3 ENVIRONMENTAL SETTING

3.1 PHYSICAL CHARACTERISTICS OF THE SAN DIEGO REGION

Located in the southwest corner of the United States, the San Diego region comprises approximately 4,200 square miles and three general physiographic subregions: Southern California coast, Southern California mountains and valleys, and Colorado desert (McNab et al. 2005). To the north, the region is bordered by Orange and Riverside counties, although it is largely separated from Orange County by Camp Pendleton. To the south is the U.S. border with Mexico. The Pacific Ocean forms a natural border to the west, and the region shares a border with Imperial County to the east.

The Southern California coast subregion ranges in elevation from sea level to approximately 2,900 feet above mean sea level (AMSL). Although much of the coastal plain has been developed for commercial, industrial, recreational, and residential uses, the coastal plain also contains state parks, beaches, wetlands, and ecological reserves. Marine terraces step up the coastal plain west to east toward the inland foothills. The Southern California coast subregion also contains foothills and mesas with river valleys and narrow canyons. Several rivers run from the mountain area and through the Southern California coast subregion, flowing into intermittent drainages or the Pacific Ocean. The most intensive urban development, including population, housing, and employment within incorporated and unincorporated communities, is found in the Southern California coast subregion where topography and mild coastal climatic conditions are favorable.

Elevations in the Southern California mountains and valleys subregion range from 100 to 6,500 feet AMSL. The mountains are generally steep and covered with conifer and broadleaf trees, granitic boulders, meadows, and chaparral vegetation. The eastern portion of the San Diego region is the Colorado desert subregion. Elevations range from sea level to 3,400 feet AMSL, and the terrain includes mountains, alluvial fans, and desert floor. The mountain and desert subregions are sparsely populated in scattered towns as part of the unincorporated area of San Diego County. Much of the Colorado desert subregion is part of the Anza-Borrego State Park, the largest state park in California.

The climate of the San Diego region varies by location. Historically, temperatures in the region were typically moderate on the coast, with an average high temperature of 69.9 degrees Fahrenheit (°F) and an average low temperature of 56.5°F. Average monthly temperatures rarely exceeded 75°F, and the average annual precipitation on the coast was 10.13 inches (WRCC 2016). The historical average high and low temperatures in the desert subregion (as measured at the unincorporated town of Borrego Springs) were 88.3°F and 63.6°F, respectively. Average monthly temperatures in the desert subregion typically exceeded 100°F in summer months, and the average annual precipitation in the desert subregion was 5.31 inches (U.S. Climate Data 2019).

Climate change has already impacted the San Diego region, and those impacts are expected to continue to be seen in regional temperatures, heat waves, precipitation, and sea-level rise (see Appendix C). The annual average temperature for the San Diego region is projected to increase 4.8°F by 2050 while coastal areas may be 0.9°F cooler than inland areas by 2050 (Kalansky et al. 2018). Climate change is projected to bring increases in heat wave frequency, intensity, and duration, with the length of the heat wave increasing by 20–50 percent under a 6°F annual average temperature increase (Kalansky et al. 2018). The San Diego region is projected to experience up to 15 extreme heat days by 2050; the region currently experiences an average of 2 extreme heat days per year, so this is a more than seven-fold increase (CEP and SDF 2015). Regional precipitation will remain highly variable but will contain more contrast, with wetter winters, drier springs and autumns, more intense precipitation events,

and more frequent and severe droughts due to climate change (Kalansky et al. 2018). The San Diego region is projected to experience 16 percent fewer rainy days and 8 percent more rainfall during the biggest rainstorms by 2050 (CEP and SDF 2015). Sea levels in the San Diego region have already risen about 0.6 foot over the last century and are expected to rise even faster in the future due to projected climate change impacts (Kalansky et al. 2018).

3.2 RARE AND UNIQUE ENVIRONMENTAL RESOURCES

Due to its diverse topography, geological conditions, and moderate climate, the San Diego region contains several rare and unique ecological and biological resources. The region encompasses a variety of habitats, such as coastal sage scrub, chaparral, grassland, riparian, woodlands, forest, and desert. Several habitats and species in the region are considered sensitive by state and federal agencies, local jurisdictions, and conservation organizations. In fact, the San Diego region is considered a biological "hot spot" for biodiversity and species endangerments, as many unique and endangered species are found only in this region.

Along the coast, the Torrey Pines State Natural Reserve is home to the Torrey pine, the rarest pine in North America. Coastal sage scrub is another unique vegetation community. An important habitat for many species, coastal sage scrub is found from the coast to the mountain regions. As a wetland, the riparian vegetation community (scrub, woodland, and forest) found in the region is one of the most sensitive habitats in California. The San Diego Bay is another important natural resource in the region.

3.3 EXISTING LAND USE AND DEVELOPMENT PATTERNS

This section describes existing land use and development patterns as of 2016, the year in which the Notice of Preparation (NOP) for this Environmental Impact Report (EIR) was published. Urban development is primarily within the western third of the region. Development concentrations are mostly centered along the coast with areas of urbanization branching eastward. This land use pattern is shown in Figure 4.11-1 in Section 4.11, *Land Use*. More than 50 percent of the total land area in the region is not available for urban development, including public lands, dedicated parks and open space, lands constrained for environmental reasons, and military bases. Of the 2,727,138 total acres in San Diego County, 1,521,844 acres are constrained, 670,374 acres are developed, and 534,920 are undeveloped.

Many incorporated cities, both large and small in size and population, are located along the coast and tend to have fairly high density relative to other portions of the region. Historically, development has centered along the coastal areas due to desirability of the location, access to infrastructure and transportation options, and access to employment and commercial centers, among other factors. As shown in Figure 4.11-1 land uses in the western portion of the region generally include residential development, commercial and office use, industrial uses, public and transportation facilities, and interspersed areas of parks and open space. Many of the region's military facilities are also in proximity to the coast.

The cities and portions of the unincorporated county that are situated in more inland and eastern locations tend to have lower-density development and are typically located along major roadways. Historically, many inland locations have focused on maintaining more rural and nonurban characteristics. Land uses in the eastern portion of the region include some centers of urban development, typically along transportation corridors, including State Routes (SR) 78, SR 79, and SR 94 with rural, agricultural, commercial, and industrial uses. However, the majority of the land remains as undeveloped and open space parks with some agricultural lands throughout.

3.4 EXISTING TRANSPORTATION NETWORK

This section describes the existing transportation network as of 2016, the year in which the NOP for this EIR was published. The existing transportation network consists of freeways, highways, managed lanes, a toll road, regional arterials, local streets and roads, light rail systems, heavy rail, rapid bus service, local bus service, bikeways, commercial and general aviation facilities, seaport facilities, and ports of entry at the United States/Mexico border (Figures 4.16-1 through 4.16-3 in Section 4.16, *Transportation*). These facilities serve the region's 18 cities and the County's unincorporated areas, as well as interregional and international commuting.

The largest proportion of major transportation facilities is located in the western third of the region to best serve the largest and fastest growing population areas. This includes the following major interstate highways and state highway routes:

- Interstate 5 (I-5)
- Interstate 8 (I-8)
- Interstate 15 (I-15)
- Interstate 805 (I-805)
- State Route 15 (SR 15)
- State Route 52 (SR 52)
- State Route 54 (SR 54)
- State Route 56 (SR 56)
- State Route 67 (SR 67)
- State Route 75 (SR 75)
- State Route 76 (SR 76)
- State Route 78 (SR 78)
- State Route 79 (SR 79)
- State Route 94 (SR 94)
- State Route 125 (SR 125)
- State Route 163 (SR 163)
- State Route 188 (SR 188)
- State Route 282 (SR 282)
- State Route 905 (SR 905)

The San Diego Metropolitan Transit System (MTS) operates the San Diego Trolley. The existing San Diego Trolley network consists of electrified light rail vehicles operating on the Blue, Orange, and Green Lines. The Blue Line operates between America Plaza in Downtown San Diego and San Ysidro at the international border with Mexico via National City and Chula Vista. Construction is currently under way to extend the Blue Line north to the University City community, also referred to as the Mid-Coast Corridor, and will serve major activity centers such as the University of California San Diego and Westfield University Town Center. Service is anticipated to begin in November 2021. The Orange Line also terminates at America Plaza, with service extending east to El Cajon via southeastern San Diego, Lemon Grove, and La Mesa. The Green Line operates from 12th Street and Imperial Avenue in Downtown San Diego north to Old Town along the bayside, then east to Santee via Mission Valley and San Diego State University.

In North County, the North County Transit District (NCTD) manages the SPRINTER light rail system, which operates diesel-powered light rail vehicles along a 22-mile east-west route serving 15 stations connecting Oceanside, Vista, San Marcos, and Escondido generally along SR 78. NCTD also operates the COASTER commuter rail service along the San Diego region's portion of the Los Angeles–San Diego–San Luis Obispo (LOSSAN) rail corridor from Oceanside to Downtown San Diego.

Amtrak operates the intercity Pacific Surfliner on the LOSSAN corridor connecting San Diego to the rest of the Southern California and nationwide rail system. Metrolink, a regional commuter and passenger train system that operates in Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties, connects with the COASTER and SPRINTER systems via service to the Oceanside Transit Center. There also are three rail freight operators, the Burlington Northern and Santa Fe (BNSF), Pacific Sun Railroad, and the San Diego and Imperial Valley Railroad (SDIV).

Commuter and local bus service is provided throughout the region, including high-volume service to the North County, central, and south bay/border areas. In addition, regional corridor bikeways are primarily aligned in conjunction with major transportation corridors and are supported by an extensive feeder network and local streets.

The movement of goods in the San Diego region involves intermodal systems of air cargo, border crossings, maritime, pipeline, rail, and roadways/truckways. Situated between major production, trade, and population centers, the San Diego region possesses a wide array of transportation and infrastructure assets. The existing transportation system includes interstate highways and state highways, a Class I railroad, a short line railroad, airport cargo systems, the Port of San Diego, and three international border crossings: San Ysidro, Otay Mesa, and Tecate.

Ocean cargo and cruise ship facilities are located on San Diego Bay, providing facilities necessary for the transfer of goods to and from the region via cargo vessels and for the cruise industry. Maritime commerce is carried out at two marine terminals located on San Diego Bay: the 10th Avenue Marine Terminal in the City of San Diego and the National City Marine Terminal at 24th Street. Ferry service operates between Downtown San Diego and Coronado.

The San Diego County Airport System includes 12 public use airports in the San Diego region as well as four military airports/airfields. Tijuana International Airport is located directly south of the U.S.-Mexico border. SDIA, McClellan-Palomar, and Tijuana International Airport (TIA) accommodate commercial, general aviation, and corporate services. Brown Field Municipal, Gillespie Field, Montgomery Field, and Ramona accommodate general aviation and corporate services. The remaining airports accommodate general aviation only, and include Oceanside Airport, Fallbrook Community Airpark, Borrego Valley Airport, Ocotillo Airport, Agua Caliente Airport, and Jacumba Airport. Military airports include Marine Corps Base Camp Pendleton, Marine Corps Air Station Miramar, Naval Air Station North Island, and Naval Outlying Landing Field Imperial Beach. In general, the San Diego County Regional Airport Authority (SDCRAA) is the government entity with jurisdiction over airport planning. In addition, SDCRAA operates SDIA. SANDAG and SDCRAA work together to address long-term ground access improvements to SDIA.

The existing bicycle network in the San Diego region consists of a combination of standard bicycle facilities and regional corridors, including (as of 2021) about 189 miles of Class I bike paths, 1,145 miles of Class II bike lanes, 363 miles of Class III bike routes, and 13 miles of Class IV cycle tracks (SANDAG 2021). In addition, the San Diego region includes 60 miles of the California Coastal Trail (CCT), an interconnected series of coastal hiking, biking, and equestrian trails stretching 1,200 miles along the California coastline from Oregon to Mexico (California Coastal Conservancy 2021).

Chapter 4, *Environmental Impact Analysis*, provides additional, more specific information relating to the existing environmental setting in the San Diego region pertaining to aesthetics and visual resources; agriculture and forestry resources; air quality; biological resources; cultural resources; energy; geology, soils, and paleontological resources; greenhouse gas emissions; hazards and hazardous materials; hydrology and

water quality; land use; noise and vibration; population and housing; public services and utilities; transportation; tribal cultural resources; wildfire; and water supply.

3.5 PLAN CONSISTENCY

CEQA Guidelines Section 15125(d) requires an EIR to discuss any inconsistencies between the proposed project and applicable general plans, specific plans, and regional plans. Land use authority is vested in 18 incorporated cities and the unincorporated County. Consistency of the proposed Plan with these agencies' land use plans (general plans and subregional plans such as specific plans) is discussed in Section 4.11. In addition, consistency of the proposed Plan with applicable regional plans prepared for specific resources is discussed in other Chapter 4 subsections, which analyze the impacts on specific resources.