons. First, the backshore armoring infrastructure changes at this location from private to public. North of the divide, private homes are armored by rock revetments and gunnite covering the bluff face. South of the divide, a public walkway and Beach Boulevard runs along the bluff top which is protected by a seawall and fronting rock revetment. Secondly, flooding at the Sharp Park Golf Course (SPGC) affects residences surrounding the course. Any shoreline management strategies taken for SPGC will have implications for the neighborhood north of and adjacent to the golf course. Thus, the southern portion of West Sharp Park sub-area was combined with the Sharp Park sub-area in order to more clearly discuss existing conditions, evaluate vulnerability and develop adaptation strategies that account for this flooding linkage.

Northwest Sharp Park sub-area includes approximately 2,800 feet of shoreline from the south end of the San Francisco RV Resort to the north end of the Beach Boulevard seawall. The shoreline is almost entirely covered with rock or rubble; the beach is currently very narrow at the north end and disappears in front of the armored homes along Shoreview Avenue. The backshore is about 90 percent armored in this sub-area, owing to gaps in rubble along the northern bluffs.

The backshore of Northwest Sharp Park is armored but may be overwhelmed by waves with as little as one foot of sea level rise, due to existing scour and shoreline protection structure sloughing, increased wave loads and overtopping of the shoreline protection structure. Beaches tend to exist ephemerally in pockets, with armoring impeding lateral access from the degraded vertical access ways. Existing property and infrastructure are at risk from coastal erosion so actions should be taken soon. As directed by CR-I-5, the City will prepare a public access improvement plan as part of the Shoreline Adaptation Program. Due to the potential lead time of establishing a sand source, beach nourishment planning should begin immediately. CR-I-15 would direct the City to evaluate a citywide sand replenishment program in conjunction with sand retention structures to determine the City's preferred sand replenishment design.

SHARP PARK, WEST FAIRWAY PARK AND MORI POINT

The Sharp Park, West Fairway Park and Mori Point sub-area (Figure 14 and Figure 15, Appendix B-4) includes land west of Highway 1 and contains the Palmetto Ave business district, Beach Boulevard Promenade, Fishing Pier, multiple City-owned parcels and landmarks, the Sharp Park Golf Course (SPGC), West Sharp Park and West Fairway Park neighborhoods and Mori Point. In order to represent the flooding connectivity of the lower Sharp Park neighborhood with the SPGC, the "West Sharp Park" sub-area was split in two (as described for Northwest Sharp Park above).

The shoreline in this sub-area is comprised of rip rap at the north end along the Beach Boulevard seawall, coarse grained sand from the pier to Mori Point, and exposed wave-cut platforms in bedrock around Mori Point. At the north end of this sub-area, the backshore consists of the Beach Boulevard seawall and fronting rock revetment that extend south of the Pacifica Pier and terminates north of Clarendon Avenue. The seawall protects the pedestrian walkway, road and residential properties from its northern terminus to Montecito Avenue. South of Montecito Avenue there is open space and parking between the seawall/walkway and development that includes City owned and private parcels. The beach is mostly absent along northern Beach Boulevard (north of the pier), and emerges south of the Pacifica Fishing Pier and widens with distance south. Beyond the south end of the seawall, the City currently manages a sand berm to limit wave run-up and overtopping at the end of Clarendon Ave. South of Clarendon, the backshore consists of an earthen berm levee that spans south to the headlands of Mori Point. The levee was built in the 1980s to protect the Sharp Park Golf Course. The fronting beach is approximately 200 feet wide with sparse vegetation along the back of beach. Approximately 1,150 feet of the northern portion of the levee are covered with rock, while the southern approximately 250 feet are armored by a revetment where the drainage outfall is located.

Most of this area is armored. The northern section between the Pier and Paloma Avenue is subject to frequent wave overtopping and damage to homes has occurred. Beaches are narrow and ephemeral, with armoring impeding lateral access from the degraded vertical access ways. South of the Pier, the beach tends to be more persistent and wider, and there is usually an accessible beach in the vicinity of the end of Clarendon Road, with reliable vertical and lateral beach access. South of Clarendon Road to Mori Point, the beach persists although wave run-up can reach the levee and there is some armoring. This sub-area is exposed to flooding due to rainfall runoff which cannot flow directly to the ocean. The Clarendon Road area is exposed to flooding now, and

certain parts of the West Fairway neighborhood may be exposed to flooding if sea level and ground water levels rise over 3 feet. Due to the potential lead time of establishing a sand source, beach nourishment planning should begin immediately. Policy CR-I-16 would direct the City to evaluate a citywide sand replenishment program in conjunction with sand retention structures to determine the City's preferred sand replenishment design.

Flood protection is already needed for homes and businesses along Clarendon Road during rain events and will need to be improved around Sharp Park Golf Course to manage flooding of Laguna Salada regardless of the condition of the Sharp Park Golf Course berm. The City and County of San Francisco is expected to maintain the Sharp Park Golf Course berm which protects the Sharp Park and West Fairway Park neighborhoods from the coastal flooding source, but existing pumping facilities in Sharp Park Golf Course are not designed to mitigate flooding in and around the course during significant rainfall events (i.e., a portable pump station is currently used to manage rainfall runoff flooding along Clarendon Road). The priority recommendations for flood protection surrounding Sharp Park Golf Course are therefore based on the rainfall (fluvial) flood source, but would also be effective during a major coastal storm if the Sharp Park Golf Course berm is overtopped or breached. Flooding due to wave run-up landward of Beach Boulevard seawalls is already an issue. Monitoring of the existing seawalls against the higher sea levels expected in the future will be necessary (Coastal Resilience Policy CR-I-44). Results of the monitoring will be considered during the Sea Level Rise Adaptation Plan Update to determine if additional flood protection adaptation measures are necessary.

ROCKAWAY BEACH, QUARRY AND HEADLANDS

This sub-area includes the vacant quarry site, Rockaway Beach, and Rockaway Headlands. Of the 1,800 feet of shoreline at Rockaway Beach, 1,000 feet are backed by armoring structures. South of the armored development, a small creek daylights from under the highway and flows onto the wider public beach. There are two beach access points in this sub-area: one at the parking lot just south of Calera Creek mouth, and the other at Rockaway Beach.

The armoring near the end of Rockaway Beach Avenue is overtopped by waves under present conditions, with occasional damages caused to nearby structures. Hence, this area has very little capacity and will have a noticeably degraded condition with as little as one foot of sea level rise. There is no beach in this area, with waves crashing directly into the shoreline protection structures. The shore becomes more accessible with distance northward but will also be more limited with as little as 1 foot of sea level rise. The south end of Rockaway Beach is unarmored, has a persistent beach and the backshore is estimated to be impacted with about 2 feet of sea level rise.

Due to the cove configuration of Rockaway Beach, it is a great candidate for beach nourishment. Policies recommend that Rockaway Beach be used as a pilot project for beach nourishment in Pacifica. In the pilot project, the City will go through the overall process for beach nourishment and identify available sources in the region and corresponding sediment characteristics and costs, evaluate the performance of the nourishment and enable the City to reevaluate nourishment along northern Pacifica and perform a more thorough assessment for a larger-scale nourishment project.

PACIFICA STATE BEACH & WEST LINDA MAR

This sub-area spans from the northeast end of Pacifica State Beach to the mouth of San Pedro Creek and includes land west of Highway 1 North. The beach is currently 100 to 250 feet wide. The backshore is mostly comprised of low vegetated dunes habitat in the middle and north portions, while a low seawall fronts the

northern pump station and parking lot at the southwest end of the sub-area. The backshore in this sub-area is approximately 15 percent armored.

Adaptation policies for Pacifica State Beach and West Linda Mar are presented together because actions taken at Pacifica State Beach influence coastal hazard exposure to West Linda Mar. Much of the Pacifica State Beach sub-area has a persistent, relatively wide beach with bulkheads in the south transitioning to dune fields in the north. Hence, this shore and roadway can likely withstand at least 2 feet of sea level rise. However, the West Linda Mar sub-area east of Highway 1 has a low elevation and is subject to flooding from high creek flows and rising groundwater associated with sea level rise. Due to the existing beach widths at Pacifica State Beach and existing coastal armoring, armoring actions are not a near -term priority. However, conditions of existing armoring at the Anza stormwater pump station should be monitored to ensure protection in the near term. Nourishment of Pacifica State Beach should be initiated using the shoreline-backshore offset for the main parking lot. Beach nourishment projects should include dune restoration to maintain ecology, protect the sewer force main that is buried in the existing dune field north of the main parking lot/Anza pump station as well as provide flooding protection of Highway 1 and West Linda Mar. Pump stations at Pacifica State Beach are vulnerable to wave run-up and require floodproofing in place. The West Linda Mar neighborhood is also vulnerable to flooding from San Pedro Creek based on existing FEMA hazard maps and will become more vulnerable as sea level rise increases the flood levels in the creek via its ocean boundary condition. The West Linda Mar neighborhood was constructed in a former lagoon and experiences high groundwater issues in the lowest areas, which is evident by existing wetlands around the skate park and homes furthest west. Groundwater in low areas near the ocean are directly influenced by the sea level, and thus groundwater issues will increase with sea level rise.

PEDRO POINT AND SHELTER COVE

The Pedro Point and Shelter Cove sub-area is the southernmost in Pacifica. The backshore is low adjacent to the creek with a few homes built seaward of the former Ocean Shore Railroad berm, two of which have boat ramps into the ocean. Most of these homes have been fortified with timber sea walls West of the beach homes, the previous railway berm and road to Shelter Cove rises to a bluff. A wooden seawall is built in front of the northernmost homes in the Shelter Cove community.

Potential bluff erosion may reach the most seaward bluff top homes at Pedro Point by about 2050 with 1 to 2 feet of sea level rise. Private property is mostly armored along the water (boat docks/homes) but requires upgrades by property owners, while bluff top properties have limited ability to prevent bluff toe erosion due to parcel limits. Private property is vulnerable to bluff erosion, but implementing bluff toe armoring would be complicated due to land ownership.

6.7 SHORELINE DEVELOPMENT STANDARD POLICIES

Implementing Policies

CR-I-19 **Technical Reports.** Development proposed in Coastal Vulnerability Zones shall include coastal engineering, geomorphology and other relevant technical reports unless on-site hazards already identified in a recent Coastal Vulnerability Zone Map or assessment approved

within the last five years are adequate for evaluating and ensuring compliance with the LCP, including through use of permit conditions to address any uncertainty. Reports shall

- be prepared by a licensed civil engineer or other suitably qualified professional;
- use the best available science;
- consider the impacts from the intermediate-high projection (CalNRA & OPC 2024; or similar precautionary projections as reflected in future updated statewide guidance) of sea-level rise for the anticipated life of the proposed development;
- demonstrate that the development will avoid (or if unavoidable, minimize) impacts from coastal hazards for the anticipated life of the proposed development without reliance on any existing or future shoreline protection devices, except that development behind Special Shoreline Resiliency Areas may consider CR-I-38, CR-I-39, and CR-I-41
- for blufftop and/or shoreline development, be set back a sufficient distance from the blufftop edge or highest predicted water line, accounting for wave runup, highest astronomical tide, storm surge, and other relevant factors (not less than 25 feet, or as determined by site-specific conditions) to avoid coastal hazard risks to the maximum degree possible while ensuring stability and structural integrity in light of potential erosion and other coastal hazards, where such minimum required setback shall be the distance necessary for all structural development (including any decks, fences, patios, arbors, and other ancillary development, and generally not including native landscaping, minor grading for landscaping/restoration purposes, and other similar non-structural development) to stay inland of a line that identifies the future predicted location of the blufftop edge or highest predicted water line, accounting for wave runup, highest astronomical tide, storm surge, and other relevant factors, accounting for expected erosion and a bluff stability factor of safety of at least 1.5 for static conditions and at least 1.1 for seismic conditions (where K=0.15) or sea level rise and other climate change impacts as applicable; and
- evaluate the foreseeable effects that the development will have on coastal resources over time and mitigate the impacts where they are unavoidable.

Reports may be waived for temporary events, temporary development structures or other minor, short-term development where it is clear there will be no significant hazard risks over the project's life.

CR-I-20 **Siting and Design.** Development in Coastal Vulnerability Zones shall be sited, designed, and setback from the blufftop and/or shoreline to be safe from erosion, bluff failure, wave run-up, flooding and other coastal hazards for the anticipated life of the development or in accordance with CR-I-19, without shoreline protection, considering projected sea level rise and other climate change effects to be determined from best available science and current guidance at the time of approval of the proposed development, as demonstrated by site-specific analyses and/or technical reports. Coastal Development Permit approvals shall prohibit shoreline protection structures for the authorized development, require the property owner to record an acknowledgement that the development does not qualify as an existing structure entitled to construction of a shoreline protection structure under Coastal Act Section

30235, and any other laws, that waive any rights to such protection structures that might exist, and that, where necessary, requires a removal and restoration plan, including bonding for large projects, to avoid future shoreline protection structures or project failure. However, behind Special Shoreline Resiliency Areas development may consider CR-I-38, CR-I-39, and CR-I-40.

CR-I-21 **Coastal Hazards Risk Disclosure.** As a condition of coastal permit approval for development in Coastal Vulnerability Zones or Tsunami Inundation Zones (Figure 6-2), applicants shall be required to acknowledge and agree, and private applicants must also record a deed restriction on the property to acknowledge and agree:

a. that the development is located in an area subject to current or reasonably foreseeable future coastal hazards;

b. that the permittee assumes the risks of injury and damage from such coastal hazards in connection with the permitted development;

c. that the permittee unconditionally waives any claim of damage or liability against the City, and the Coastal Commission if the permit is appealed, its officers, agents, and employees for injury or damage from such coastal hazards;

d. that the permitee indemnifies and holds harmless the City, and the Coastal Commission if the permit is appealed, its officers, agents, and employees with respect to the approval of the project against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such coastal hazards;

e. that the permittee waives any rights that might exist under applicable law for shoreline protection structures for the duration the permitted development is present on the property;

f. that sea level rise could render it difficult or impossible to provide services to the site (e.g., maintenance of roadways, utilities, sewage or water systems), thereby constraining allowed uses of the site or rendering it inoperable or uninhabitable;

g. that the boundary between public land (tidelands) and private lands may shift with rising seas, the structure may eventually be located on lands impressed with public trust interest , the approval does not permit development to be located on such lands, any development that comes to be located on such lands must be removed unless the Coastal Commission determines that the encroachment is legally permissible pursuant to the Coastal Act and authorizes it to remain, and any future encroachment would also be subject to the State Lands Commission's (or other trustee agency's) leasing approval; and

h. that the structure may be required to be removed or relocated and the site restored, at the property owner's expense, if it becomes unsafe for occupancy or use due to coastal hazards, including as outlined above; when coastal hazards would necessitate construction of a shoreline protection structure to ensure safe occupancy of the development, and/or as part of the shoreline protection

structure repair/maintenance if the development is not permitted to obtain shoreline protection; or in response to certain defined triggers identified in the LCLUP and Implementation Programs and/or as identified by the terms and conditions of the CDP.

CR-I-22 **MHTL and Avoidance of Public Trust Lands.** Applications for low-lying development adjacent to coastal waters shall include a Mean High Tide Line (MHTL) survey of the development site prepared by a licensed professional land surveyor based on field data collected within 12 months of the application submittal (may be based on City monitoring survey data if collected by a licensed professional land surveyor). The survey shall be conducted in consultation with and approved by the California State Lands Commission (CSLC) staff. Development shall be sited to avoid public trust lands for the approved duration of the project, unless otherwise authorized by the California State Lands Commission and California Coastal Commission. The City shall conduct new MHTL surveys every ten years or within one year of a new tidal datum epoch (an epoch is a 19-year tidal cycle used to calculate datums), seismic event in the project area greater than 5.5 magnitude, or significant relative rise in annual local mean sea level records.

CR-I-23 **Bluff Face Development.** Development on bluff faces is prohibited, except for the following:

- Native bluff landscaping; public recreational access improvements (e.g. stairways, paths, overlooks, ramps, etc.) and critical public infrastructure (e.g. public roads, public utility infrastructure, etc.) where no feasible alternative means of providing such improvements/infrastructure exists; and
- Shoreline protection structures if otherwise allowed by the LCP and the public access and recreation policies of the Coastal Act. Such shoreline protection structures shall be designed and constructed to be visually compatible with the surrounding area to the maximum extent feasible, to minimize effects on erosion of the bluff face, and to avoid (and where unavoidable to minimize and to mitigate) coastal resource impacts to the maximum extent feasible.

CR-I-24 **Minor Development in Shoreline Areas**. Minor and/or ancillary development, including public trails, benches, gazebos, patios, etc., may be located seaward of a bluff or shoreline setback line provided that development is otherwise consistent with the LCP, does not create a hazard, does not use a foundation that can serve as a bluff retaining device, such as caissons, or that requires landform alteration, and that the development is removed or relocated by the landowner when threatened or in the event that portions of the development fall to the bluffs, beach or ocean.

CR-I-25 **Substantial Structural Modifications.** When proposed modifications to a structure constitute a Substantial Structural Modification (SSM), as defined, such proposed development shall correct any existing legal nonconformities and shall be undertaken consistent with the LCP and the Coastal Act, including but not limited to Policies CR-I-19 and CR-I-20. Nonconformities related to non-coastal resource issues may be maintained at

the discretion of the decision-making body so long as they do not lead to significant impacts to coastal resources.

CR-I-26 **Protection of Private Property in Hazardous Areas.** Where full adherence with all LCP policies, including for setbacks and other Coastal Resilience and Natural Hazard avoidance measures, would preclude a reasonable economic use of the property as a whole, the City may allow the minimum economic use and/or development of the property necessary to avoid an unconstitutional taking of private property without just compensation. There is no taking that needs to be avoided if the proposed development constitutes a nuisance or is otherwise prohibited pursuant to other background principles of property law (e.g., public trust doctrine). If development is allowed pursuant to this policy, it must be consistent with all LCP policies to the maximum extent feasible.

CR-I-27 **Habitat Sea Level Rise Migration Buffers.** A sea level rise buffer area shall be added to required habitat buffers if necessary to allow for the migration of wetlands and other coastal habitats caused by sea level rise over the anticipated life of the development. Habitats include all wetlands, riparian, intertidal/shoreline and terrestrial environmentally sensitive habitat areas (ESHAs) as defined by the Coastal Act. The sea level rise projection considered shall be determined based on the type of development and current State guidance. Except for temporary uses, as described below, uses and development within sea level rise buffer areas shall be limited to minor passive recreational uses, with fencing, de-siltation or erosion control facilities, or other improvements deemed necessary to protect the habitat, to be located in the upper (upland) half of the buffer area. Water quality features such as drainage swales required to support development shall not be constructed in wetland buffers. Temporary uses may also be placed in the sea level rise buffer area until such time as sea level rise causes the wetlands or other coastal habitat to migrate to within 100 feet of the temporary uses, at which time, they shall be removed. All habitat and buffers identified shall be permanently conserved or protected through a deed restriction, open space easement, or other suitable device.

CR-I-28 **Stormwater and Dry Weather Flows.** development shall provide adequate drainage and erosion control facilities that convey site drainage in a non-erosive manner to minimize hazards resulting from increased runoff and erosion. Runoff shall be directed inland to the storm drain system or to an existing outfall, when feasible. If no storm drain system or existing outfall is present, blufftop runoff shall not be channelized or directed over bluffs and/or to the beach or the ocean.

CR-I-29 **Subdivision Limitations.** Prohibit the division of shoreline property that creates hazardous or unbuildable parcels due to erosion, bluff failure, wave run-up, flooding and other coastal hazards for at least 100 years without shoreline protection, considering projected sea level rise and other climate change effects to be determined from best available science and current guidance at the time of approval of the proposed development. Only allow new lots to be created if they can be developed without ever requiring shoreline protection for the development.

6.8 SHORELINE PROTECTION STRUCTURE STANDARD POLICIES

Implementing Policies

CR-I-30 **Soft Shoreline Protection.** Encourage the use of soft or natural shoreline protection methods, such as dune restoration and beach/sand nourishment as alternatives to hard shoreline protection structures, such as revetments or sea walls. Soft shoreline protection devices shall be fully evaluated for coastal resource impacts. Consider combining beach replenishment with groin construction to maintain beaches and protect development.

CR-I-31 **Existing Shoreline Protection Structures.** Legally permitted shoreline protection structures may be repaired and maintained, as supported by Section 30235 of the Coastal Act, subject to all coastal development permit requirements (including those associated with the construction of the structure and/or prior repair and maintenance episodes) until the development they are protecting is removed or redeveloped pursuant to the definition of a Substantial Structural Modification (SSM) or no longer requires shoreline protection structures, at which time the shoreline protection structure shall be reevaluated for consistency with the LCP, removed if no longer necessary and/or if found to be inconsistent with the LCP by the reevaluation, and the area restored. Activities considered "repair and maintenance" shall not result in any enlargement or modification to the shoreline protection structure, or any replacement of materials in excess of 50%, or any seaward encroachment or impairment of public trust resources, shall provide mitigation for any new coastal resource impacts not previously or otherwise mitigated, including through the City's Shoreline Adaptation–Program (CR-I-5), Coastal Access and Resilience Program (CR-I-44), and/or Policy CR-I-34, shall minimize impacts, and must be found to be the least environmentally damaging feasible alternative. Modifications to existing shoreline protection structures which fall within the limitations of an exclusion contained in the definition of Substantial Structural Modification shall be considered to be allowed without the above-mentioned considerations.

CR-I-32 **New Shoreline Protection Structures.** Shoreline protection structures, including revetments, breakwaters, groins, seawalls, cliff retaining walls, deep piers and caissons, and other such construction that alters natural shoreline processes shall only be permitted if consistent with Section 30235 of the Coastal Act, and only when required to serve coastal-dependent uses or protect existing structures (including existing critical infrastructure) or public beaches in danger from coastal hazards, when there is no less environmentally damaging feasible alternative and when designed to avoid, and where unavoidable, minimize to the maximum extent feasible adverse impacts on local shoreline sand supply and other coastal resources, where unavoidable coastal resource impacts are required to be commensurately mitigated.

CR-I-33 **Authorization Limits of Shoreline Protection Structures.** Shoreline protection structures shall only be authorized until the time when the structure protected by such shoreline protection structure: 1) is/are no longer present, or 2) no longer require(s) armoring, or 3) is redeveloped pursuant to the definition of a Substantial Structural Modification (SSM).

CR-I-34 **Mitigating Impacts of New Shoreline Protection Structures.** New or reconstructed shoreline protection structures shall be sited and designed to avoid sensitive resources to the maximum extent feasible. Adverse coastal resource impacts shall be avoided, and where unavoidable shall be minimized and fully mitigated, including impacts on sand supply, beach area, public access (vertical access to the shore and horizontal access along the shore and blufftop) and recreational use (surfing, fishing, hiking, etc.), public trust lands and values, ecological function, water quality, shoreline aesthetics, and cultural resources. At a minimum, new shoreline protection structures shall:

- blend with the natural environment;
- avoid significant habitat areas;
- minimize encroachment/footprint;
- protect, and where feasible, provide public access; and
- control erosion from surface and groundwater flows.

Mitigation options shall include consideration of providing equivalent new public access, recreation, habitat or other coastal resources in the vicinity of the project, or if such options are not feasible, proportional in-lieu fees that consider and reflect, to the maximum extent practicable, the full value of impacted and/or lost resources for the authorization period of the project. Any fees shall be deposited in an interest-bearing account held by the City of Pacifica for use within the City Limits for mitigation of the specific impact identified in the project approval. This policy may be met through compliance with the City's Shoreline Adaptation Program (CR-I-5) or Coastal Access and Resilience Program (CR-I-44).

CR-I-35 **Monitoring Plan for New Shoreline Protection Structures.** Proposals for new, redeveloped/augmented or repaired shoreline protection structures shall include a monitoring plan that evaluates the condition of the shoreline protection structure, conditions at the site and surrounding area, and whether the shoreline protection structure is still needed for protection. The plan shall require an inspection at least every five years to identify:

- Any structural damage and need for repair;
- Environmental impacts, including excessive scour, impacts to shoreline processes and beach width (at the project site and the broader area and/or littoral cell as feasible), and impacts to public access and the availability of public trust lands for public use; and
- The status of the existing structure being protected.
- The monitoring plan shall also be updated to at a minimum include any specific requirements associated with coastal permit approval.

At least every 15 years the landowner shall submit a new Mean High Tide Line (MHTL) survey of the subject property based on field data collected within 12 months of the date submitted. Surveys shall comply with Coastal Resilience Policy CR-I-44.

CR-I-36 **Emergency Shoreline Protection Structures.** In cases of emergency, an emergency shoreline protection structure may only be approved on a temporary basis, and only under the condition that the structure is required to be removed unless a regular CDP is approved for

retention of the structure. In such cases, a complete CDP application shall be required to be submitted within 90 days following construction of the temporary emergency shoreline protective structure, unless an alternate deadline is authorized by the Planning Director for good cause, including continued good faith efforts toward submittal of such application. Any such temporary emergency shoreline protective structure shall be sited and designed to be the minimum necessary to abate the identified emergency, and to be as consistent as possible with all LCP shoreline protective structure standards, including in terms of avoiding coastal resource impacts to the maximum possible extent. Mitigation for impacts will be required through the regular CDP process, including mitigation commensurate with the duration of impacts caused by the emergency temporary structure. The City shall notify the Executive Director upon receipt of a request for an emergency shoreline protective structure within the City's CDP jurisdiction.

CR-I-37 **Sharp Park Golf Course.** Strongly support the City and County of San Francisco's ability to provide public access along the coast, protect Environmentally Sensitive Habitat Area, and provide flood protection.

SPECIAL SHORELINE RESILIENCY AREAS

The Special Shoreline Resiliency Areas (SSRA) include the existing shoreline protection structures in the Rockaway and West Sharp Park sub-areas. The existing shoreline protection structures protect a mix of unified coastal access, including coastal access points and trails; public infrastructure, including sidewalks, roads, water, and sewer; electrical utilities; and public parking, both on- and off-street. The unique circumstances in Rockaway Beach and West Sharp Park warrant a unique policy approach. The purpose of modifying policies applicable to this area is to allow ongoing reliance on the existing shoreline protection structures and allow ongoing provision of public services, and protection of robust coastal access for all persons including persons with disabilities within a Special Shoreline Resiliency Area (SSRA). The two SRA locations are identified in Figure 6-3 and 6-4.

CR-I-38 **Public Infrastructure along the shoreline in Special Shoreline Resilience Areas**. Public infrastructure (e.g., public roads, sidewalks, parking areas, accessways, water and sewer infrastructure) on the immediate oceanfront of the Special Shoreline Resilience Areas mapped in Figures 6-3 and 6-4 shall be consistent with all LCP provisions except that, to establish the safety and stability of the proposed development, such development may rely on a shoreline protection structure that is existing at the time of the application and/or that is proposed in the same permit application as the infrastructure itself.

CR-I-39 **Development directly inland of public infrastructure in Special Shoreline Resilience Areas**. Notwithstanding Policy CR-I-2, development located directly inland of the public infrastructure on the immediate oceanfront of the Special Shoreline Resilience Areas mapped in Figures 6-3 and 6-4 may rely on a shoreline protection structure in that area that is existing at the time of the permit application to help demonstrate that its setbacks meet the requirements of Policies CR-I-19 and CR-I-20. In addition to meeting the requirements of Policy CR-I-21, such development shall be conditioned to require the applicant to acknowledge that the development's long-term safety may be based in part on shoreline protection structures located seaward of the development, which may or may not be effective, and/or be maintained, and/or be present in the future.

CR-I-40 **Armoring in Special Shoreline Resilience Areas.** In the Special Shoreline Resilience Areas mapped in Figures 6-3 and 6-4, repair and maintenance, enhancement, realignment, and redevelopment/replacement of a shoreline protection structure that is existing at the time of the permit application, including minor extensions in order to fill gaps or otherwise ensure the overall shoreline protection structure is effective may be approved when required to protect public infrastructure (e.g., public roads, sidewalks, parking areas, accessways, water and sewer infrastructure) on the immediate oceanfront of the Special Shoreline Resilience Areas mapped in Figures 6-3 and 6-4. Such shoreline protection structure must comply with all relevant LCP policies except that it may be approved regardless of whether such shoreline protection structure is required to protect a coastal dependent use, a public beach in danger of erosion, or a structure that qualifies as an "existing structure" within the meaning of Coastal Act Section 30235. Any such shoreline protection structure shall incorporate public access elements into its design, be the least environmentally damaging feasible design, and improve coastal resource conditions relative to conditions that exist at the time of permit approval (examples of improved conditions could include restoring intertidal habitat, enhancing public access, having a smaller footprint than a shoreline protection structure that already lawfully exists, enhancing scenic and visual qualities of the area).

CR-I-41 **Effective date of Policies CR-I-38, 39, and 40**. Policies CR-I-38, CR-I-39, and CR-I-40 shall only be of force and effect when and if, as determined by the Coastal Commission's Executive Director:

- In accordance with Policy CR-I-44, the initial Coastal Access and Resilience Program is developed and submitted for Commission review, and
- In accordance with Policy CR-I-5, the development of the Shoreline Adaptation Program has been initiated, including, at a minimum, that the City has developed a public engagement plan, workplan, timeline, and identified funding for completion of the technical studies and planning work.

CR-I-42 **Suspension of Policies CR-I-38, CR-I-39, CR-I-40.** Policies CR-I-38, CR-I-39, and CR-I-40 shall be suspended, and shall have no further force and effect during the period of suspension, upon the occurrence of any of the following conditions, as determined by the Coastal Commission's Executive Director:

- In accordance with Policy CR-I-44, if:
    - the Coastal Access and Resilience Program is not certified by the Commission within 15 months of acceptance of the LCP amendment for filing as identified in Policy CR-I-41, or
    - any of the CDP applications that are required every 5 years to implement projects are not submitted in complete form, or
    - any of the projects required in the Coastal Access and Resilience Program are not developed/implemented.
- In accordance with Policy CR-I-5, if:

- The City has not completed the technical studies to accomplish part (a) of the Shoreline Adaptation Program within 6 years of effective certification of the Land Use Plan Amendment that created the requirement for the Shoreline Adaptation Program (i.e., created Policy CR-I-5), or
- The City has not prepared a Draft Shoreline Adaptation Program within 8 years of effective certification of the LUPA that created the requirement for the Shoreline Adaptation Program, or
- The Coastal Commission has not certified a Final Shoreline Adaptation Program within 10 years of effective certification of the LUPA that created the requirement for the Shoreline Adaptation Program (i.e., created Policy CR-I-5).

In the event that the Coastal Commission's Executive Director determines that the City has not met one or more of the above conditions, the Executive Director shall provide a preliminary written determination to the City explaining that one or more conditions set forth above have not been met and that suspension of Policies CR-I-38, CR-I-39 and CR-I-40 shall occur after fifteen working days, unless the City submits written objections to the preliminary determination and the Executive Director concurs with the objections. The City may submit to the Executive Director a written notice of objection within seven working days of the date of the preliminary determination. The Executive Director will promptly review and either concur or disagree, in writing, with any objection submitted by the City prior to the fifteenth working day from the date of the preliminary determination. The period of suspension will end, and Policies CR-I-38, CR-I-38 and CR-I-40 will once again become effective, at the beginning of the fifth working day after the Executive Director provides a written determination to the City that all necessary conditions have been satisfied.

CR-I-43 **End Date of Policies CR-I-38, CR-I-39, and CR-I-40.** Additionally, as of January 1, 2045, no new development may rely on Policies CR-I-38, CR-I-39, or CR-I-40, unless the Commission has certified an LCP amendment extending that deadline. As of January 1, 2045 (or such later date as specified in an LCP amendment), development approved based on Policies CR-I-38 and CR-I-39 that relied on a shoreline protection structure to demonstrate safety, stability, and adequate setbacks (including in relation to the requirements of Policies CR-I-19 and CR-I-20) shall become legal nonconforming and, moving forward, a Substantial Structural Modification to such development shall, in accordance with Policy CR-I-25, be required to be consistent with all LCP provisions, including but not limited to Policies CR-I-2, CR-I-19, and CR-I-20 related to setbacks and safety without relying on shoreline protection to establish safety, and Policy CR-I-32 regarding approvable shoreline protection.

CR-I-44 **Coastal Access and Resilience Program.** The City shall develop a Coastal Access and Resilience Program to ensure continued and increased access to the coast, including as sea levels rise. The Program shall include, but is not limited to, methods to maximize public access to and along the coast despite sea level rise and address the coastal resource impacts associated with shoreline protection structures along the City's shoreline, including as required per Policy CR-I-34, and impacts associated with the perpetuation of shoreline protection structures within Special Shoreline Resilience Areas allowed by Policies CR-I-38, CR-I-39, and CR-I-40. The priority for such access benefits and mitigation shall be efforts/projects designed to

maintain and enhance sandy beaches and public access to and along the City's shoreline in a manner that is most protective of coastal resources and general public access utility. The Program shall include, at a minimum, all of the following:

- A prioritized list of public access projects within the City's Coastal Zone that can help maximize access to the coast and serve as required mitigation. Projects shall be organized in terms of expected implementation dates within 5-year increments and shall be developed with full community input. Some opportunities may include enhancement of public recreational access facilities (e.g., pathways, overlooks), removal of existing armoring, nature-based adaptation, beach nourishment, and acquisition/conservation of properties subject to coastal hazards. Potential projects include but are not limited to:
    - Enhanced public pathway system seaward of private development in the Rockaway Beach area.
    - Coordinated vertical accessways, landscaping, benches, picnic tables, bicycle racks, garbage and recycling receptacles, doggie mitt stations, and enhanced signage in the Sharp Park area.
    - The following projects listed in the program: Rockaway to Pacifica State Beach Trail Rehabilitation, Rockaway Beach Parking Structure, Rockaway Parking Area, Beach Boulevard Promenade Park Improvements, Sharp Park Priority Development Area (PDA) Access Pedestrian Improvement project
- A timeline and benchmarks for implementation of identified projects, including measures by which progress and success can be measured over time, as well as necessary monitoring and tracking. At a minimum, projects shall be designed to be implemented in at most 5-year increments.
- Identification and development of a funding mechanism (or mechanisms) sufficient to cover all identified projects. Such mechanisms may include, but are not limited to:
    - Development of a protocol for requiring mitigation for development within Special Shoreline Resiliency Areas that is allowed to rely on existing shoreline protection structures pursuant to CR-I-38 and CR-I-39, thus resulting in continued impacts from that armoring.
    - Formation of a GHAD, CSA, or similar
    - State or Federal grant funding
    - Other funding mechanisms identified for adaptation planning and projects as discussed in Policy CR-I-5

An initial program shall be developed and should be submitted as an amendment to the LCP by 3 years from the date of LUP Update certification. By 5 years from the date of Coastal Commission approval of the initial Coastal Access and Resilience Program (and every subsequent 5 years) the City shall submit a complete CDP application to the Coastal Commission, or where applicable the City itself shall approve projects via City CDPs, to implement projects identified in the Program. The Program shall be monitored, evaluated, updated, and resubmitted as an amendment to the LCP at least every 10 years thereafter.

A POLICIES IN CHAPTER 3 OF THE CALIFORNIA COASTAL ACT

This appendix provides each policy of Chapter 3 of the California Coastal Act of 1976, as amended. These policies form the parameters for planning in the Coastal Zone, and are binding in Pacifica's Coastal Zone. In some cases, policies are not relevant to the specific setting of Pacifica's Coastal Zone. This is noted in *italics* following the policy in question.

The six chapters of this LCLUP each begin with a section called "Coastal Act Framework," where Coastal Act policies that are most applicable to the subject of the chapter are summarized. However, additional policies from this appendix may also apply.

ARTICLE 1: GENERAL

Section 30200 Policies as standards; resolution of policy conflicts

(a)Consistent with the coastal zone values cited in Section 30001 and the basic goals set forth in Section 30001.5, and except as may be otherwise specifically provided in this division, the policies of this chapter shall constitute the standards by which the adequacy of local coastal programs, as provided in Chapter 6 (commencing with Section 30500), and, the permissibility of proposed developments subject to the provisions of this division are determined. All public agencies carrying out or supporting activities outside the coastal zone that could have a direct impact on resources within the coastal zone shall consider the effect of such actions on coastal zone resources in order to assure that these policies are achieved.

(b) Where the commission or any local government in implementing the provisions of this division identifies a conflict between the policies of this chapter, Section 30007.5 shall be utilized to resolve the conflict and the resolution of such conflicts shall be supported by appropriate findings setting forth the basis for the resolution of identified policy conflicts.

ARTICLE 2: PUBLIC ACCESS

Section 30210 Access; recreational opportunities; posting

In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.

Section 30211 Development not to interfere with access

Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.

Section 30212 New development projects

(a) Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where: (1) it is inconsistent with public safety, military security needs, or the protection of fragile coastal resources, (2) adequate access exists nearby, or, (3) agriculture would be adversely affected. Dedicated accessway shall not be required to be opened to public use until a public agency or private association agrees to accept responsibility for maintenance and liability of the accessway.

(b) For purposes of this section, "new development" does not include:

(1) Replacement of any structure pursuant to the provisions of subdivision (g) of Section 30610.

(2) The demolition and reconstruction of a single-family residence; provided, that the reconstructed residence shall not exceed either the floor area, height or bulk of the former structure by more than 10 percent, and that the reconstructed residence shall be sited in the same location on the affected property as the former structure.

(3) Improvements to any structure which do not change the intensity of its use, which do not increase either the floor area, height, or bulk of the structure by more than 10 percent, which do not block or impede public access, and which do not result in a seaward encroachment by the structure.

(4) The reconstruction or repair of any seawall; provided, however, that the reconstructed or repaired seawall is not a seaward of the location of the former structure.

(5) Any repair or maintenance activity for which the commission has determined, pursuant to Section 30610, that a coastal development permit will be required unless the commission determines that the activity will have an adverse impact on lateral public access along the beach.

As used in this subdivision "bulk" means total interior cubic volume as measured from the exterior surface of the structure.

(c) Nothing in this division shall restrict public access nor shall it excuse the performance of duties and responsibilities of public agencies which are required by Sections 66478.1 to 66478.14, inclusive, of the Government Code and by Section 4 of Article X of the California Constitution.

Section 30212.5 Public facilities; distribution

Wherever appropriate and feasible, public facilities, including parking areas or facilities, shall be distributed throughout an area so as to mitigate against the impacts, social and otherwise, of overcrowding or overuse by the public of any single area.

Section 30213 Lower cost visitor and recreational facilities; encouragement and provision; overnight room rentals

Lower cost visitor and recreational facilities shall be protected, encouraged, and, where feasible, provided. Developments providing public recreational opportunities are preferred.

The commission shall not: (1) require that overnight room rentals be fixed at an amount certain for any privately owned and operated hotel, motel, or other similar visitor-serving facility located on either public or private lands; or (2) establish or approve any method for the identification of low or moderate income persons for the purpose of determining eligibility for overnight room rentals in any such facilities.

Section 30214 Implementation of public access policies; legislative intent

(a) The public access policies of this article shall be implemented in a manner that takes into account the need to regulate the time, place, and manner of public access depending on the facts and circumstances in each case including, but not limited to, the following:

(1) Topographic and geologic site characteristics.

(2) The capacity of the site to sustain use and at what level of intensity.

(3) The appropriateness of limiting public access to the right to pass and repass depending on such factors as the fragility of the natural resources in the area and the proximity of the access area to adjacent residential uses.

(4) The need to provide for the management of access areas so as to protect the privacy of adjacent property owners and to protect the aesthetic values of the area by providing for the collection of litter.

(b) It is the intent of the Legislature that the public access policies of this article be carried out in a reasonable manner that considers the equities and that balances the rights of the individual property owner with the public's constitutional right of access pursuant to Section 4 of Article X of the California Constitution. Nothing in this section or any amendment thereto shall be construed as a limitation on the rights guaranteed to the public under Section 4 of Article X of the California Constitution.

(c) In carrying out the public access policies of this article, the commission and any other responsible public agency shall consider and encourage the utilization of innovative access management techniques, including, but not limited to, agreements with private organizations which would minimize management costs and encourage the use of volunteer programs.

ARTICLE 3: RECREATION

Section 30220 Protection of certain water-oriented activities

Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas shall be protected for such uses.

Section 30221 Oceanfront land; protection for recreational use and development

Oceanfront land suitable for recreational use shall be protected for recreational use and development unless present and foreseeable future demand for public or commercial recreational activities that could be accommodated on the property is already adequately provided for in the area.

Section 30222 Private lands; priority of development purposes

The use of private lands suitable for visitor-serving commercial recreational facilities designed to enhance public opportunities for coastal recreation shall have priority over private residential, general industrial, or general commercial development, but not over agriculture or coastal-dependent industry.

Section 30222.5 Oceanfront lands; aquaculture facilities; priority

Oceanfront land that is suitable for coastal dependent aquaculture shall be protected for that use, and proposals for aquaculture facilities located on those sites shall be given priority, except over other coastal dependent developments or uses.

No oceanfront land has been identified as suitable for aquaculture in the Pacifica Coastal Zone.

Section 30223 Upland areas

Upland areas necessary to support coastal recreational uses shall be reserved for such uses, where feasible.

Section 30224 Recreational boating use; encouragement; facilities

Increased recreational boating use of coastal waters shall be encouraged, in accordance with this division, by developing dry storage areas, increasing public launching facilities, providing additional berthing space in existing harbors, limiting non-water-dependent land uses that congest access corridors and preclude boating

support facilities, providing harbors of refuge, and by providing for new boating facilities in natural harbors, new protected water areas, and in areas dredged from dry land.

ARTICLE 4: MARINE ENVIRONMENT

Section 30230 Marine resources; maintenance

Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

Section 30231 Biological productivity; water quality

The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface waterflow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

Section 30232 Oil and hazardous substance spills

Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur.

Section 30233 Diking, filling or dredging; continued movement of sediment and nutrients

(a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:

(l) New or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities.

(2) Maintaining existing, or restoring previously dredged, depths in existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps.

(3) In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities.

(4) Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.

(5) Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas.

(6) Restoration purposes.

(7) Nature study, aquaculture, or similar resource dependent activities.

(b) Dredging and spoils disposal shall be planned and carried out to avoid significant disruption to marine and wildlife habitats and water circulation. Dredge spoils suitable for beach replenishment should be transported for these purposes to appropriate beaches or into suitable longshore current systems.

(c) In addition to the other provisions of this section, diking, filling, or dredging in existing estuaries and wetlands shall maintain or enhance the functional capacity of the wetland or estuary. Any alteration of coastal wetlands identified by the Department of Fish and Game, including, but not limited to, the 19 coastal wetlands identified in its report entitled, "Acquisition Priorities for the Coastal Wetlands of California", shall be limited to very minor incidental public facilities, restorative measures, nature study, commercial fishing facilities in Bodega Bay, and development in already developed parts of south San Diego Bay, if otherwise in accordance with this division.

For the purposes of this section, "commercial fishing facilities in Bodega Bay" means that not less than 80 percent of all boating facilities proposed to be developed or improved, where the improvement would create additional berths in Bodega Bay, shall be designed and used for commercial fishing activities.

(d) Erosion control and flood control facilities constructed on watercourses can impede the movement of sediment and nutrients that would otherwise be carried by storm runoff into coastal waters. To facilitate the continued delivery of these sediments to the littoral zone, whenever feasible, the material removed from these facilities may be placed at appropriate points on the shoreline in accordance with other applicable provisions of this division, where feasible mitigation measures have been provided to minimize adverse environmental effects. Aspects that shall be considered before issuing a coastal development permit for these purposes are the method of placement, time of year of placement, and sensitivity of the placement area.

Section 30234 Commercial fishing and recreational boating facilities

Facilities serving the commercial fishing and recreational boating industries shall be protected and, where feasible, upgraded. Existing commercial fishing and recreational boating harbor space shall not be reduced unless the demand for those facilities no longer exists or adequate substitute space has been provided. Proposed recreational boating facilities shall, where feasible, be designed and located in such a fashion as not to interfere with the needs of the commercial fishing industry.

No commercial fishing or recreational boating facilities exist in the Pacifica Coastal Zone.

Section 30234.5 Economic, commercial, and recreational importance of fishing

The economic, commercial, and recreational importance of fishing activities shall be recognized and protected.

Section 30235 Construction altering natural shoreline

Revetments, breakwaters, groins, harbor channels, seawalls, cliff retaining walls, and other such construction that alters natural shoreline processes shall be permitted when required to serve coastal-dependent uses or to protect existing structures or public beaches in danger from erosion, and when designed to eliminate or mitigate adverse impacts on local shoreline sand supply. Existing marine structures causing water stagnation contributing to pollution problems and fishkills should be phased out or upgraded where feasible.

Section 30236 Water supply and flood control

Channelizations, dams, or other substantial alterations of rivers and streams shall incorporate the best mitigation measures feasible, and be limited to (l) necessary water supply projects, (2) flood control projects where no other method for protecting existing structures in the flood plain is feasible and where such protection is necessary for public safety or to protect existing development, or (3) developments where the primary function is the improvement of fish and wildlife habitat.

ARTICLE 5: LAND RESOURCES

Section 30240 Environmentally sensitive habitat areas; adjacent developments

(a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.

(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.

Section 30241 Prime agricultural land; maintenance in agricultural production

The maximum amount of prime agricultural land shall be maintained in agricultural production to assure the protection of the areas' agricultural economy, and conflicts shall be minimized between agricultural and urban land uses through all of the following:

(a) By establishing stable boundaries separating urban and rural areas, including, where necessary, clearly defined buffer areas to minimize conflicts between agricultural and urban land uses.

(b) By limiting conversions of agricultural lands around the periphery of urban areas to the lands where the viability of existing agricultural use is already severely limited by conflicts with urban uses or where the conversion of the lands would complete a logical and viable neighborhood and contribute to the establishment of a stable limit to urban development.

(c) By permitting the conversion of agricultural land surrounded by urban uses where the conversion of the land would be consistent with Section 30250.

(d) By developing available lands not suited for agriculture prior to the conversion of agricultural lands.

(e) By assuring that public service and facility expansions and nonagricultural development do not impair agricultural viability, either through increased assessment costs or degraded air and water quality.

(f) By assuring that all divisions of prime agricultural lands, except those conversions approved pursuant to subdivision (b), and all development adjacent to prime agricultural lands shall not diminish the productivity of such prime agricultural lands.

No prime agricultural land exists in the Pacifica Coastal Zone.

Section 30241.5 Agricultural land; determination of viability of uses; economic feasibility evaluation

(a) If the viability of existing agricultural uses is an issue pursuant to subdivision (b) of Section 30241 as to any local coastal program or amendment to any certified local coastal program submitted for review and approval under this division, the determination of "viability" shall include, but not be limited to, consideration of an economic feasibility evaluation containing at least both of the following elements:

(1) An analysis of the gross revenue from the agricultural products grown in the area for the five years immediately preceding the date of the filing of a proposed local coastal program or an amendment to any local coastal program.

(2) An analysis of the operational expenses, excluding the cost of land, associated with the production of the agricultural products grown in the area for the five years immediately preceding the date of the filing of a proposed local coastal program or an amendment to any local coastal program.

For purposes of this subdivision, "area" means a geographic area of sufficient size to provide an accurate evaluation of the economic feasibility of agricultural uses for those lands included in the local coastal program or in the proposed amendment to a certified local coastal program.

(b) The economic feasibility evaluation required by subdivision (a) shall be submitted to the commission, by the local government, as part of its submittal of a local coastal program or an amendment to any local coastal program. If the local government determines that it does not have the staff with the necessary expertise to conduct the economic feasibility evaluation, the evaluation may be conducted under agreement with the local government by a consultant selected jointly by local government and the executive director of the commission.

No prime agricultural land exists in the Pacifica Coastal Zone.

Section 30242 Lands suitable for agricultural use; conversion

All other lands suitable for agricultural use shall not be converted to nonagricultural uses unless (l) continued or renewed agricultural use is not feasible, or (2) such conversion would preserve prime agricultural land or concentrate development consistent with Section 30250. Any such permitted conversion shall be compatible with continued agricultural use on surrounding lands.

Section 30243 Productivity of soils and timberlands; conversions

The long-term productivity of soils and timberlands shall be protected, and conversions of coastal commercial timberlands in units of commercial size to other uses or their division into units of noncommercial size shall be limited to providing for necessary timber processing and related facilities.

No timberlands exist in the Pacifica Coastal Zone.

Section 30244 Archaeological or paleontological resources

Where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required.

ARTICLE 6: DEVELOPMENT

Section 30250 Location; existing developed area

(a) New residential, commercial, or industrial development, except as otherwise provided in this division, shall be located within, contiguous with, or in close proximity to, existing developed areas able to accommodate it or, where such areas are not able to accommodate it, in other areas with adequate public services and where it will not have significant adverse effects, either individually or cumulatively, on coastal resources. In addition, land divisions, other than leases for agricultural uses, outside existing developed areas shall be permitted only where 50 percent of the usable parcels in the area have been developed and the created parcels would be no smaller than the average size of surrounding parcels.

(b) Where feasible, new hazardous industrial development shall be located away from existing developed areas.

(c) Visitor-serving facilities that cannot feasibly be located in existing developed areas shall be located in existing isolated developments or at selected points of attraction for visitors.

Section 30251 Scenic and visual qualities

The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.

Section 30252 Maintenance and enhancement of public access

The location and amount of new development should maintain and enhance public access to the coast by (1) facilitating the provision or extension of transit service, (2) providing commercial facilities within or adjoining residential development or in other areas that will minimize the use of coastal access roads, (3) providing nonautomobile circulation within the development, (4) providing adequate parking facilities or providing substitute means of serving the development with public transportation, (5) assuring the potential for public transit for high intensity uses such as high-rise office buildings, and by (6) assuring that the recreational needs of new residents will not overload nearby coastal recreation areas by correlating the amount of development with local park acquisition and development plans with the provision of onsite recreational facilities to serve the new development.

Section 30253 Minimization of adverse impacts

New development shall do all of the following:

(a) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.

(b) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.

(c) Be consistent with requirements imposed by an air pollution control district or the State Air Resources Board as to each particular development.

(d) Minimize energy consumption and vehicle miles traveled.

(e) Where appropriate, protect special communities and neighborhoods that, because of their unique characteristics, are popular visitor destination points for recreational uses.

Section 30254 Public works facilities

New or expanded public works facilities shall be designed and limited to accommodate needs generated by development or uses permitted consistent with the provisions of this division; provided, however, that it is the intent of the Legislature that State Highway Route 1 in rural areas of the coastal zone remain a scenic two-lane road. Special districts shall not be formed or expanded except where assessment for, and provision of, the service would not induce new development inconsistent with this division. Where existing or planned public works facilities can accommodate only a limited amount of new development, services to coastal dependent land use, essential public services and basic industries vital to the economic health of the region, state, or nation, public recreation, commercial recreation, and visitor-serving land uses shall not be precluded by other development.

Section 30254.5 Terms or conditions on sewage treatment plant development; prohibition

Notwithstanding any other provision of law, the commission may not impose any term or condition on the development of any sewage treatment plant which is applicable to any future development that the commission finds can be accommodated by that plant consistent with this division. Nothing in this section modifies the provisions and requirements of Sections 30254 and 30412.

Section 30255 Priority of coastal-dependent developments

Coastal-dependent developments shall have priority over other developments on or near the shoreline. Except as provided elsewhere in this division, coastal-dependent developments shall not be sited in a wetland. When appropriate, coastal-related developments should be accommodated within reasonable proximity to the coastal-dependent uses they support.

ARTICLE 7: INDUSTRIAL DEVELOPMENT

Section 30260 Location or expansion

Coastal-dependent industrial facilities shall be encouraged to locate or expand within existing sites and shall be permitted reasonable long-term growth where consistent with this division. However, where new or expanded coastal-dependent industrial facilities cannot feasibly be accommodated consistent with other policies of this division, they may nonetheless be permitted in accordance with this section and Sections 30261 and 30262 if (1) alternative locations are infeasible or more environmentally damaging; (2) to do otherwise would adversely affect the public welfare; and (3) adverse environmental effects are mitigated to the maximum extent feasible.

No coastal-dependent industry exists in the Pacifica Coastal Zone.

Section 30261 Tanker facilities; use and design

Multicompany use of existing and new tanker facilities shall be encouraged to the maximum extent feasible and legally permissible, except where to do so would result in increased tanker operations and associated onshore development incompatible with the land use and environmental goals for the area. New tanker terminals outside of existing terminal areas shall be situated as to avoid risk to environmentally sensitive areas and shall use a monobuoy system, unless an alternative type of system can be shown to be environmentally preferable for a specific site. Tanker facilities shall be designed to (1) minimize the total volume of oil spilled, (2) minimize the risk of collision from movement of other vessels, (3) have ready access to the most effective feasible containment and recovery equipment for oil spills, and (4) have onshore deballasting facilities to receive any fouled ballast water from tankers where operationally or legally required.

No tanker facilities exist in the Pacifica Coastal Zone. Tanker facility development would be incompatible with land use and environmental goals for the area.

Section 30262 Oil and gas development

a) Oil and gas development shall be permitted in accordance with Section 30260, if the following conditions are met:

(1) The development is performed safely and consistent with the geologic conditions of the well site.

(2) New or expanded facilities related to that development are consolidated, to the maximum extent feasible and legally permissible, unless consolidation will have adverse environmental consequences and will not significantly reduce the number of producing wells, support facilities, or sites required to produce the reservoir economically and with minimal environmental impacts.

(3) Environmentally safe and feasible subsea completions are used when drilling platforms or islands would substantially degrade coastal visual qualities unless use of those structures will result in substantially less environmental risks.

(4) Platforms or islands will not be sited where a substantial hazard to vessel traffic might result from the facility or related operations, as determined in consultation with the United States Coast Guard and the Army Corps of Engineers.

(5) The development will not cause or contribute to subsidence hazards unless it is determined that adequate measures will be undertaken to prevent damage from such subsidence.

(6) With respect to new facilities, all oilfield brines are reinjected into oil-producing zones unless the Division of Oil and Gas, Geothermal Resources of the Department of Conservation determines to do so would adversely affect production of the reservoirs and unless injection into other subsurface zones will
reduce environmental risks. Exceptions to reinjections will be granted consistent with the Ocean Waters Discharge Plan of the State Water Resources Control Board and where adequate provision is made for the elimination of petroleum odors and water quality problems.

(7)(A) All oil produced offshore California shall be transported onshore by pipeline only. The pipelines used to transport this oil shall utilize the best achievable technology to ensure maximum protection of public health and safety and of the integrity and productivity of terrestrial and marine ecosystems.

(B) Once oil produced offshore California is onshore, it shall be transported to processing and refining facilities by pipeline.

(C) The following guidelines shall be used when applying subparagraphs (A) and (B):

(i) "Best achievable technology," means the technology that provides the greatest degree of protection taking into consideration both of the following:

(I) Processes that are being developed, or could feasibly be developed, anywhere in the world, given overall reasonable expenditures on research and development.

(II) Processes that are currently in use anywhere in the world. This clause is not intended to create any conflicting or duplicative regulation of pipelines, including those governing the transportation of oil produced from onshore reserves.

(ii) "Oil" refers to crude oil before it is refined into products, including gasoline, bunker fuel, lubricants, and asphalt. Crude oil that is upgraded in quality through residue reduction or other means shall be transported as provided in subparagraphs (A) and (B).

(iii) Subparagraphs (A) and (B) shall apply only to new or expanded oil extraction operations. "New extraction operations" means production of offshore oil from leases that did not exist or had never produced oil, as of January 1, 2003, or from platforms, drilling island, subsea completions, or onshore drilling sites, that did not exist as of January 1, 2003. "Expanded oil extraction" means an increase in the geographic extent of existing leases or units, including lease boundary adjustments, or an increase in the number of well heads, on or after January 1, 2003.

(iv) For new or expanded oil extraction operations subject to clause (iii), if the crude oil is so highly viscous that pipelining is determined to be an infeasible mode of transportation, or where there is no feasible access to a pipeline, shipment of crude oil may be permitted over land by other modes of transportation, including trains or trucks, which meet all applicable rules and regulations, excluding any waterborne mode of transport.

(8) If a state of emergency is declared by the Governor for an emergency that disrupts the transportation of oil by pipeline, oil may be transported by a waterborne vessel, if authorized by permit, in the same manner as required by emergency permits that are issued pursuant to Section 30624.

(9) In addition to all other measures that will maximize the protection of marine habitat and environmental quality, when an offshore well is abandoned, the best achievable technology shall be used.

b) Where appropriate, monitoring programs to record land surface and near-shore ocean floor movements shall be initiated in locations of new large-scale fluid extraction on land or near shore before operations begin and shall continue until surface conditions have stabilized. Costs of monitoring and mitigation programs shall be borne by liquid and gas extraction operators.

c) Nothing in this section shall affect the activities of any state agency that is responsible for regulating the extraction, production, or transport of oil and gas.

No known oil or gas fields exist in or adjacent to the Pacifica Coastal Zone.

Section 30263 Refineries or petrochemical facilities

(a) New or expanded refineries or petrochemical facilities not otherwise consistent with the provisions of this division shall be permitted if (1) alternative locations are not feasible or are more environmentally damaging; (2) adverse environmental effects are mitigated to the maximum extent feasible; (3) it is found that not permitting such development would adversely affect the public welfare; (4) the facility is not located in a highly scenic or seismically hazardous area, on any of the Channel Islands, or within or contiguous to environmentally sensitive areas; and (5) the facility is sited so as to provide a sufficient buffer area to minimize adverse impacts on surrounding property.

(b) New or expanded refineries or petrochemical facilities shall minimize the need for once-through cooling by using air cooling to the maximum extent feasible and by using treated waste waters from inplant processes where feasible.

Section 30264 Thermal electric generating plants

Notwithstanding any other provision of this division, except subdivisions (b) and (c) of Section 30413, new or expanded thermal electric generating plants may be constructed in the coastal zone if the proposed coastal site has been determined by the State Energy Resources Conservation and Development Commission to have greater relative merit pursuant to the provisions of Section 25516.1 than available alternative sites and related facilities for an applicant's service area which have been determined to be acceptable pursuant to the provisions of Section 25516.

Section 30265 Legislative findings and declarations; offshore oil transportation

The Legislature finds and declares all of the following:

(a) Transportation studies have concluded that pipeline transport of oil is generally both economically feasible and environmentally preferable to other forms of crude oil transport.

(b) Oil companies have proposed to build a pipeline to transport offshore crude oil from central California to southern California refineries, and to transport offshore oil to out-of-state refiners.

(c) California refineries would need to be retrofitted if California offshore crude oil were to be used directly as a major feedstock. Refinery modifications may delay achievement of air quality goals in the southern California air basin and other regions of the state.

(d) The County of Santa Barbara has issued an Oil Transportation Plan which assesses the environmental and economic differences among various methods for transporting crude oil from offshore California to refineries.

(e) The Governor should help coordinate decisions concerning the transport and refining of offshore oil in a manner that considers state and local studies undertaken to date, that fully addresses the concerns of all affected regions, and that promotes the greatest benefits to the people of the state.

No known offshore oil or gas fields exist in or adjacent to the Pacifica Coastal Zone.

Section 30265.5 Governor or designee; coordination of activities concerning offshore oil transport and refining; duties

(a) The Governor, or the Governor's designee, shall coordinate activities concerning the transport and refining of offshore oil. Coordination efforts shall consider public health risks, the ability to achieve short- and long-term air emission reduction goals, the potential for reducing California's vulnerability and dependence on oil imports, economic development and jobs, and other factors deemed important by the Governor, or the Governor's designees.

(b) The Governor, or the Governor's designee, shall work with state and local agencies, and the public, to facilitate the transport and refining of offshore oil in a manner which will promote the greatest public health and environmental and economic benefits to the people of the State.

(c) The Governor, or the Governor's designee, shall consult with any individual or organization having knowledge in this area, including, but not limited to, representatives from the following:

(1) State Energy Resources Conservation and Development Commission

(2) State Air Resources Board

(3) California Coastal Commission

(4) Department of Fish and Game

(5) State Lands Commission

(6) Public Utilities Commission

(7) Santa Barbara County

(8) Santa Barbara County Air Pollution Control District

(9) Southern California Association of Governments

(10) South Coast Air Quality Management Districts

(11) Oil industry

(12) Public interest groups

(13) United States Department of the Interior

(14) United States Department of Energy

(15) United States Environmental Protection Agency

(16) National Oceanic and Atmospheric Administration

(17) United States Coast Guard

(d) This act is not intended, and shall not be construed, to decrease, duplicate, or supersede the jurisdiction, authority, or responsibilities of any local government, or any state agency or commission, to discharge its responsibilities concerning the transportation and refining of oil. (Added by Ch. 1398, Stats. 1984.)

No known offshore oil or gas fields exist in or adjacent to the Pacifica Coastal Zone.

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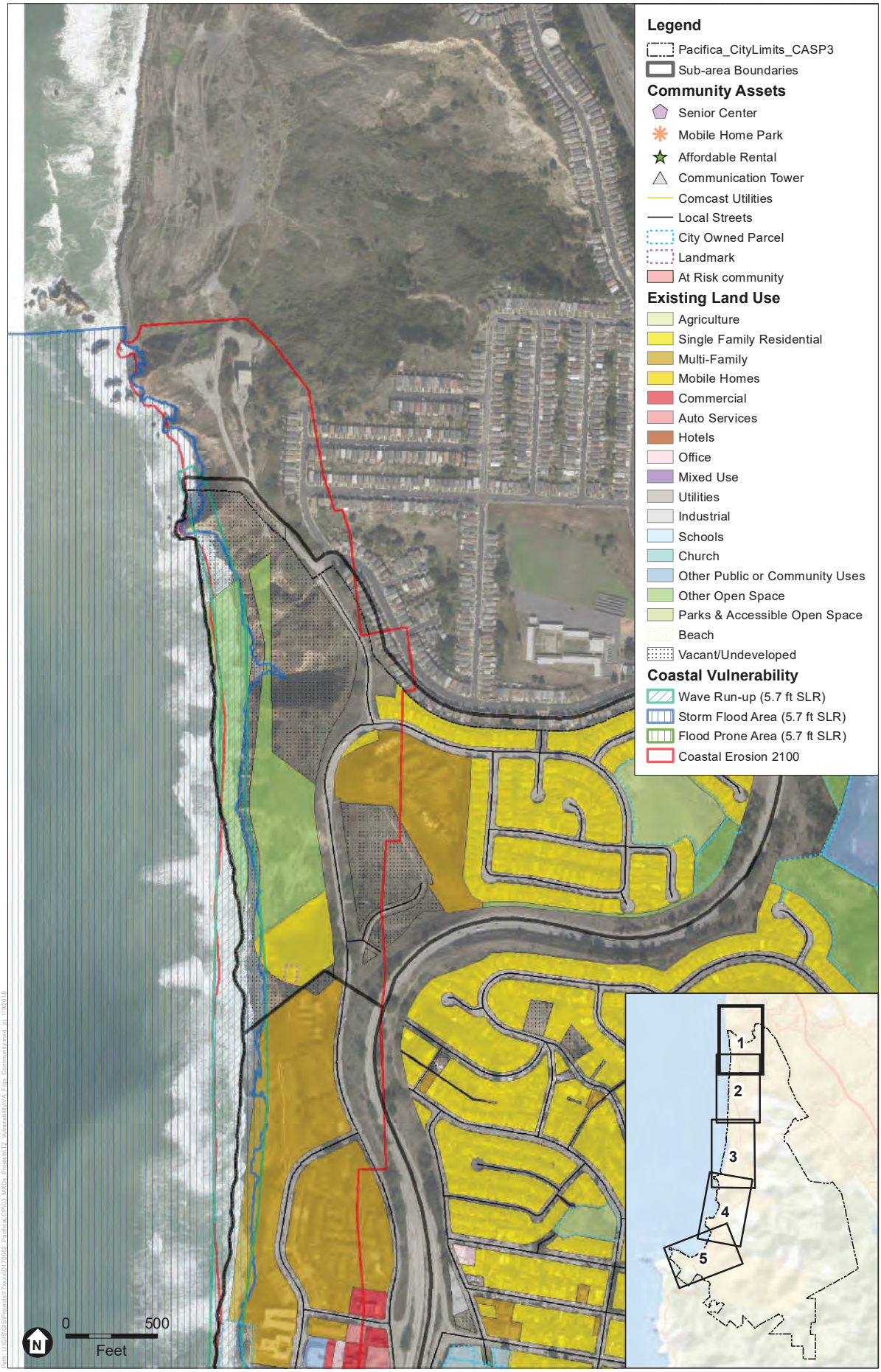
B COASTAL VULNERABILITY ZONE MAPS

This chapter provides maps which define areas identified in the Vulnerability Assessment as having the potential for erosion and/or coastal flooding under the medium-high sea level rise scenario for year 2100.



SOURCE: San Mateo County 2017 Imagery; City of Pacific and SMC Assets (2017); Pacific Institute Erosion (2009); OCOF Coastal Flooding (2014)

Disclaimer: The Coastal Vulnerability Zone (CVZ) maps utilized the best available data at the time of preparation. The erosion scenario does not account for existing shoreline protection structures. This information is continually evolving and the maps reflect a long planning horizon recognizing typical design life of structures. Updated models and site-specific analysis may identify that the respective CVZs may have shifted to include more or less area. CVZ maps are not detailed to the parcel-scale and should not be used for real estate, financing, or insurance transactions, or other uses such as navigation, permitting, or regulatory uses. To confirm vulnerability potential, further studies should be performed for CVZs. CVZ projections were sourced from publicly available data and existing models not created by the City of Pacifica.

ESA

Appendix B-1
Coastal Vulnerability Zone Sub-area
Fairmont West

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SOURCE: San Mateo County 2017 Imagery; City of Pacific and SMC Assets (2017); Pacific Institute Erosion (2009); OCOF Coastal Flooding (2014)

Disclaimer: The Coastal Vulnerability Zone (CVZ) maps utilized the best available data at the time of preparation. The erosion scenario does not account for existing shoreline protection structures. This information is continually evolving and the maps reflect a long planning horizon recognizing typical design life of structures. Updated models and site-specific analysis may identify that the respective CVZs may have shifted to include more or less area. CVZ maps are not detailed to the parcel-scale and should not be used for real estate, financing, or insurance transactions, or other uses such as navigation, permitting, or regulatory uses. To confirm vulnerability potential, further studies should be performed for CVZs. CVZ projections were sourced from publicly available data and existing models not created by the City of Pacifica.

ESA

Appendix B-2
Coastal Vulnerability Zone
West Edgemar and Pacific Manor
Northwest Sharp Park

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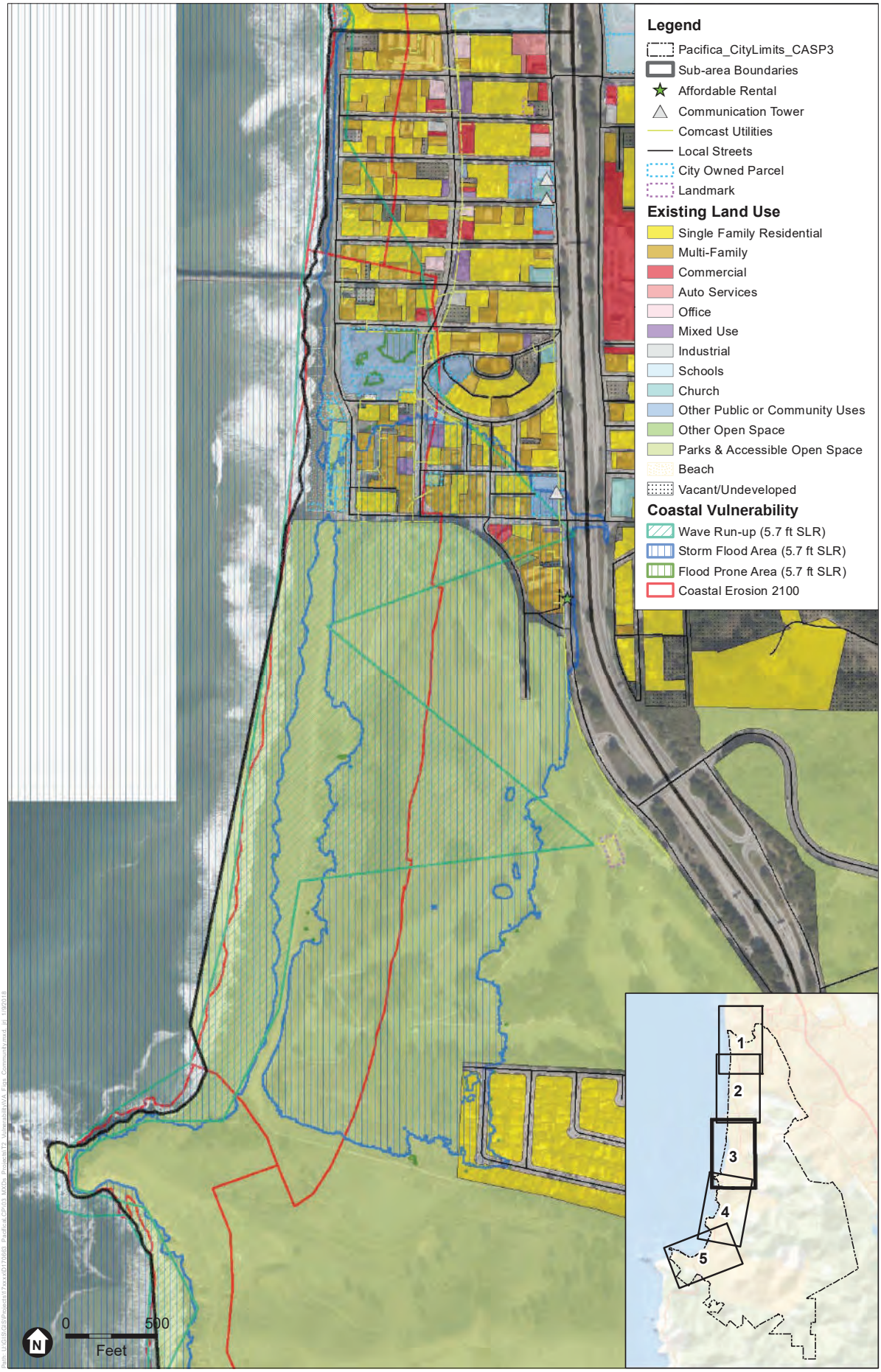
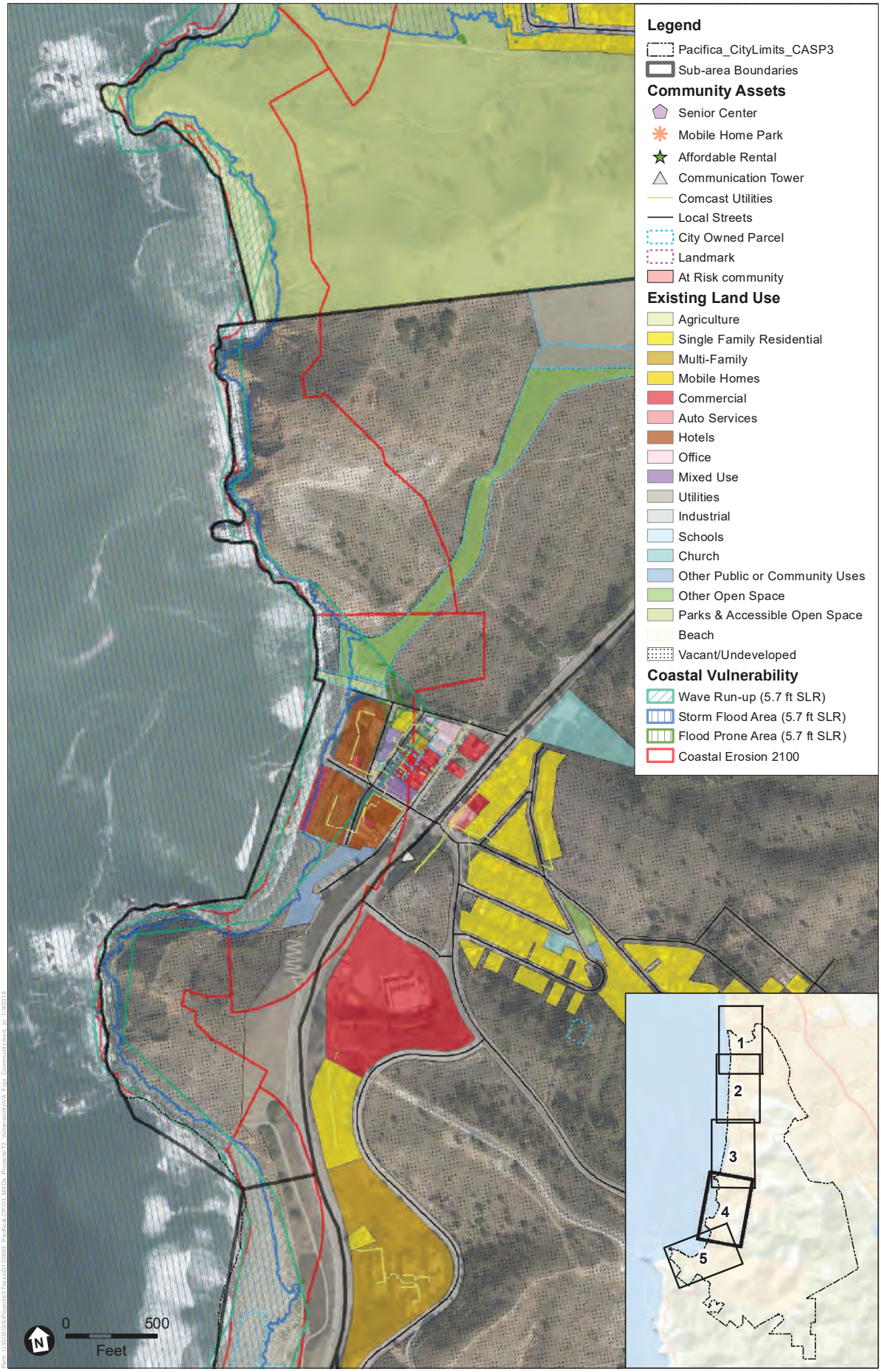


SOURCE: San Mateo County 2017 Imagery; City of Pacific and SMC Assets (2017); Pacific Institute Erosion (2009); OCOF Coastal Flooding (2014)

Disclaimer: The Coastal Vulnerability Zone (CVZ) maps utilized the best available data at the time of preparation. The erosion scenario does not account for existing shoreline protection structures. This information is continually evolving and the maps reflect a long planning horizon recognizing typical design life of structures. Updated models and site-specific analysis may identify that the respective CVZs may have shifted to include more or less area. CVZ maps are not detailed to the parcel-scale and should not be used for real estate, financing, or insurance transactions, or other uses such as navigation, permitting, or regulatory uses. To confirm vulnerability potential, further studies should be performed for CVZs. CVZ projections were sourced from publicly available data and existing models not created by the City of Pacifica.



SOURCE: San Mateo County 2017 Imagery; City of Pacific and SMC Assets (2017); Pacific Institute Erosion (2009); OCOF Coastal Flooding (2014)

Disclaimer: The Coastal Vulnerability Zone (CVZ) maps utilized the best available data at the time of preparation. The erosion scenario does not account for existing shoreline protection structures. This information is continually evolving and the maps reflect a long planning horizon recognizing typical design life of structures. Updated models and site-specific analysis may identify that the respective CVZs may have shifted to include more or less area. CVZ maps are not detailed to the parcel-scale and should not be used for real estate, financing, or insurance transactions, or other uses such as navigation, permitting, or regulatory uses. To confirm vulnerability potential, further studies should be performed for CVZs. CVZ projections were sourced from publicly available data and existing models not created by the City of Pacifica.

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SOURCE: San Mateo County 2017 Imagery; City of Pacific and SMC Assets (2017); Pacific Institute Erosion (2009); OCOF Coastal Flooding (2014)

Disclaimer: The Coastal Vulnerability Zone (CVZ) maps utilized the best available data at the time of preparation. The erosion scenario does not account for existing shoreline protection structures. This information is continually evolving and the maps reflect a long planning horizon recognizing typical design life of structures. Updated models and site-specific analysis may identify that the respective CVZs may have shifted to include more or less area. CVZ maps are not detailed to the parcel-scale and should not be used for real estate, financing, or insurance transactions, or other uses such as navigation, permitting, or regulatory uses. To confirm vulnerability potential, further studies should be performed for CVZs. CVZ projections were sourced from publicly available data and existing models not created by the City of Pacifica.

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Appendix B-5
Coastal Vulnerability Zone Maps
Pacifica State Beach, West Linda Mar, Pedro Point and Shelter Cove

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GLOSSARY

Acronyms

ABAG: Association of Bay Area Governments

BART: Bay Area Rapid Transit

BAWSCA: Bay Area Water Supply and Conservation Agency

BMP: Best Management Practices

CCWRP: Calera Creek Water Recycling Plant

CDF: California Department of Forestry and Fire Protection

CDFG: California Department of Fish and Game

CNDDB: California Natural Diversity Database

CRLF: California Red-Legged Frog

CRSMP: Coastal Regional Sediment Management Plan

CSA: City Service Area

EMS: Emergency Medical Services

ESHA: Environmentally Sensitive Habitat Area

FESA: Federal Endangered Species Act

GGNRA: Golden Gate National Recreation Area

HPD: Hillside Preservation District

LHMP: Local Hazard Mitigation Plan

LID: Low Impact Development

NCCWD: North Coast County Water District

NCFA: North County Fire Authority

NPDES: National Pollutant Discharge Elimination System

RWQCB: State of California Regional Water Quality Control Board

PG&E: Pacific Gas & Electric

SamTrans: San Mateo County Transit District

SCS: Sustainable Communities Strategy

SSM: Substantial Structural Modification

SFGS: San Francisco Garter Snake

SFPUC: San Francisco Public Utilities Commission

SMCWPPP: San Mateo Countywide Water Pollution Prevention Program

TDR: Transfer of Development Rights

USGS: United States Geological Survey

USFWS: United States Fish and Wildlife Service

Definitions

Acre, Gross: Area of a site calculated to the centerline of bounding streets and other public rights-of-way.

Acres, Gross Developable: Area of a site, including proposed public streets and other proposed rights-of-way but excluding areas subject to physical or environmental constraints, which include creek corridors and flood-ways, and areas to be dedicated for greenways or habitat protection.

Anticipated Life: The period over which a development is expected to be usable, with normal repairs and maintenance, for the purpose for which it was designed, typically a minimum of 75-100 years for residential and commercial development and a minimum of 100-150 years for critical infrastructure.

Aquaculture: A form of agriculture as defined in Section 17 of the Fish and Game Code. Aquaculture products are agricultural products, and aquaculture facilities and land uses shall be treated as agricultural facilities and land uses in all planning and permit-issuing decisions governed by this division.

Beach: The expanse of sand, gravel, cobble or other loose material that extends landward from the mean low water line to the place where there is distinguishable change in physiographic form, or to the line of permanent vegetation. The seaward limit of a beach (unless specified otherwise) is the mean low water line. The inland extent of the beach shall be determined as follows:

1) From a distinct linear feature (e.g., a seawall, road, or bluff, etc.);

2) From the inland edge of the further inland beach berm as determined from historical surveys, aerial photographs, and other records or geological evidence; or

3) Where a beach berm does not exist, from the further point separating the dynamic portion of the beach from the inland area as distinguished by vegetation, debris or other geological or historical evidence.

Best Available Science: The most recent peer-reviewed and locally-relevant science reasonably validated by qualified experts in the scientific community, and as may be recommended by the State of California or other authoritative coastal management entity (e.g. NOAA).

Best Management Practices (BMPs): Schedules of activities, prohibitions of practices, operation and maintenance procedures, structural treatment devices, and other management practices to prevent or reduce the conveyance of pollution in stormwater and urban runoff.

Biodiversity: A term used to quantitatively or qualitatively describe the species richness and abundance of plants and animals within an ecosystem.

Bluff/Cliff Edge: The upper termination of a bluff, cliff, or seacliff. In cases where the top edge of the cliff is rounded away from the face of the cliff as a result of erosional processes related to the presence of the steep cliff face, the bluff line or edge shall be defined as that point nearest the cliff beyond which the downward gradient of the surface increases more or less continuously until it reaches the general gradient of the cliff. In a case where there is a steplike feature at the top of the cliff face, the landward edge of the topmost riser shall be taken to be the cliff edge.

Bluff Face: The portion of a bluff between the bluff edge and the toe of the bluff.

Buffer: A buffer is a development setback designed to minimize the disturbance that development may cause in sensitive environments, or to protect development from nuisances or hazards.

Building Footprint: The full horizontal extent of a structure and all attached structures, above or below grade.

Cliff: A high, very steep, perpendicular, or overhanging face of rock.

Coastal Access: The ability of the public to reach, use or view the shoreline of coastal waters or in land coastal recreation areas and trails.

Coastal Bluff: A bluff, the toe of which is now or was historically (generally within the last 200 years) subject to marine erosion or the toe of which lies within an area otherwise identified in Public Resources Code Section 30603(a)(1) or (a)(2).

Coastal Development Permit (CDP): A permit for any development within the coastal zone that is required pursuant to subdivision (a) of Section 30600 of the California Coastal Act.

Coastal-Dependent Development or Use: Any development or use which requires a site on, or adjacent to, the sea in order to function.

Coastal Hazards: Include but are not limited to episodic and long-term shoreline retreat and coastal erosion, high seas, ocean waves, storms, tsunami, tidal scour, wave overtopping, coastal flooding, and their interaction, all of which may be exacerbated by sea level rise.

Coastal-Related Development: Any use that is dependent on a coastal-dependent development or use.

Coastal View Corridors/Viewsheds: An area that is identified as significant for providing public visual access to and along the coast, including but not limited to as mapped in Figure 4-4.

Coastal Vulnerability Zone: The areas shown on the City's maps prepared for the Pacifica SLR Vulnerability Assessment (1/12/2018), incorporated herein, and as may be amended from time-to-time based on updated best available science about projected sea-level rise, erosion, flooding, and other coastal hazards, excluding tsunami inundation and evacuation zones.

Critical Facilities: Includes hospitals and healthcare; emergency shelters; police and fire stations; water supply and wastewater treatment; and energy production facilities.

Critical Habitat Areas: Areas containing features essential for the conservation of species listed under the FESA, and which may require special management and protection outside that which is already provided by FESA. Critical Habitat Areas are designated by the USFWS.

Critical Infrastructure: Includes transportation, such as highways, roads, railroads; water, such as wastewater, stormwater, and water supply infrastructure; electrical; gas; and communication infrastructure.

Cumulative Effects: The incremental effects of an individual project shall be reviewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

Design Life. The design life of a structure is the period of time during which it can still safely meet the demand of its users.

Development: On land, in or under water, the placement or erection of any solid material or structure; discharge or disposal of any dredged material or of any gaseous, liquid, solid, or thermal waste; grading, removing, dredging, mining, or extraction of any materials; change in the density or intensity of use of land, including, but not limited to, subdivision pursuant to the Subdivision Map Act (commencing with Section 66410 of the Government Code), and any other division of land, including lot splits, except where the land division is brought about in connection with the purchase of such land by a public agency for public recreational use; change in the intensity of use of water, or of access thereto; construction, reconstruction, demolition, or alteration of the size of any structure, including any facility of any private, public, or municipal utility; and the removal or harvesting of major vegetation other than for agricultural purposes, kelp harvesting, and timber operations which are in accordance with a timber harvesting plan submitted pursuant to the provisions of the Z'berg-Nejedly Forest Practice Act of 1973 (commencing with Section 4511).

As used in this section, "structure" includes, but is not limited to, any building, road, pipe, flume, conduit, siphon, aqueduct, telephone line, and electrical power transmission and distribution line. In this LCP, 'development' is synonymous with 'new development.'

Dune: Ridges or mounds of loose, wind-blown material usually sand. A dune structure often has a back and foredune area. Stable dunes are often colonized by vegetation.

Easement: A right given by the owner of land to another party for specific limited use of the land. An easement may be acquired by a government through dedication when the purchase of an entire interest in the property may be too expensive or unnecessary; usually needed for utilities or shared parking.

Economic Life (also called "design life" and "expected life"): Period over which a development is expected to be usable, with normal repairs and maintenance, for the purpose for which it was designed.

Energy Facility: Any public or private processing, producing, generating, storing, transmitting, or recovering facility for electricity, natural gas, petroleum, coal, or other source of energy.

Erosion: The process by which material is removed from the earth's surface (including weathering, dissolution, abrasion, and transportation), most commonly by wind or water.

Environmental Justice: The fair treatment and meaningful involvement of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies

Environmentally Sensitive Habitat Area (ESHA): Any area in which plant or animal life or their habitat are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and development (California Public Resources Code Section 30107.5).

Estuary: A coastal water body, usually semi-enclosed by land, having open, partially obstructed, or intermittent exchange with the open ocean, and in which ocean water is at least occasionally diluted by freshwater from the land.

Fault Rupture: The displacement of the earth's surface due to the movement along a fault associated with an earthquake.

Feasible: Capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors.

Fluvial: Produced by the action of a stream.

Fill: Earth or any other substance or material, including pilings placed for the purposes of erecting structures thereon, placed in a submerged area.

Fuel Modification: A fire control strategy that thins vegetative cover within a buffer area surrounding development in order to interrupt continuous paths of fuel and provide defensible space to allow for firefighting operations in case of wildland fire.

Groundwater: Subsurface water occupying the zone of saturation usually found in porous rock strata and soils.

Habitat: The natural environment of a plant or animal.

Headland: A high, steep-faced projection extending into the sea, usually marking an area of fairly stable and rigid landform.

Hillside Preservation District (HPD): A district that overlays Pacifica's base zoning and covers most of the city's ridges and open spaces. The HPD is intended to ensure that development of highly sensitive slopes does not endanger the public or harm the environmental or scenic values of the site, and to encourage high-quality site planning and design that enhances the beauty of the landscape. The District creates more stringent lot coverage limits, based on the average natural slope of the site, and requires submission of development plans, grading plans, and other documentation.

Hydric Soil: A type of soil with characteristics resulting from prolonged saturation and chemically reducing conditions such as occurs under anaerobic conditions.

Hydrology: The dynamic processes of the water within an environment including the sources, timing, amount, and direction of water movement.

Hydrophytic Vegetation: Plants that have adapted to living in aquatic environments. These plants are also called hydrophytes. In wetlands, hydrophytic species occur where at least the root zone of the plant is seasonally or continually found in saturated or submerged soil.

Landslide: Also known as slope failure, a landslide involves the downslope displacement and movement of material, and can be triggered by either static (gravity) or dynamic (seismic) forces.

Land Divisions: Land divisions include subdivisions (through parcel map, tract map, grant deed, or any other method), lot line adjustments, redivisions, mergers, and certificates of compliance.

Littoral Cell: A region that encompasses most features affecting sediment transport. The boundaries of the cell are usually delineated by river drainage areas, promontory headlands, or submarine canyons on the periphery, the continental shelf-continental slope boundary on the seaward side and by inland ridges and river inlets on the landward side. Sediment within these cells generally travel seaward by river drainage, southward (downcoast) by longshore currents, and are eventually lost to the continental slope area or submarine canyon.

Liquefaction: The transformation of soil from a solid to a liquefied state, in which saturated soil temporary loses strength due to the buildup of excess pore water pressure, especially during earthquake-induced cyclic loading.

Low Impact Development (LID): Site planning and development features that reduce impermeable surface areas and increase infiltration, such as use of permeable paving, vegetated swales, and water retention facilities.

Marine System: Open ocean overlying the continental shelf and coastline exposed to waves and currents of the open ocean shoreward to (1) extreme high water of spring tides; (2) seaward limit of wetland emergent vegetation, trees, or shrubs; or (3) the seaward limit of the Estuarine System, other than vegetation. Salinities exceed 30parts per thousand.

Mean-High Tide: The intersection of the tidal plane of the mean high water with the shore. Determined by survey prepared by a licensed professional land surveyor based on field data collected within 12 months. The survey must be conducted in consultation with and approved by the California State Lands Commission.

Monitoring: The systematic collection of physical, biological, or economic data or a combination of these data in order to make decisions regarding project operation or to evaluate project performance. Monitoring is typically required for beach nourishment projects and habitat restoration projects.

Net Developable Area. The total area of land available for development, not necessarily the total area of a property itself. It does not include open space, drainage land, regional roads and land used for other public facilities.

Non-conforming Use: A use of a structure or land that was lawfully established and maintained, but which does not conform with the use regulations or required conditions for the district in which it is located by reason of adoption or amendment of this code or by reason of annexation of territory to the City.

Non-conforming Structure: An existing structure that is legally nonconforming with an LCP standard.

Permit: Any license, certificate, approval, or other entitlement for use granted or denied by any public agency.

Prescriptive Rights: Prescriptive rights refer to public rights that are acquired over private lands through continuous use over the length of a "prescriptive period" of at least five years. This right of access is considered an "implied dedication" of a public easement, and can occur with or without the explicit consent of the property owner.

Public Trust Lands: All lands subject to the Common Law Public Trust for commerce, navigation, fisheries, recreation, and other public purposes. Public Trust lands include tidelands, submerged lands, the beds of navigable lakes and rivers, and historic tidelands and submerged lands that are presently filled or reclaimed, and which were subject to the Public Trust at any time.

Public works: The following developments are considered public works:

1. All production, storage, transmission, and recovery facilities for water, sewerage, telephone, and other similar utilities owned or operated by any public agency or by any utility subject to the jurisdiction of the Public Utilities Commission, except for energy facilities.

2. All public transportation facilities, including streets, roads, highways, public parking lots and structures, ports, harbors, airports, railroads, and mass transit facilities and stations, bridges, trolley wires, and other related facilities.

3. All publicly financed recreational facilities, all projects of the State Coastal Conservancy, and any development by a special district.

4. All community college facilities.

Qualified Biologist: A person who has earned a minimum of a Bachelor of Science degree in biology or a related field from an accredited college or university and has demonstrated field experience evaluating land use impacts on marine or wildlife species and their habitats. Biologists who conduct wetland delineations shall have completed the U.S. Army Corps of Engineers' "Reg IV" wetland delineation training, or the equivalent, and shall have the demonstrated ability to independently conduct wetland delineations.

Riparian: Consists of trees, shrubs, or herbs that occur along watercourses or water bodies. The vegetation is adapted to flooding and soil saturation during at least a portion of its growing season.

Riprap: A protective layer or facing of rock, concrete blocks or quarry stone, placed to prevent erosion, scour, or sloughing of an embankment or bluff.

Sea: The Pacific Ocean and all harbors, bays, channels, estuaries, salt marshes, sloughs, and other areas subject to tidal action through any connection with the Pacific Ocean, excluding non-estuarine rivers, streams, tributaries, creeks, and flood control and drainage channels. "Sea" does not include the area of jurisdiction of the San Francisco Bay Conservation and Development Commission, established pursuant to Title 7.2 (commencing with Section 66600) of the Government Code, including any river, stream, tributary, creek, or flood control or drainage channel flowing directly or indirectly into such area.

Sea Cliff: A vertical or very steep cliff or slope produced by wave action, situated at the seaward edge of the coast or the landward side of the wave-cut platform, and marking the inner limit of beach erosion.

Seawall: A structure separating land and water areas, primarily designed to prevent erosion and other damage due to wave action. It is usually a vertical wood or concrete wall as opposed to a sloped revetment.

Sediment: Grains of soil, sand, or rock that have been transported from one location and deposited at another.

Sensitive Coastal Resource Areas: Those identifiable and geographically bounded land and water areas within the coastal zone of vital interest and sensitivity. "Sensitive coastal resource areas" include the following: (a) Special marine and land habitat areas, wetlands, lagoons, and estuaries as mapped and designated in Part 4 of the coastal plan;(b) Areas possessing significant recreational value; (c) Highly scenic areas; (d) Archaeological sites referenced in the California Coastline and Recreation Plan or as designated by the State Historic Preservation Officer; (e) Special communities or neighborhoods which are significant visitor destination areas; (f) Areas that provide existing coastal housing or recreational opportunities for low- and moderate income persons; and(g) Areas where divisions of land could substantially impair or restrict coastal access.

Seiche: A standing wave in an enclosed body of water that may be caused by tidal action or a seismic event.

Shore: Narrow strip of land in immediate contact with the sea, including the zone between high and low water. A shore of unconsolidated material is usually called a beach.

Shore Protection: Structures or sand placed at or on the shore to reduce or eliminate upland damage from wave action or flooding during storms.

Shoreline: Seaward of the base of coastal bluffs and/or at or near the sandy beach/ocean elevation, including as depicted in Appendix B ("Coastal Zone Vulnerability Maps") and denoted as "wave run-up," "storm flood area," and "flood prone area."

Shoreline Armoring: Protective structures such as vertical seawalls, revetments, riprap, revetments, and bulkheads built parallel to the shoreline for the purposes of protecting a structure or other upland property.

Special Status Species: Any species which is listed, or proposed for listing, as threatened or endangered by the U.S. Fish and Wildlife Service, National Marine Fisheries Service, or California Department of Fish and Wildlife under the provisions of the Federal and State Endangered Species Acts. It also includes any species

designated by the U.S. Fish and Wildlife Service as a "candidate" or "species of concern" and California Department of Fish and Wildlife as a "candidate" or "species of special concern," or species identified on California Native Plant Society's Lists 1A, 1B, or 2, implying potential danger of extinction.

Storm Surge: A rise above normal water level on the open coast due to the action of wind stress on the water surface. Storm surge resulting from a hurricane also includes the rise in level due to atmospheric pressure reduction as well as that due to wind stress.

Stream: A topographic feature that at least periodically conveys water through a bed or channel having banks. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation. A creek is a subset of a stream that tends to have low water flow.

Structure: Anything construed or erected which requires a fixed location on the ground, or is attached to a building or other structure having a fixed location on the ground.

Submerged Lands: Submerged lands shall be defined as lands which lie below the line of mean low tide.

Subsidence: The sinking of a portion of the ground surface that may occur from immediate settlement, shrinkage of expansive soil, liquefaction, earthquakes, or excess extraction of groundwater.

Substantial Structural Modification (SSM): Any physical improvement which modifies a structure in any of the following ways:

i) alteration, removal or replacement of 50 percent or more of the linear length or surface area of the exterior walls or other major structural components (including but not limited to floor framing, roof framing, and foundation structures), considered individually (i.e., percentages are calculated by the individual structural component being altered, and not additive between different structural components), whether or not the floor area or building footprint is expanded; or

ii) an addition that includes new floor area equal to 50 percent or more of the structure's total existing floor area; or

iii) an increase of the existing building footprint equal to 50 percent or more;

however excluding, but not limited to alteration, removal, or replacement, of nonstructural components, such as nonstructural:

iv) underlayment;

v) siding;

vi) shingles;

vii) other nonstructural roof-materials;

viii) windows and doors (including garage doors) that do not alter width or location;

ix) exterior waterproofing/weatherproofing materials

x) appliance installations and replacements, such as water heaters, generators, and solar panels, that do not involve structural modifications;

xi) nonstructural remedial actions to address termite infestation and dry rot; and

xii) other nonstructural modifications required to comply with State and/or Federal laws and regulations, such as disabled accessibility improvements and seismic retrofits/upgrades.

Incremental changes to floor area and individual major structural components that amount to alteration, removal, or replacement of 50 percent or more over time shall also be considered a SSM.

Temporary Event: An activity or use that constitutes development as defined in Section 30106 of the California Coastal Act, but which is or will be of limited duration and involves the placement of non-permanent structures; and/or involves the use of sandy beach, parkland, filled tidelands, water, streets, or parking areas which are otherwise open and available for general public use.

Tidelands: Lands which are located between the lines of mean high tide and mean low tide.

Total Maximum Daily Load (TMDL): The maximum amount of a pollutant that can be discharged into a water body from all sources (point and non-point) and still maintain water quality standards. Under Clean Water Act section 303(d), TMDLs must be developed for all water bodies that do not meet water quality standards after application of technology-based controls. TMDL also refers to the written, quantitative analysis and plan for attaining and maintaining water quality standards in all seasons for a specific water body and pollutant.

Transfer of Development Rights (TDR): A mechanism to relocate potential residential development from areas where environmental or land use impacts could be severe to other areas more appropriate for development, in order to preserve significant open space resources. Owners of environmentally sensitive sites may transfer residential development rights to other sites where higher-density development can be supported, or from one part of a site to another.

Tsunami: A wave generated by abrupt movement of the seabed, which can result from an earthquake or a significant landslide.

Tsunami Inundation Zone: An area of likely tsunami inundation under a tsunami scenario. The applicable tsunami scenario should balance a reasonable probability of event occurrence with a reasonable potential of the tsunami event causing substantial loss of life and/or damage to property. Such a tsunami scenario could include, but is not necessarily limited to, 475-year Average Return Period (ARP) event described in the publication Probabilistic Tsunami Hazard Maps for the State of California (Phase 2), California Department of Conservation (2023).

Watershed: The total area above a given point on a watercourse which contributes water to the flow of the watercourse; the entire region drained by a watercourse.

Wave Run-up: The distance or extent that water from a breaking wave will extend up a beach or structure.

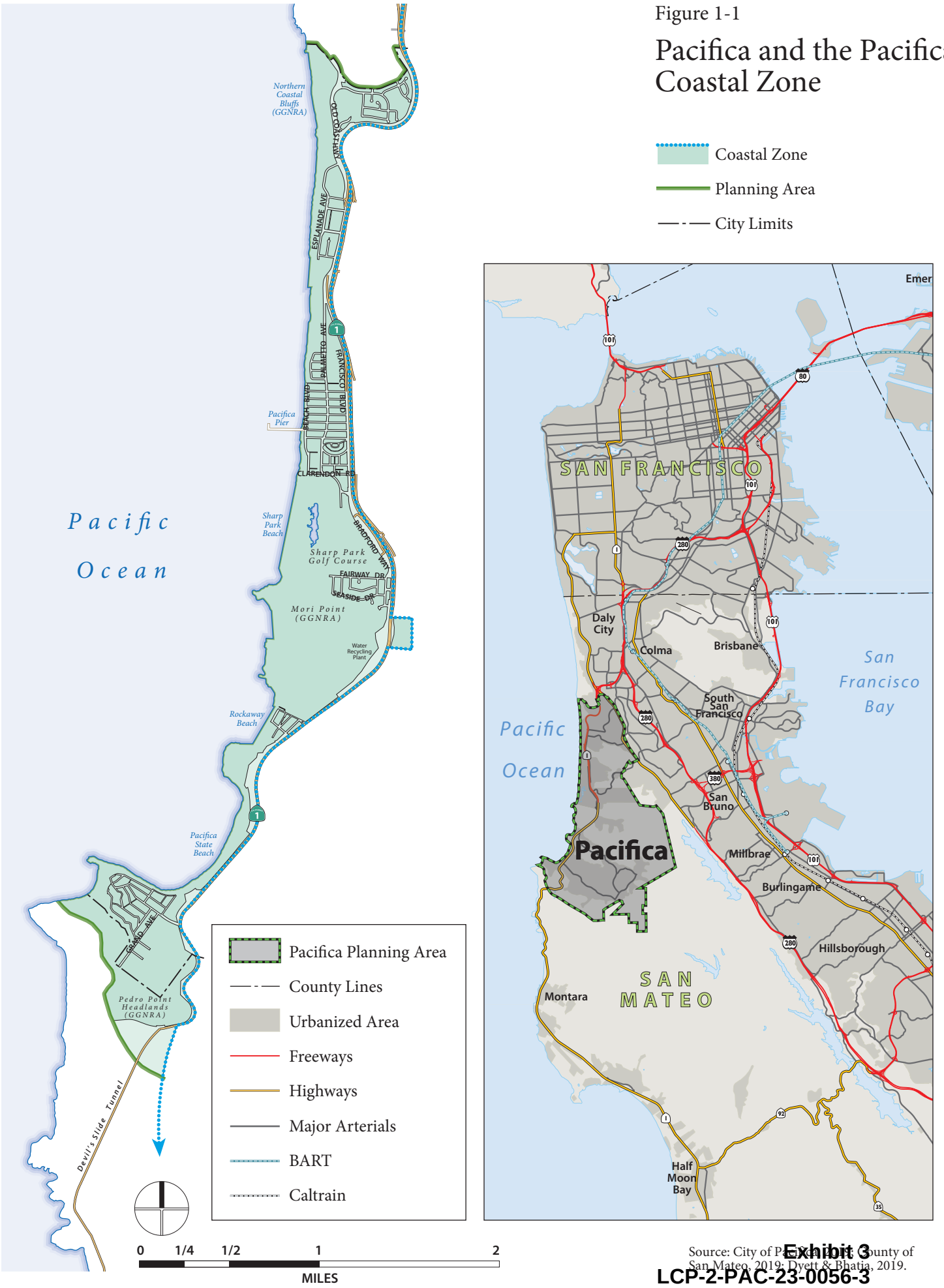
Wetland: The Coastal Act defines wetland as land which may be covered periodically or permanently with shallow water and includes saltwater marshes, freshwater marshes, open or closed brackish water marshes, mudflats, and fens. The California Code of Regulations further defines wetland as land where the water table

is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent and drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salts or other substances in the substrate.

Wildlife Movement Corridor: Wildlife movement corridors link areas of suitable habitat that are otherwise separated by barriers such as rugged terrain, changes in vegetation, or areas of human disturbance or development, allowing wildlife to access additional areas with food, water, and other resources.

Figure 1-1

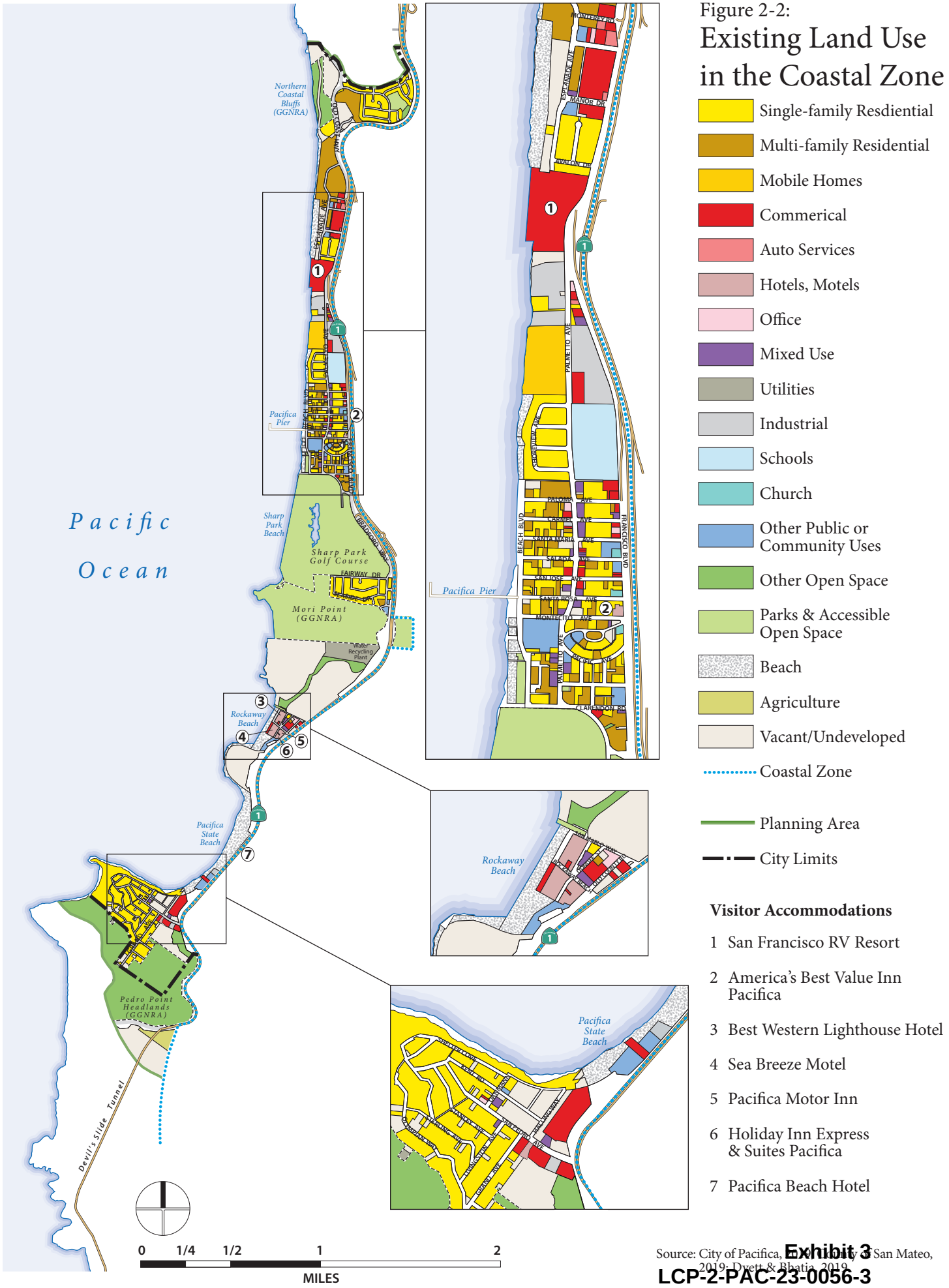
Pacifica and the Pacifica Coastal Zone



Source: City of Pacifica, 2019; County of San Mateo, 2019; Dyett & Bhatia, 2019.

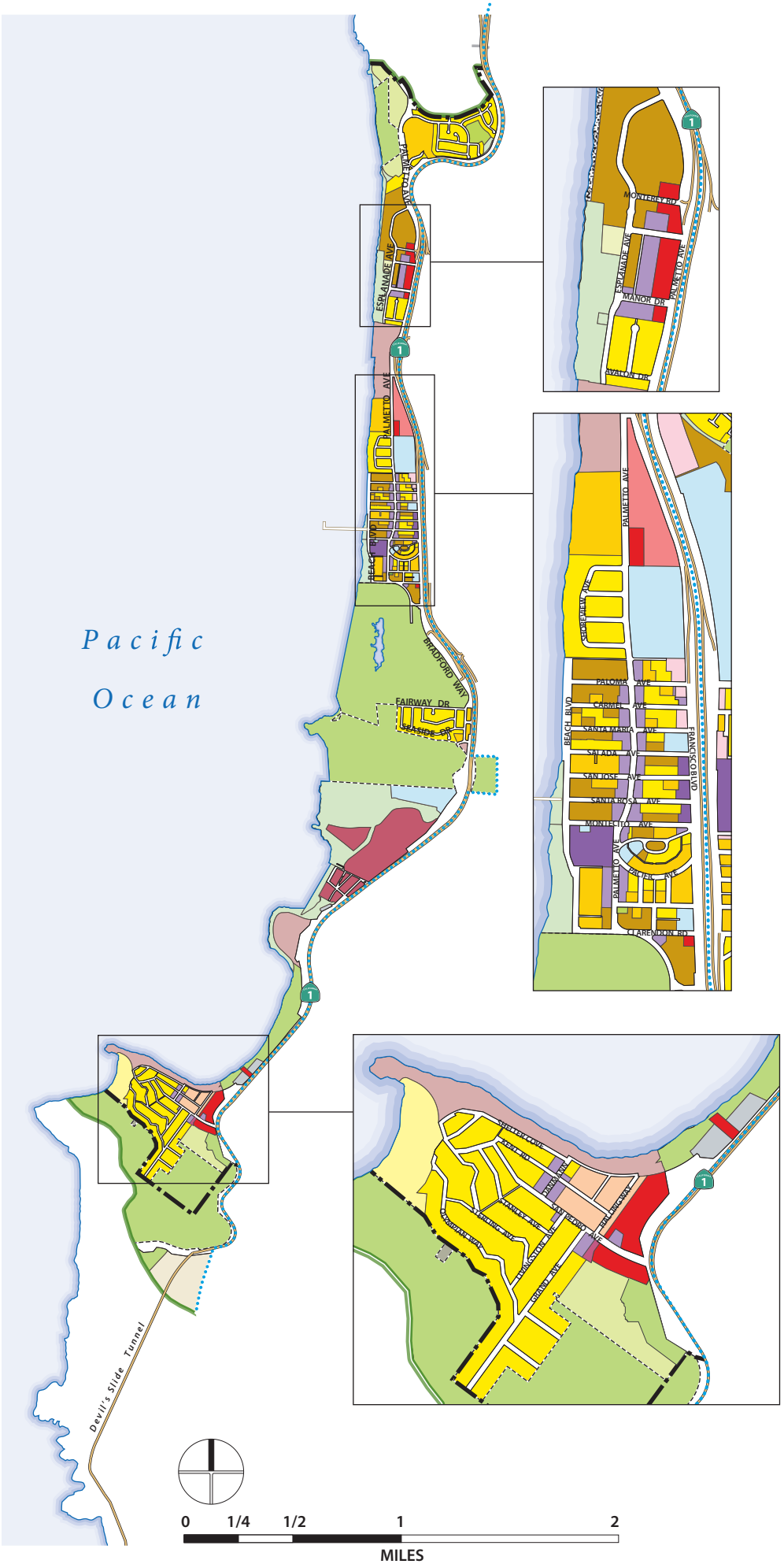
Figure 2-2:

Existing Land Use in the Coastal Zone



Source: City of Pacifica, [illegible] County of San Mateo, 2019; Dyett & Bhatia, 2019.

Figure 2-3:
Land Use Diagram



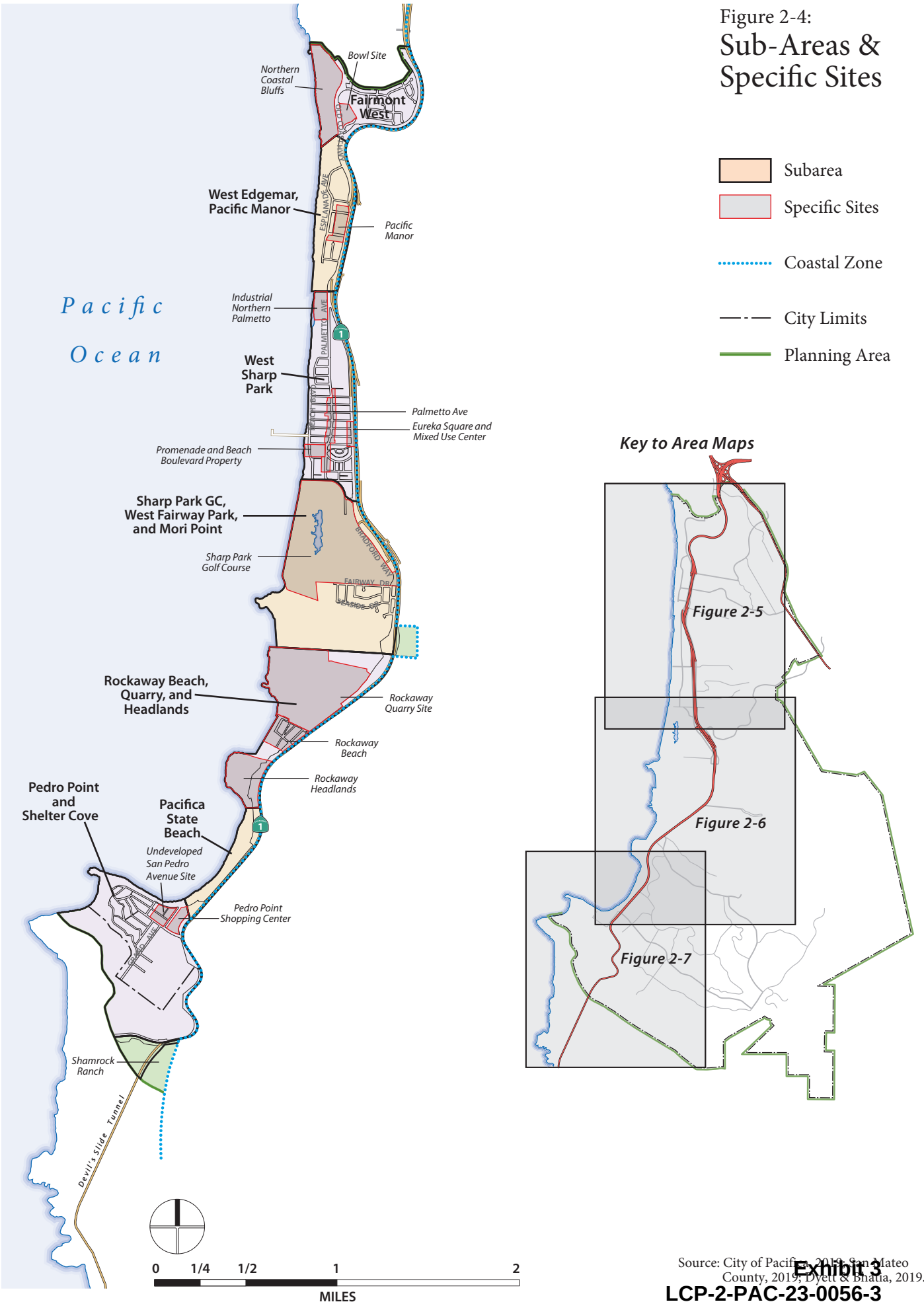
- Open Space/Agriculture/Residential (up to 0.2 units/acre)
- Very Low Density Residential (0.2 -2.0 units/acre)
- Low Density Residential (3 -9 units/acre)
- Medium Density Residential (10 -15 units/acre)
- High Density Residential (16 -21 units/acre)*
- Coastal Residential Mixed Use
- Mixed Use Neighborhood (16 -26 units/acre)*
- Mixed Use Center (30 to 50 units/acre)
- Retail Commercial
- Office Commercial
- Service Commercial
- Visitor-Serving Commercial
- Low Intensity Visitor-Serving Commercial
- Public and Semi-Public
- Beach/Commuter Parking
- Utilities
- Park
- Conservation
- Urban Reserve (Unincorporated)
- Transportation Corridor
- Coastal Zone
- Planning Area
- City Limits

* Sites 0.5 acres or more may be developed at up to 30 dwelling units per gross acre.

Note: Senior or affordable housing may be developed up to 1.5 times the maximum with the Density Bonus program.

Source: City of Pacifica, 2019; City of San Mateo County, 2019; Dyett & Bhatia, 2019.

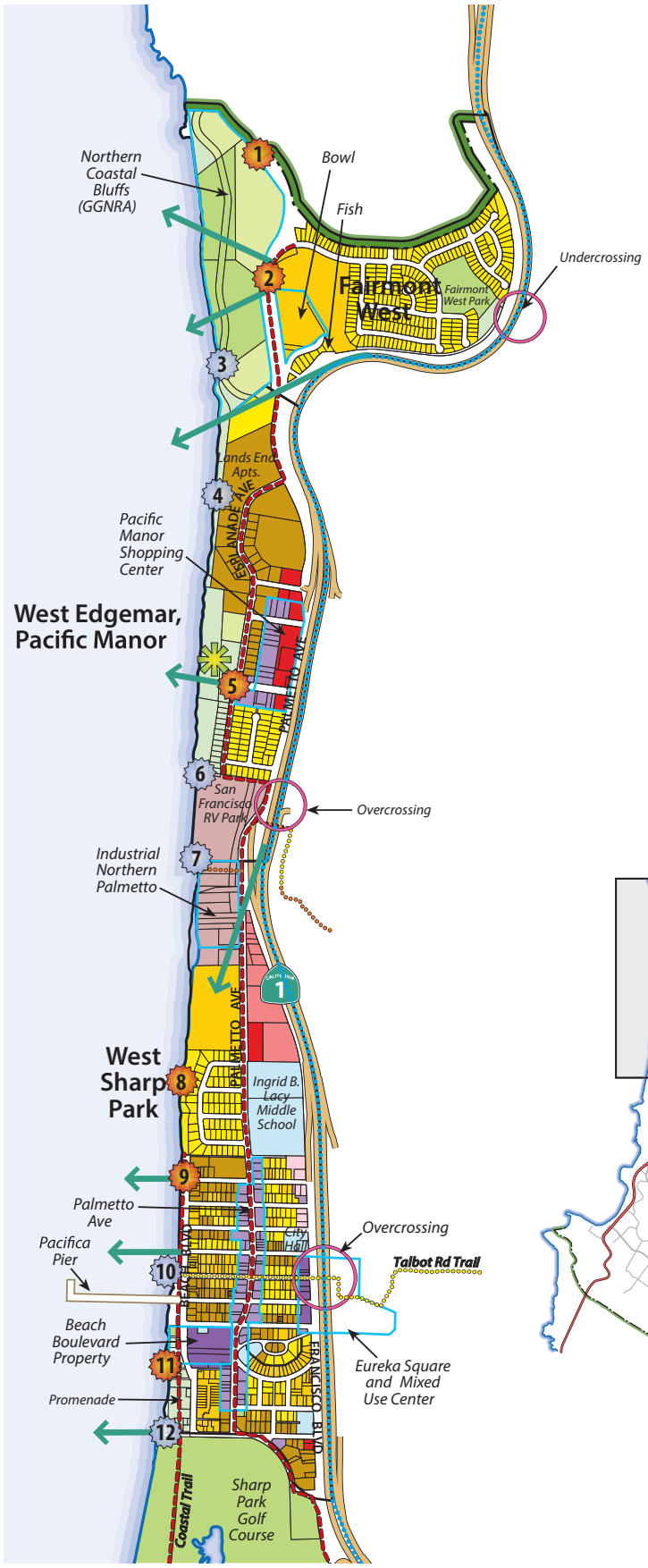
Figure 2-4:
Sub-Areas & Specific Sites

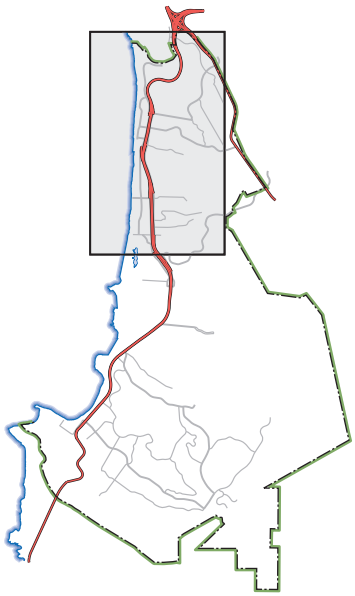


Source: City of Pacifica, 2019; San Mateo County, 2019; Dyett & Bhatia, 2019.

Figure 2-5:

Pacifica Coastal Zone, North





- Open Space/Agriculture/Residential (up to 0.2 units/acre)
- Low Density Residential (3 -9 units/acre)
- Medium Density Residential (10 -15 units/acre)
- High Density Residential (16 -21 units/acre)*
- Mixed Use Neighborhood (16 -26 units/acre)*
- Mixed Use Center (30 to 50 units/acre)
- Retail Commercial
- Office/Commercial
- Service Commercial
- Low Intensity Visitor-Serving Commercial
- Public and Semi-Public
- Park
- Conservation
- Transportation Corridor
- Coastal Access Points (Beach)
- Coastal Access Points (Bluff top/View)
- Park Opportunity Site
- View Corridor
- Existing Trail
- Proposed Trail
- On-street trail
- Subareas
- Specific Sites
- Coastal Zone
- City Limits
- Planning Area

Coastal Access Points are keyed to Table 3-1

* Sites 0.5 acres or more may be developed at up to 30 dwelling units per gross acre.

Note: Senior or affordable housing may be developed up to 1.5 times the maximum with the Density Bonus program.

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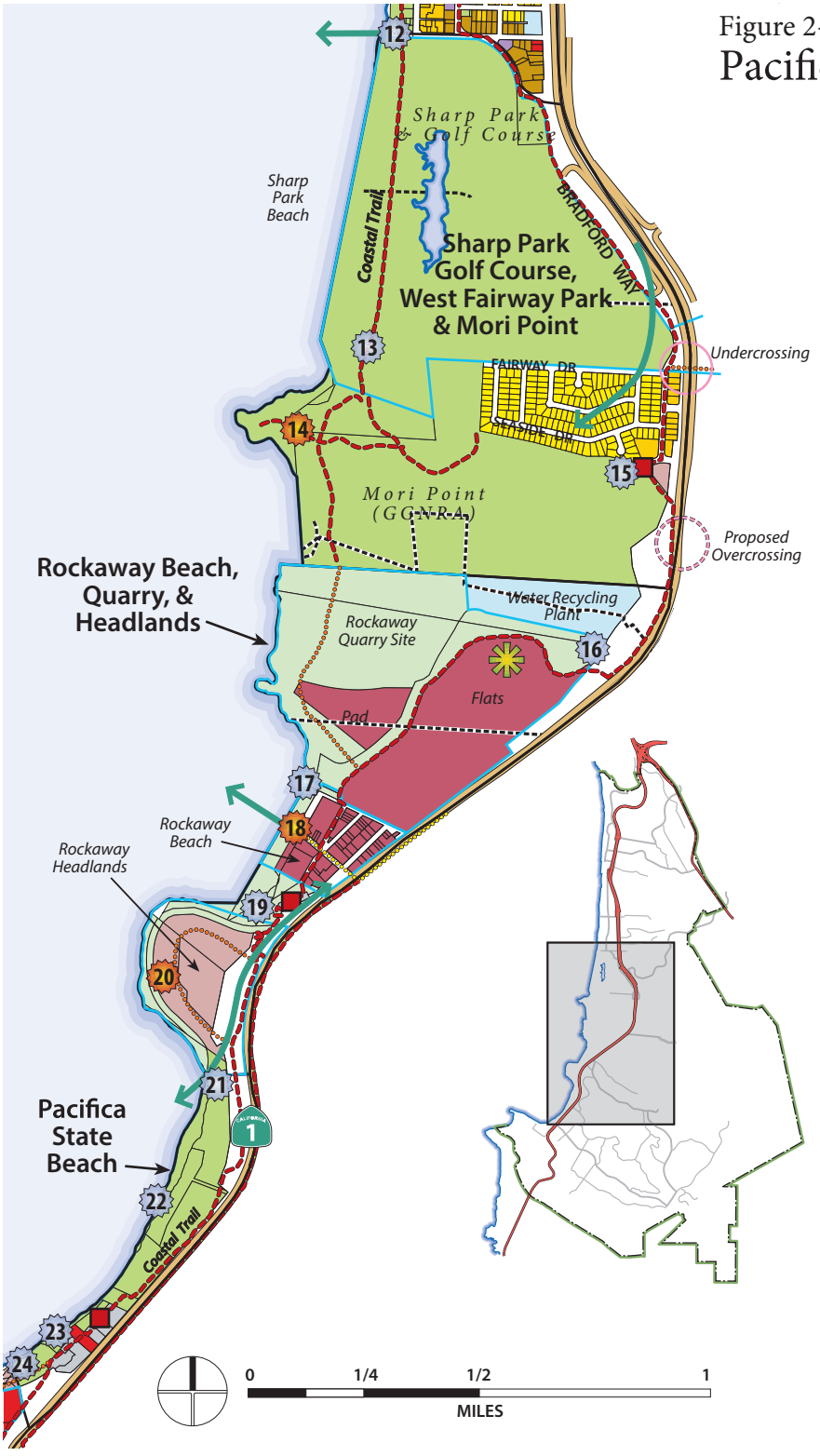
Figure 2-6:
Pacifica Coastal Zone, Central



- Open Space/Agriculture/Residential (up to 0.2 units/acre)
- Low Density Residential (3 -9 units/acre)
- Medium Density Residential (10 -15 units/acre)
- High Density Residential (16 -21 units/acre)*
- Mixed Use Neighborhood (16 -26 units/acre)*
- Mixed Use Center (30 to 50 units/acre)
- Retail Commercial
- Office/Commercial
- Service Commercial
- Low Intensity Visitor-Serving Commercial
- Public and Semi-Public
- Park
- Conservation
- Transportation Corridor
- Coastal Access Points (Beach)
- Coastal Access Points (Bluff top/View)
- Park Opportunity Site
- View Corridor
- Existing Trail Proposed
- Trail
- On-street trail
- Existing Trailhead
- Subareas
- Specific Sites
- Coastal Zone
- City Limits
- Planning Area

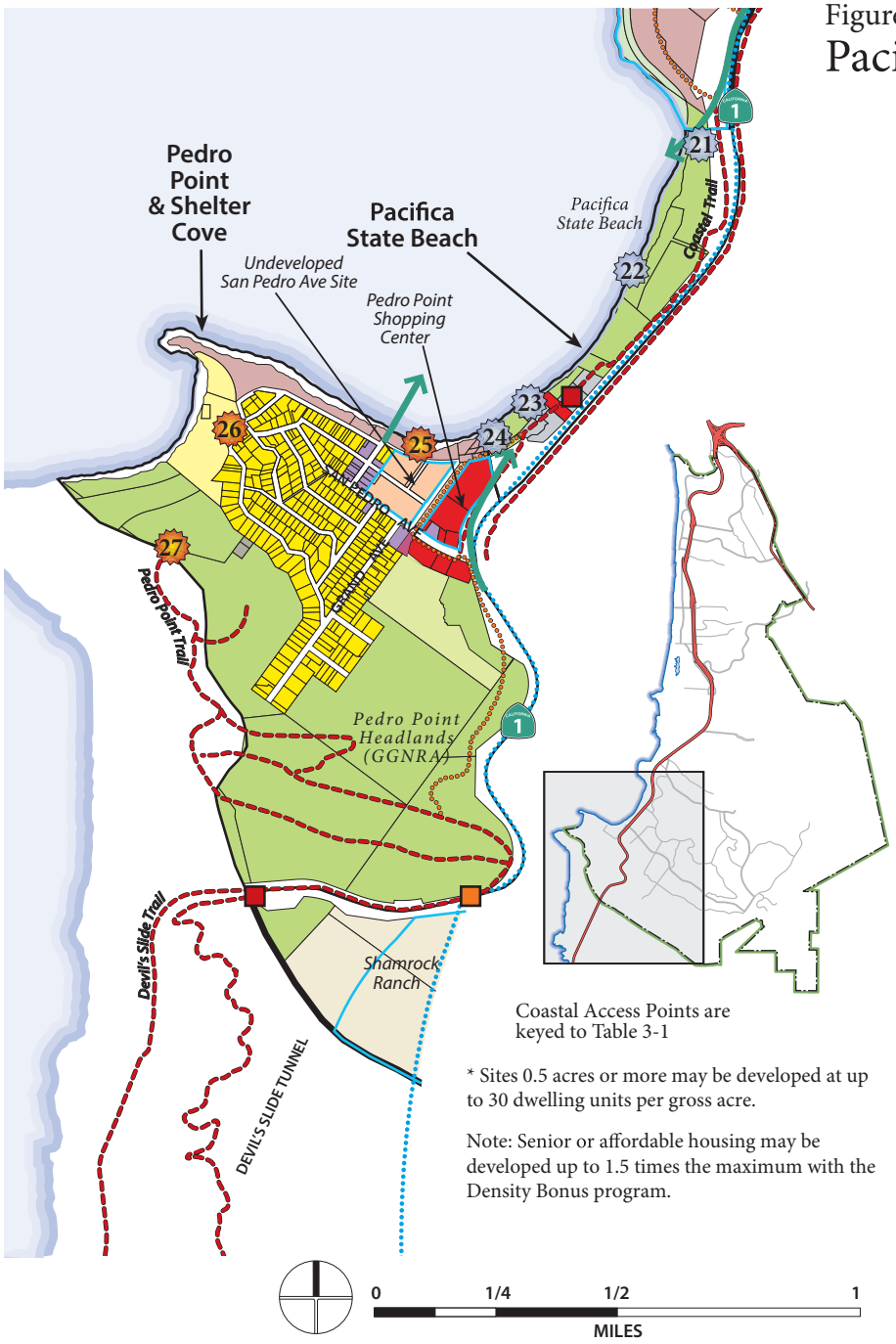
Coastal Access Points are keyed to Table 3-1

* Sites 0.5 acres or more may be developed at up to 30 dwelling units per gross acre.

Note: Senior or affordable housing may be developed up to 1.5 times the maximum with the Density Bonus program.

Figure 2-7:

Pacifica Coastal Zone, South



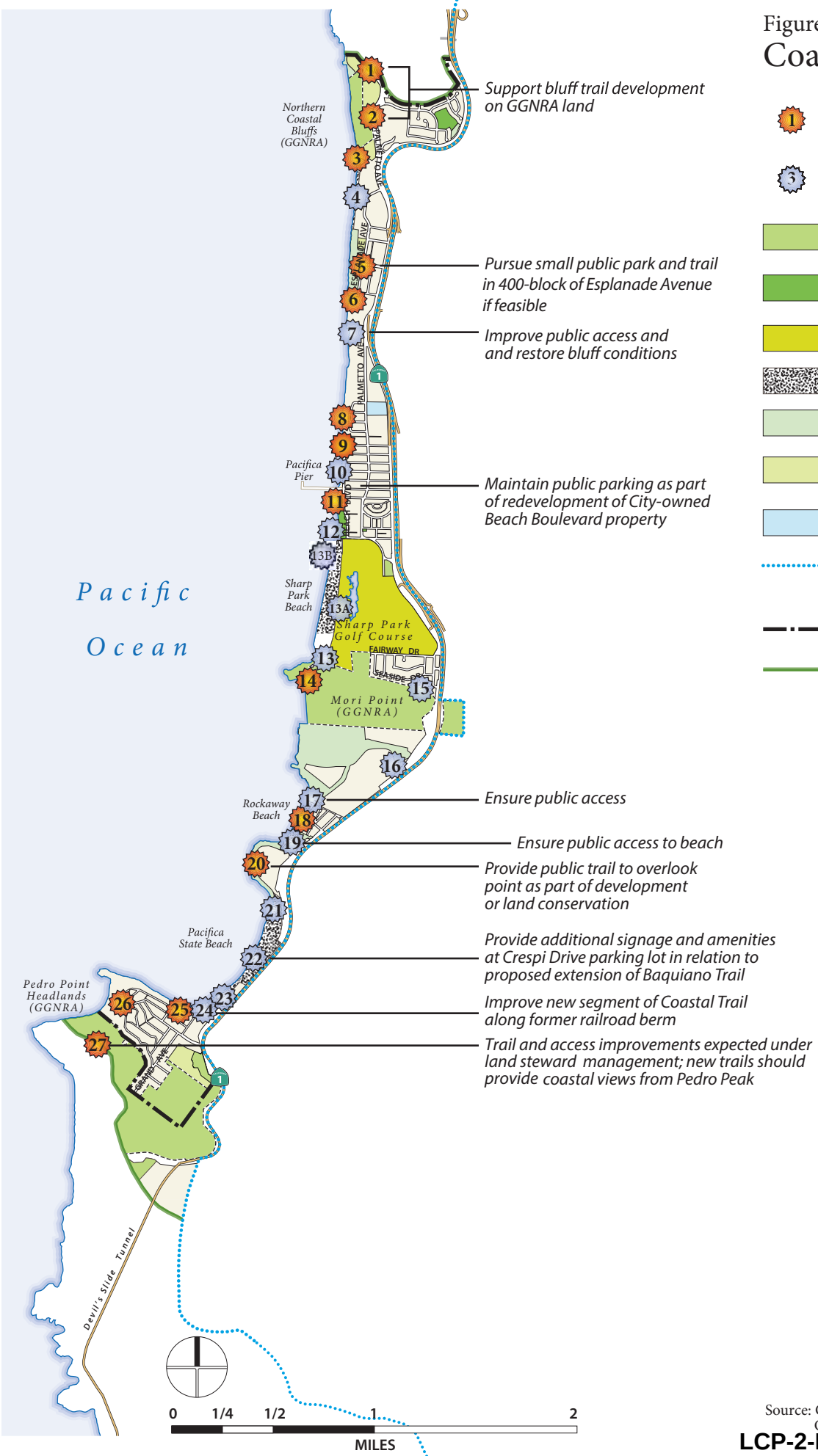
Coastal Access Points are keyed to Table 3-1

* Sites 0.5 acres or more may be developed at up to 30 dwelling units per gross acre.

Note: Senior or affordable housing may be developed up to 1.5 times the maximum with the Density Bonus program.

- Open Space/Agriculture/ Residential (up to 0.2 units/acre)
- Very Low Density Residential (0.2 -2.0 units/acre)
- Low Density Residential (3 -9 units/acre)
- Coastal Residential Mixed Use
- Mixed Use Neighborhood (16 -26 units/acre)*
- Visitor-Serving Commercial
- Retail Commercial
- Low Intensity Visitor-Serving Commercial
- Beach/Commuter Parking
- Utilities
- Park
- Conservation
- Urban Reserve
- Transportation Corridor
- 16 Coastal Access Points (Beach)
- 20 Coastal Access Points (Bluff top/View)
- View Corridor
- Existing Trail
- Proposed Trail
- On-street trail
- Existing Trailhead
- Proposed Trailhead
- Subareas
- Specific Sites
- Coastal Zone
- City Limits
- Planning Area

Figure 3-1:
Coastal Access

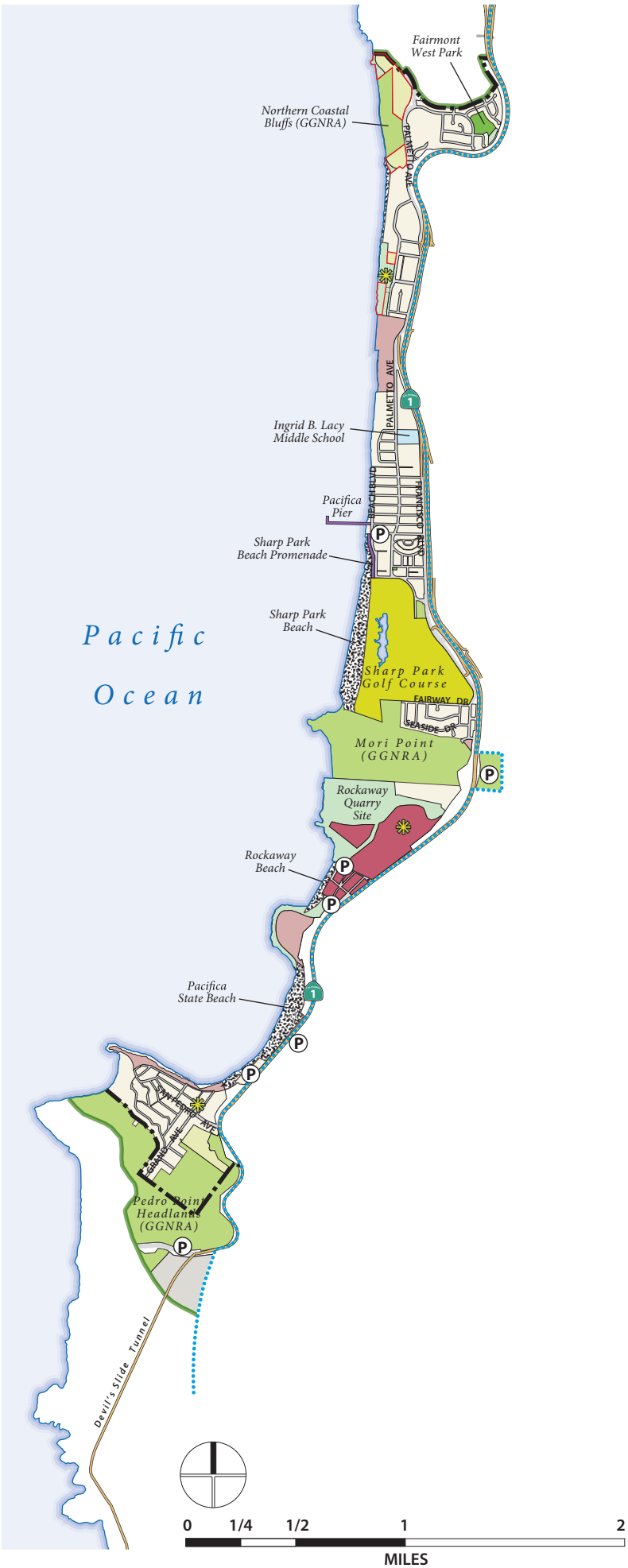


- Coastal Access Points (Bluff-top/View)
- Coastal Access Points (Beach)
- Regional Open Space
- Neighborhood & District Parks
- Golf Course
- Beach
- Conservation
- Partial Conservation with Development
- School Playfields
- Coastal Zone
- City Limits
- Planning Area

Source: City of Pacifica, 2019; San Mateo County, 2019; Dyett & Bhatia, 2019.

Figure 3-2:

Parks and Open Space System



- Park Opportunity Site
- Regional Open Space
- District, Neighborhood, & Pocket Parks
- Special Facilities
- School Playfields
- Priorities for Conservation
- Golf Course
- Beach
- Other Protected Open Space
- Partial Conservation with Development
- Urban Reserve
- Visitor Serving Commercial
- Low-Intensity Visitor-Serving Commercial
- Visitor Parking Lot
- Coastal Zone
- City Limits
- Planning Area

Source: City of Pacifica, 2019; San Mateo County, 2019; Dyett & Bhatia, 2019.

Figure 3-3:
Trail System

- Existing Trails
- Existing On-Street Trail Routes
- Proposed Trails or Trail Improvements
- Proposed On-Street Trail Routes
- Coastal Trail
- Existing Trailheads
- Trailheads to be Improved
- Visitor Parking Lot
- Existing SR 1 Crossing
- Proposed SR 1 Crossing
- Regional Open Space
- Neighborhood, District and Pocket Parks
- Golf Course
- Beach
- Other Protected Open Space
- Partial Conservation with Development
- School Playfields
- 100 ft Contour
- Coastal Zone
- City Limits
- Planning Area

Source: City of Pacifica, 2008; San Mateo County, 2009; Dyett & Bhatia, 2013.

Figure 3-4:
Bicycle Network

- Existing Class I
- Proposed Class I
- Existing Class II
- Proposed Class II
- Existing Class III
- Proposed Class III
- Class III to be upgraded to Class II
- Class I to be upgraded
- Bicycle Lockers
- Bicycle Parking
- Changing Room w/Water
- Changing Room w/oWater
- Pedestrian/Bicycle Overpass
- Pedestrian/Bicycle Underpass
- Existing Link
- Potential Link to Unpaved Trail
- Coastal Zone
- Parks/Open Space
- City Limits
- Planning Area

Source: City of Pacifica, 2013; TIGER, 2009; San Mateo County, 2009; Dyett & Bhatia, 2019.

Figure 3-5:
Roadway Network and Planned Improvements

- Freeway
- Multi-Lane Highway
- Two-Lane Highway
- Arterial
- Collector
- Local Street
- Unimproved Right-of-Way
- Planned Improvement
- Potential Future Street
- Pedestrian Priority Zone
- Coastal Zone
- City Limits
- Planning Area

Source: City of Pacifica, 2019; ESRI, 2019; San Mateo County, 2019; Dyett & Bhatia, 2019

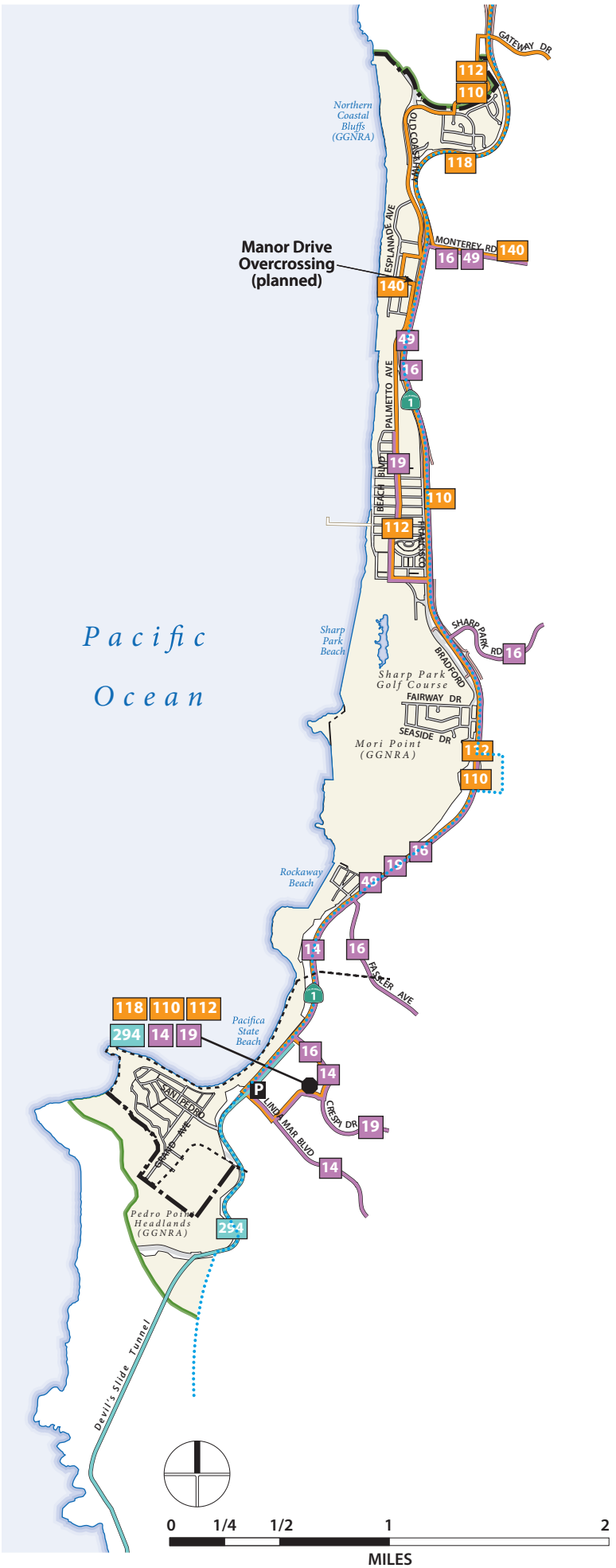
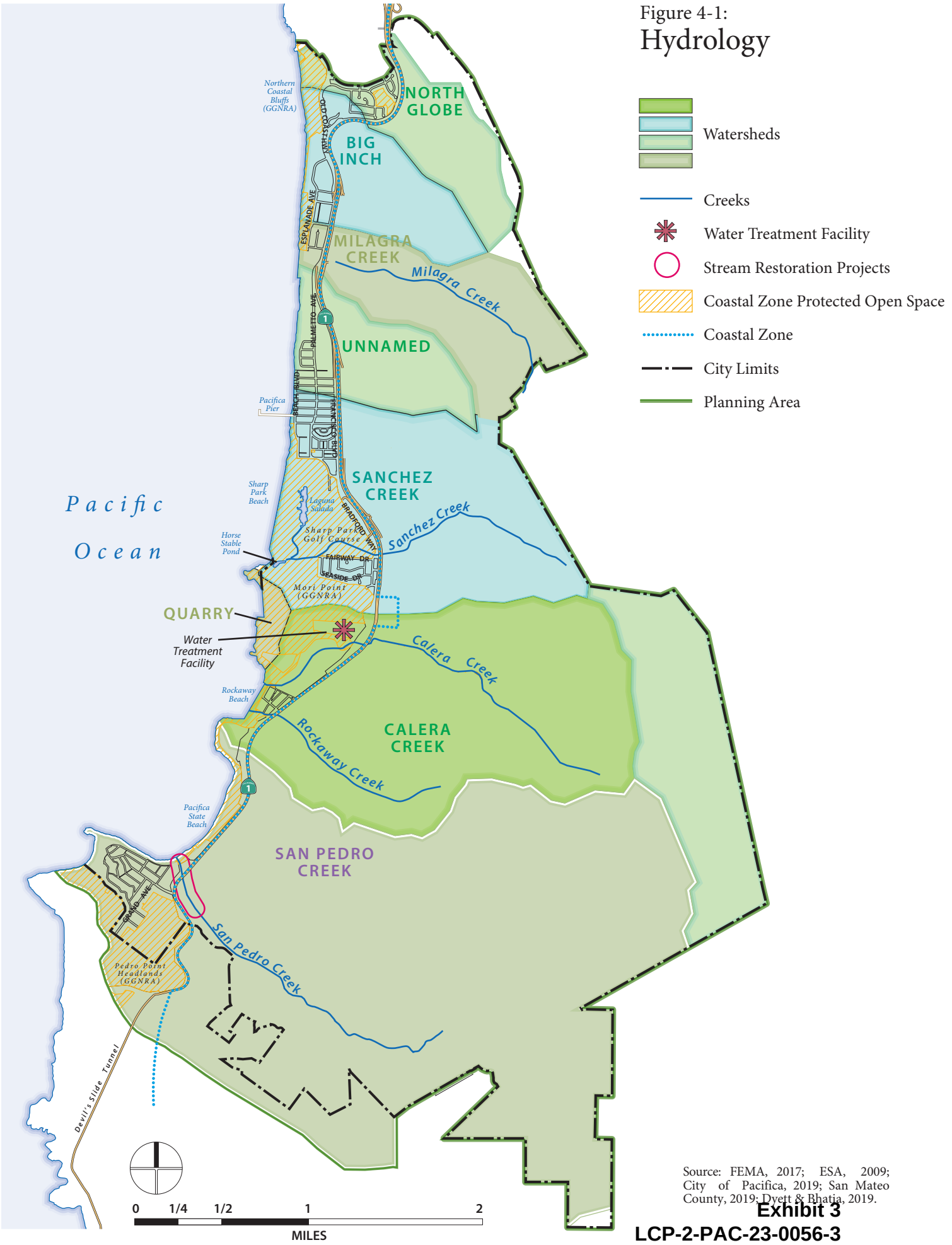


Figure 3-6:
Transit Routes and Facilities

- SamTrans to BART
- SamTrans to Caltrain
- Local Service
- P Park and Ride Lot
- SamTrans OnDemand Service Area
- Coastal Zone
- City Limits
- Planning Area

Source: City of Pacifica, 2019; DKS, 2019; San Mateo County, 2019; Dyett & Bhatia, 2019.

Figure 4-1:
Hydrology



Source: FEMA, 2017; ESA, 2009; City of Pacifica, 2019; San Mateo County, 2019; Dyett & Bhatia, 2019.

Figure 4-2:
Vegetation

- Grassland
- Coastal Bluff Scrub
- Eucalyptus
- Northern Coastal Scrub
- Monterey Cypress
- Riparian Mixed Hardwood
- Beach/Intertidal
- Urban
- Creeks
- Coastal Zone
- City Limits
- Planning Area

Source: California Dept of Fish & Game, 1988, 2003; California Dept of Forestry, 2009; USDA Forest Service, 2017; FEMA, 2017; ESA, 2009; City of Pacifica, 2019; San Mateo County, 2019; Dyett & Bhatia, 2019

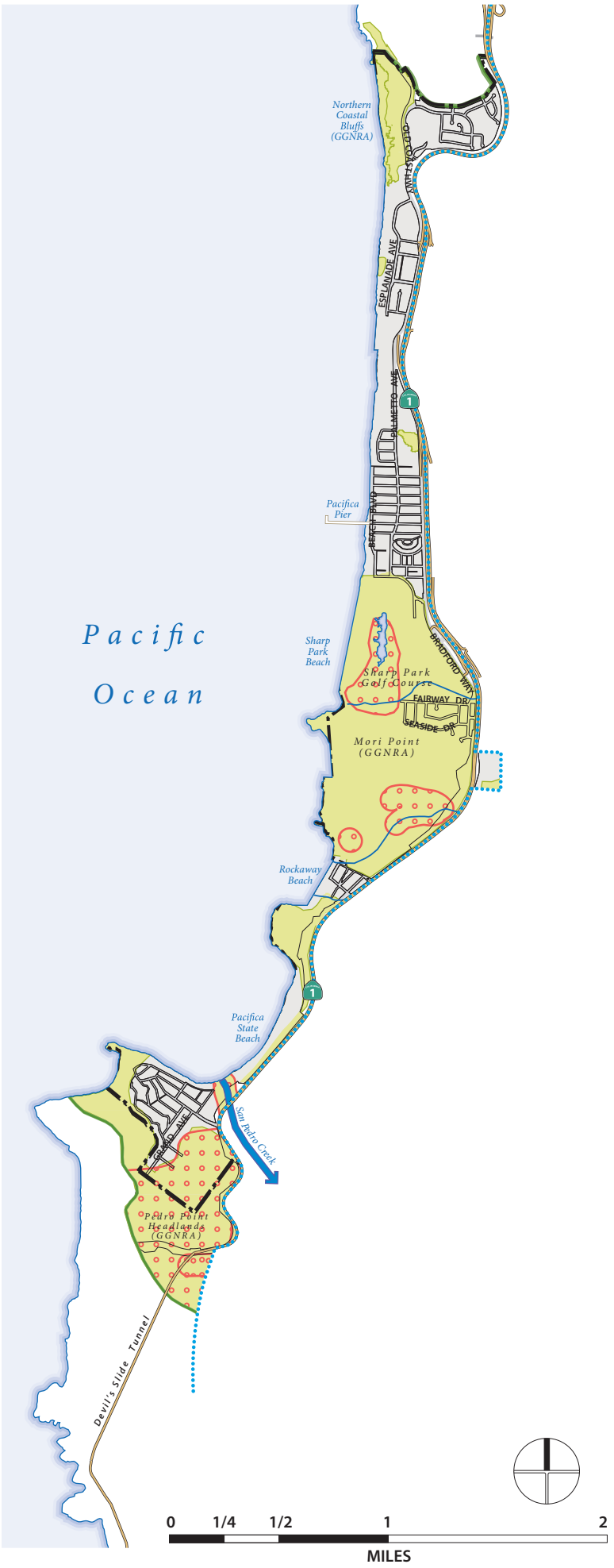


Figure 4-3:
Potential Environmentally Sensitive Habitat Areas

Potential ESHA

Critical Habitat

Steelhead

California Red-Legged Frog

Coastal Zone

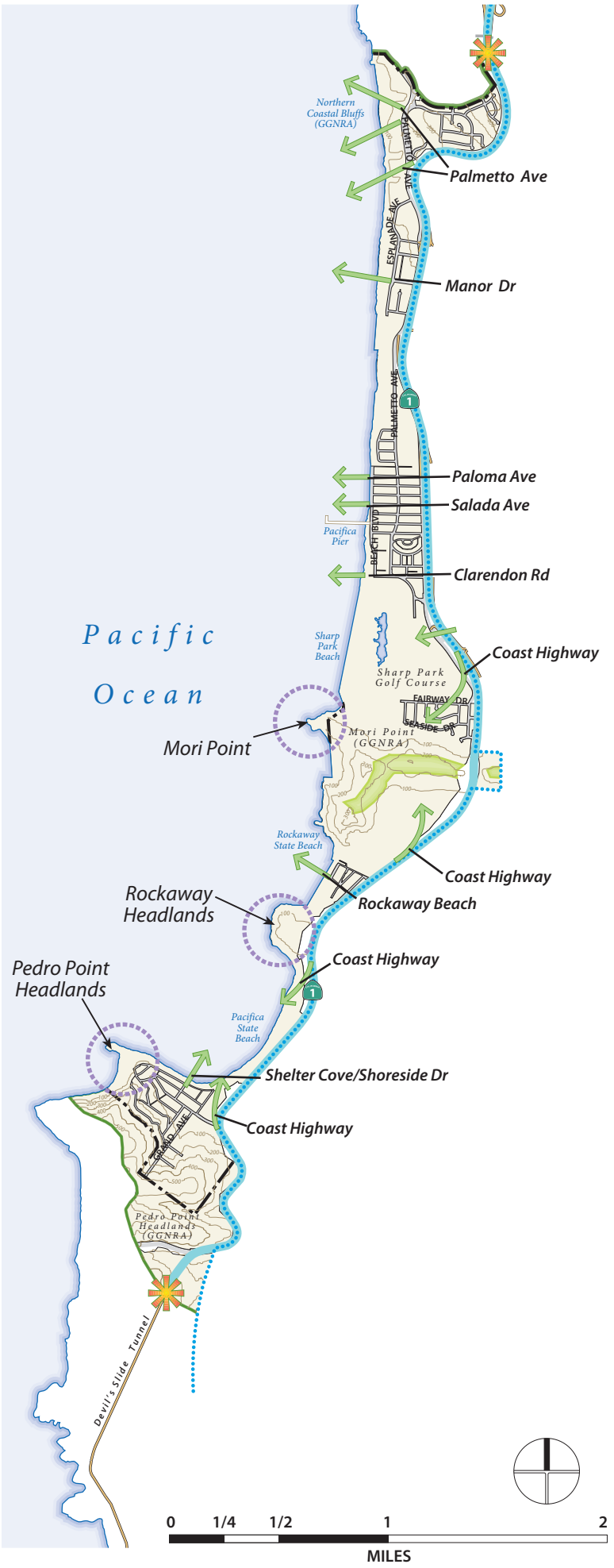
City Limits

Planning Area

Note: The preliminary delineation of ESHA boundaries does not include an exhaustive compilation of the habitat areas that meet the ESHA definition. Site-specific biological evaluations and field observations shall be required to identify ESHAs and other special status resources that may not have been included in the literature and database review.

SOURCE: U.S. Fish & Wildlife Service 2019; National Marine Fisheries Service, 2019; National Park Service, 2009; USDA Forest Service, 2017; California Natural Diversity Database, 2019; California Native Plant Society, 2019; California Dept of Fish & Game, 2019; FEMA, 2017; ESA, 2008; City of Pacifica, 2019; San Mateo County, 2019; Dyett & Bhatia, 2019

Figure 4-4:
Visual Resources



- Gateways
- Prominent Landforms
- Coastal View Corridors
- Scenic Routes
- Prominent Ridges
- Coastal Zone
- City Limits
- Planning Area

Source: US Geological Survey, 2009; City of Pacifica, 2008; San Mateo County, 2009; Dyett & Bhatia, 2013.

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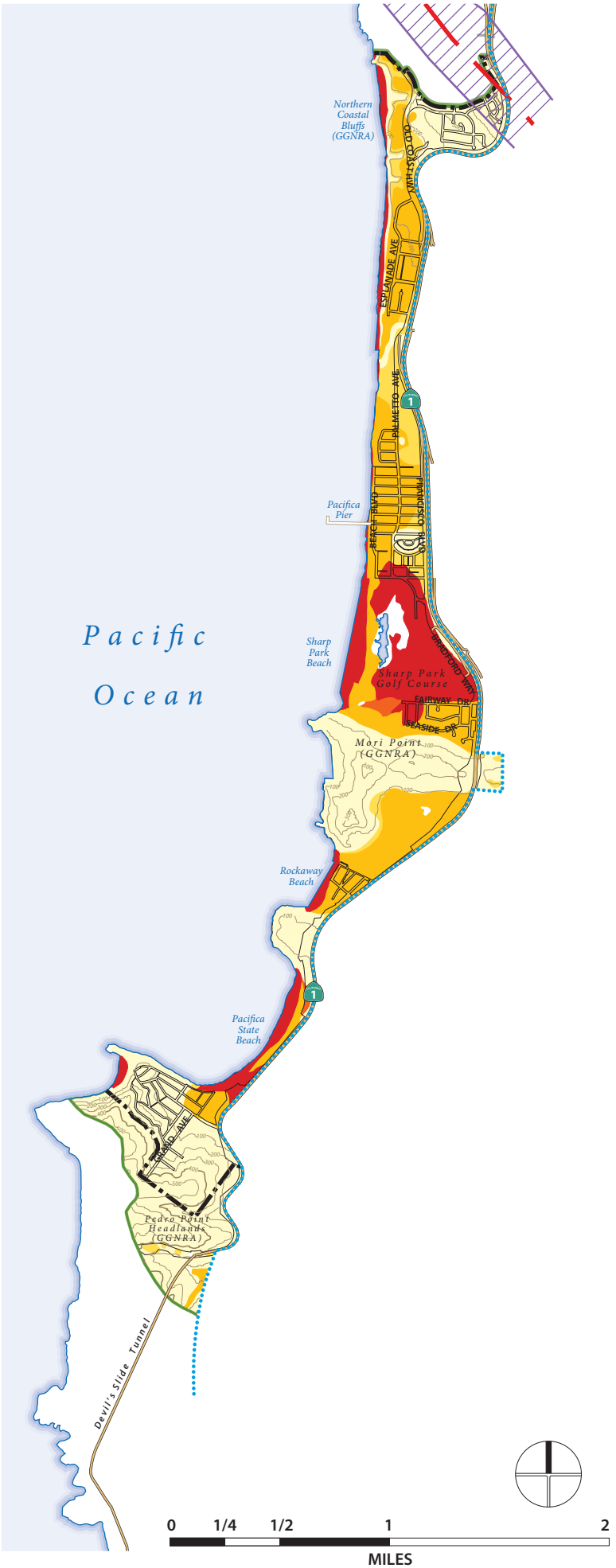


Figure 5-1:
Liquefaction and Fault Lines

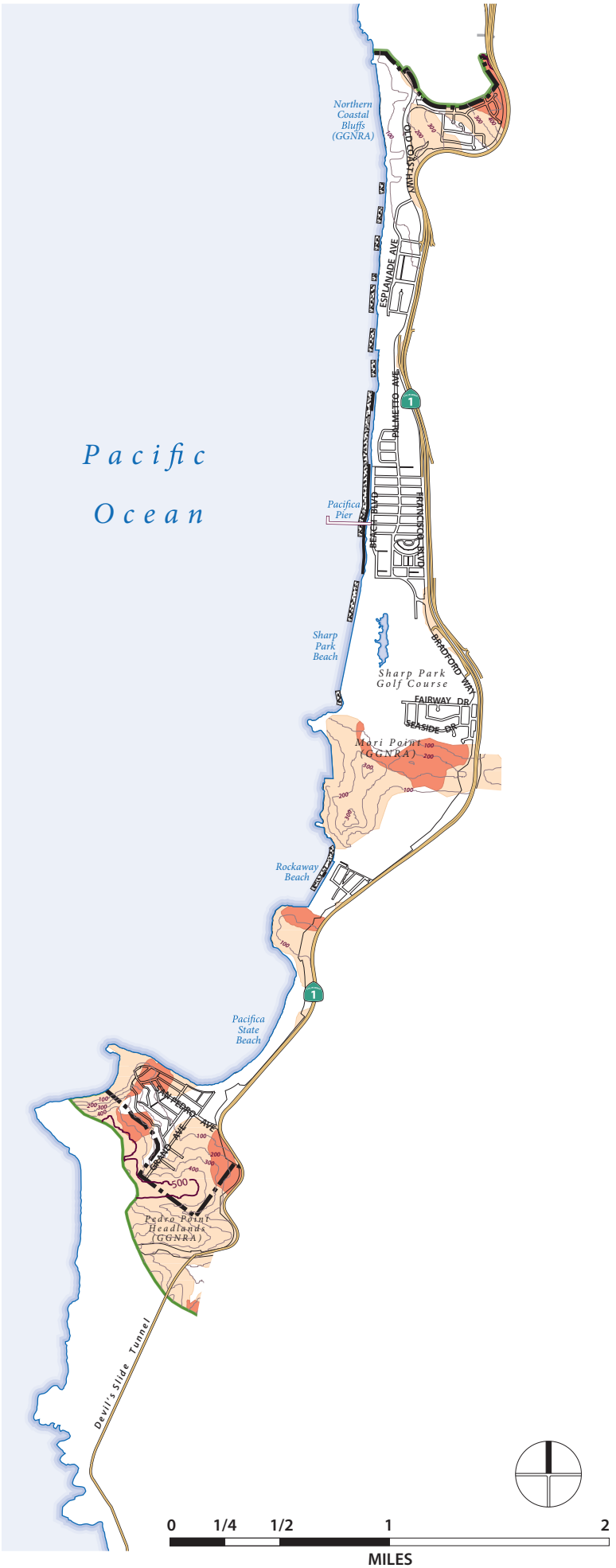
Liquifaction Potential

- Very Low
- Low
- Medium
- High
- Very High
- San Andreas Fault
- Alquist-Priolo Zone
- 100 foot contour interval
- 400 foot contour interval
- Coastal Zone
- City Limits
- Planning Area

Source: Association of Bay Area Governments, 2003; US Geological Survey, 2019; ESA. 2009; City of Pacifica, 2019; San Mateo County, 2019; Dyett & Bhatia, 2019.

Figure 5-2:

Slope Failure and Shoreline Protection Structures



Slope Failure Threat

- Mostly Landslides
- Few Landslides
- Not Landslide Prone

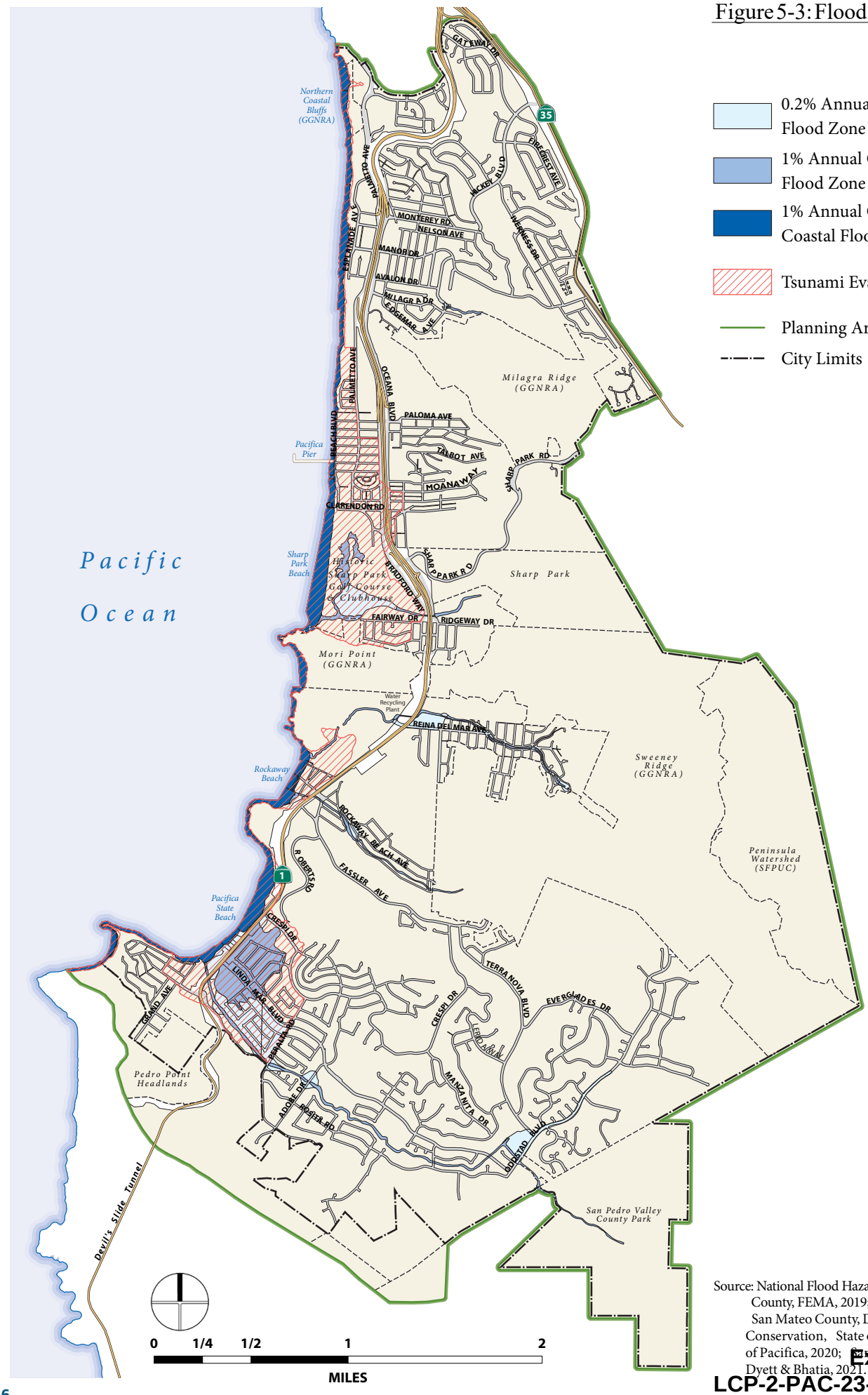
Shoreline Protective Structures

- Seawall
- Riprap, Other Revetments
- 500 foot Contours
- 100 foot Contours
- Coastal Zone
- City Limits
- Planning Area

Note:
Beach and cliff erosion are typical of much of the Pacifica coastline.

Source: Pacific Institute, 2009; FEMA Revised DFIRM, 2017; US Geological Survey, 1997; ESA, 2009; C[illegible]ornia, 2019; San Mateo County, 2019; Dyett & Bhatia, 2019

Figure 5-3: Flood Zones



Source: National Flood Hazard Layer for San Mateo County, FEMA, 2019; Tsunami Hazard Area for San Mateo County, Department of Conservation, State of California, 2021; City of Pacifica, 2020; San Mateo County, 2020; Dyett & Bhatia, 2021.

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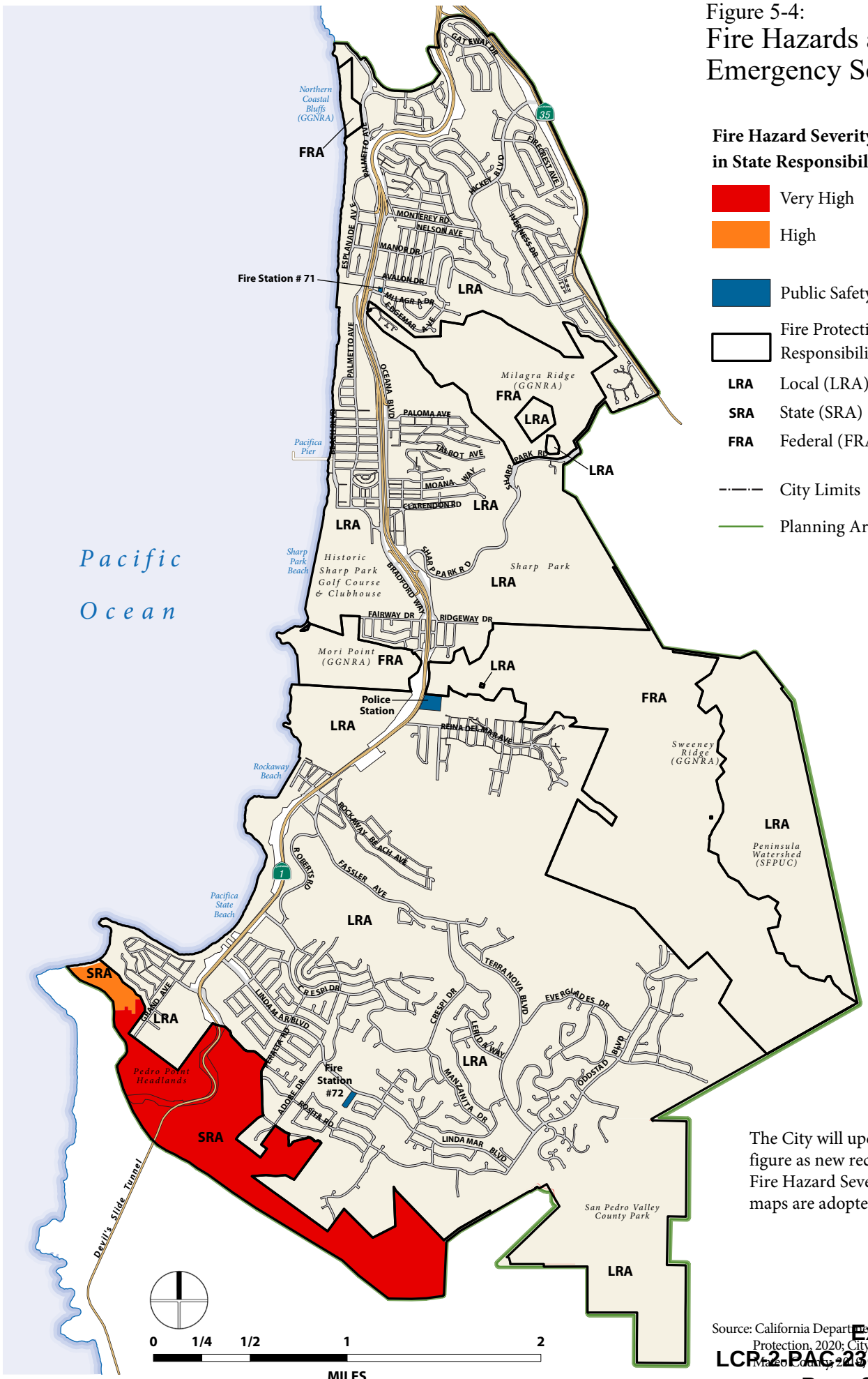
Figure 5-4:
Fire Hazards and Emergency Services



Fire Hazard Severity Zones in State Responsibility Area

- Very High
- High

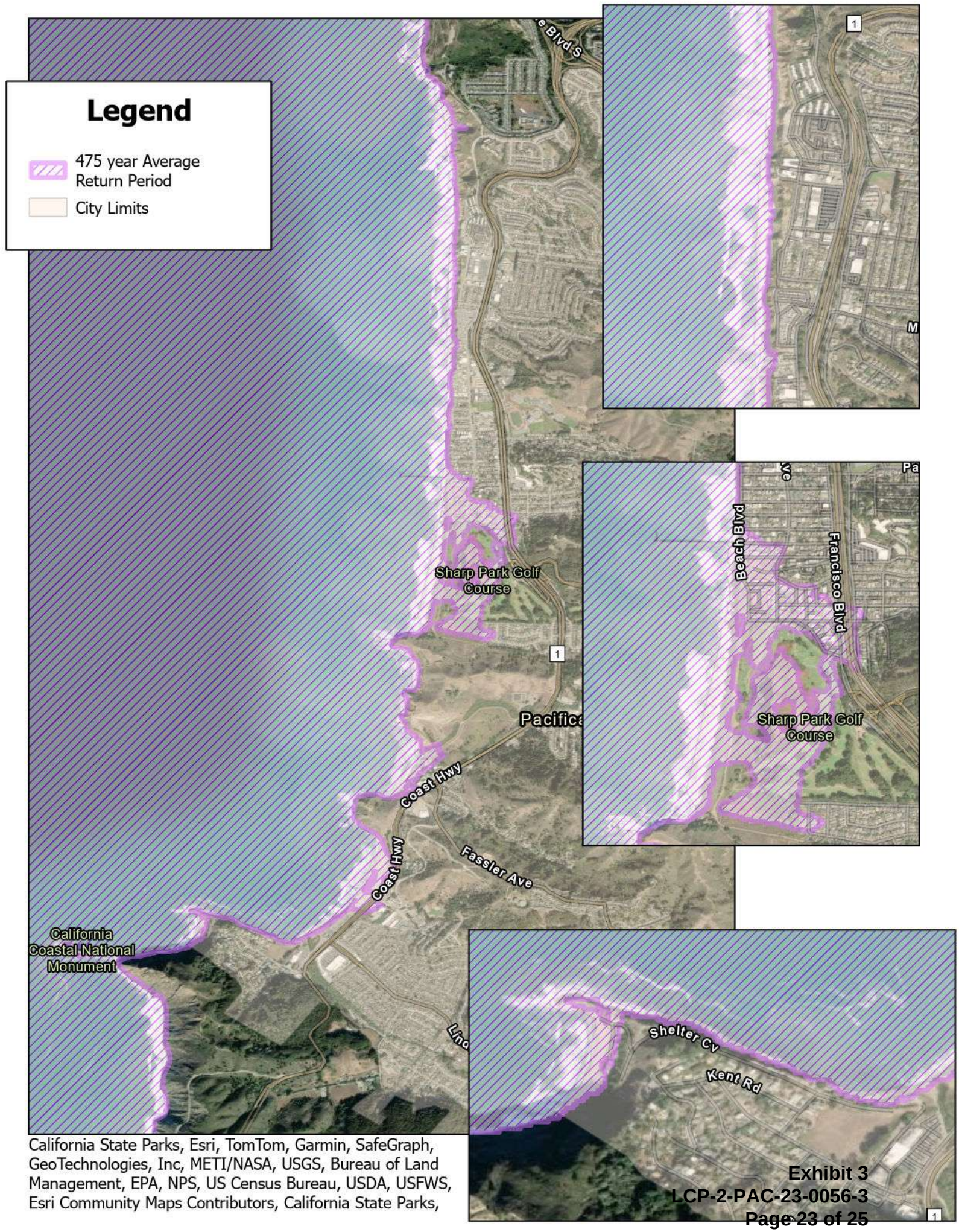
- Public Safety Facilities
- Fire Protection Responsibility Area
- LRA Local (LRA)
- SRA State (SRA)
- FRA Federal (FRA)
- City Limits
- Planning Area

The City will update this figure as new recommended Fire Hazard Severity Zone maps are adopted by the City.

Source: California Department of Forestry and Fire Protection, 2020; City of Pacifica, 2019; San Mateo County, 2019; Dyett & Bhatia, 2019.

SOURCE: City of Pacifica

Figure 6-1
Coastal Resilience Subareas



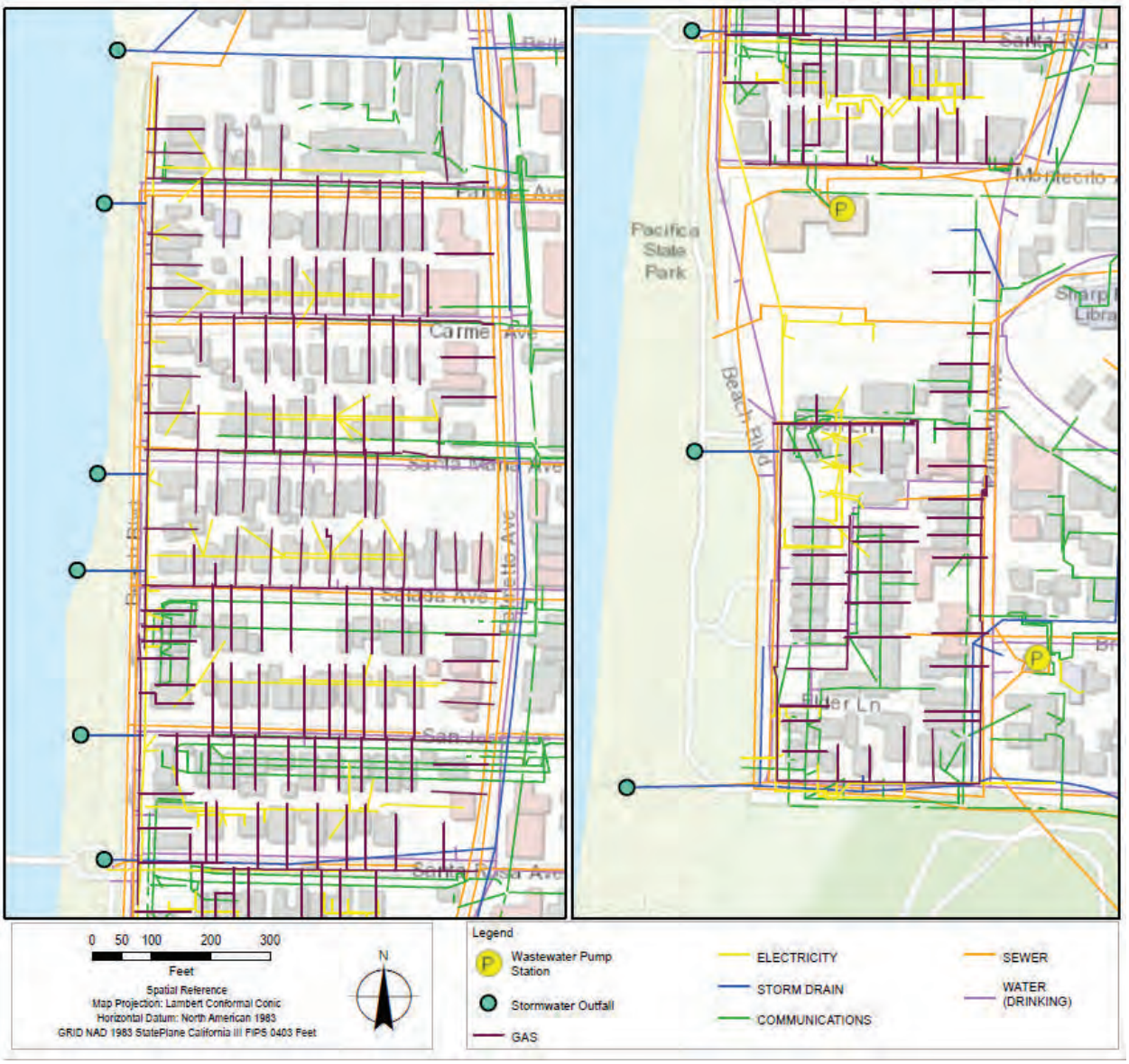
California State Parks, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, USFWS, Esri Community Maps Contributors, California State Parks,

Rockaway Beach

Sharp Park

0
75
150 m
Pacific Municipal Pier
Surf Street
Bella Vista Avenue
Paloma Avenue
Carmel Avenue
Santa Maria Avenue
Salada Avenue
San Jose Avenue
Santa Rosa Avenue
Montecito Avenue
Hilton Way
Hilton Lane
Birch Lane
Pacific Avenue
Brighton Road
Elder Lane
Lake Lane
Clarendon Road
Palmetto Avenue
Beach Boulevard
Francisco Boulevard
Oceana Boulevard
Cabrillo Highway
CA 1

Beach Boulevard Utilities



Source: Beach Boulevard Infrastructure Resiliency Project Existing Conditions Report, January 2021, GHD.

Rockaway Beach
Sewer Infrastructure
Pump Station
Revetment
Pacific Ocean
CITY OF PACIFICA
SEWER SYSTEM BLOCK BOOK
OCT 10 1996
1"=100'
KEY MAP
LEGEND
NORTH SHARP PARK
BK 10
SHT C3
N
ROCKAWAY BEACH AVE
HAWTHORNE AVE
ROCKAWAY PUMP STATION

Rockaway Beach
Stormwater Infrastructure
CITY OF PACIFICA
STORM SYSTEM BLOCK BOOK
OCT 10 1996
KEY MAP
LEGEND
NORTH SHARP PARK
BK 10
SHT C3
DRG1
DRG2
DRH2
Revetment
Pacific Ocean
ROCKAWAY BEACH AVE
HIGHWAY 1
COUNTY ROAD
FRANCISCO BLVD
MANOR DR
FAIRWAY PARK
ESPLANADE AVE

Years Buildings Were Built in SSRAs

North Section of Beach Boulevard: Year Buildings Built

Years Buildings Were Built in SSRAs

South Section of Beach Boulevard: Year Buildings Built

Rockaway Beach: Year Buildings Built