4. ENVIRONMENTAL SETTING

The proposed Esperanza Specific Plan (the Specific Plan) project area is approximately three miles north of the Santa Ana River and approximately four miles southwest of the Jurupa Mountains, within the Chino Basin. Existing conditions within the project's immediate surrounding area is characterized primarily by agricultural activities and residential uses associated with the agricultural activities. In recent years, a significant increase in the development of low to medium density single-family residential and apartment units has occurred northwest of the proposed project site within the Creekside area of the City of Ontario, and south to southeast of the site within Riverside County. Some industrial warehouse uses exist within Riverside County northeast of the project site.

Topography/Geology/Soils

The proposed 223-acre project site is approximately 3,850 feet long from north to south, and 2,600 feet wide from east to west. The site is relatively flat, and generally slopes and drains from northeast to southwest. The site lacks any significant topographic variation and falls at an average slope of approximately two percent (2%) (see Figure I-3-1, USGS Topographic Map).

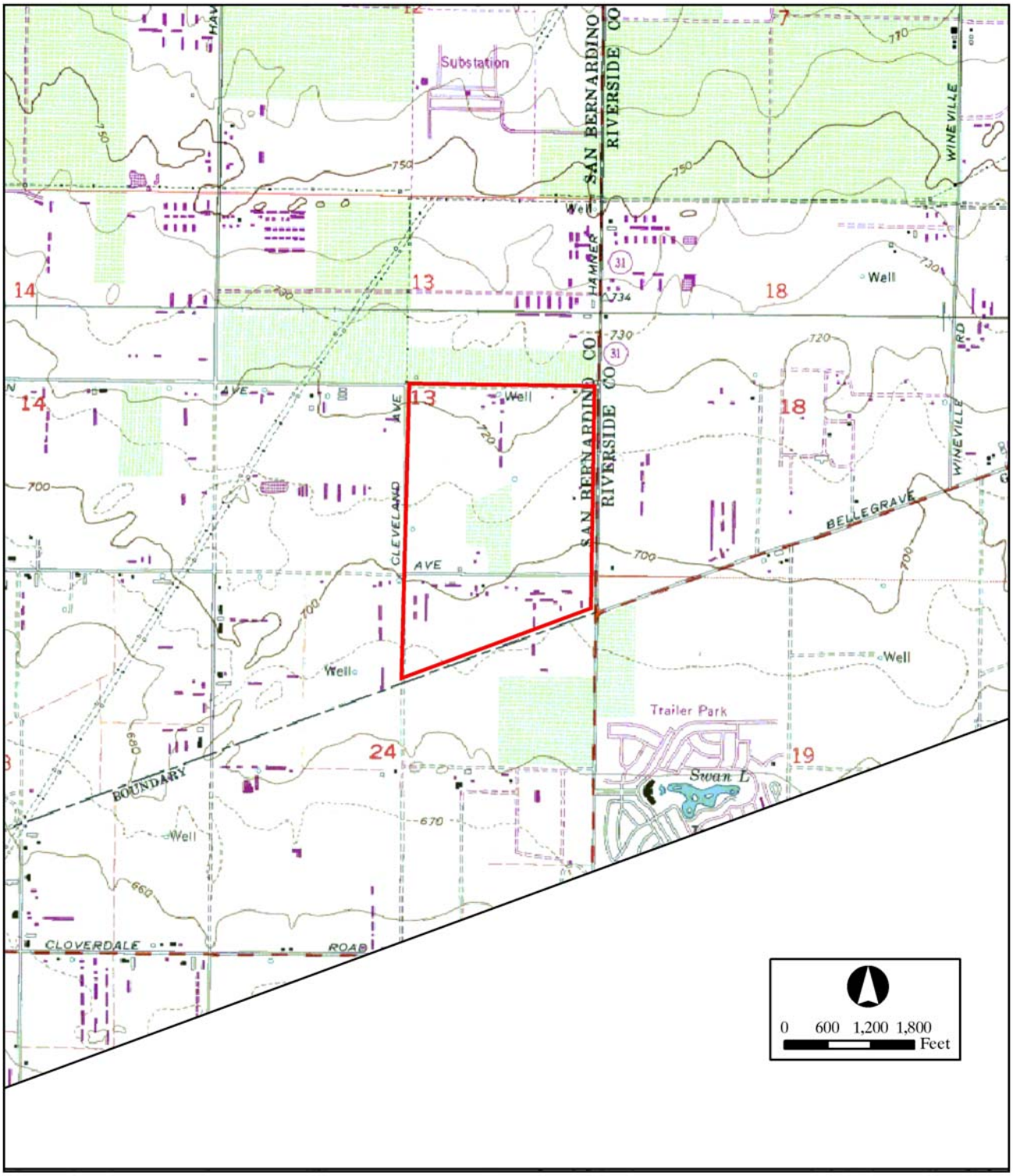
The project site is underlain by Pleistocene age (older than 12,000 years) and Holocene age (less than 12,000 years old) alluvial deposits. The youngest surficial deposit is Eolian sands (Qhs), comprising wind-blown sands having fine to medium-sized grains. These loose sands form sheets and low-dune deposits that have been stabilized by vegetation. These deposits are exposed in the eastern portion of the NMC area and extend westward to an area defined generally by a diagonal line that bisects the NMC from the southern city limits east of Archibald Avenue to Riverside Drive east of Baker Avenue.

It is expected that most of these materials will be uncemented and subject to consolidation when saturated under structural loads. Erosion potential is considered high. Foundation and backfill suitability should be satisfactory with proper over-excavation, mixing with a finer-grained binder material, and compaction.

The proposed Project Site contains Delhi series soils, as mapped by the United States Department of Agriculture, Soil Conservation Service in 1971 and 1980. Delhi series soils have been used for agriculture, primarily for grapes and citrus, since the 1800s.

The depth to groundwater was estimated to be approximately 125 feet below the surface (*Oct 2001, GeoSoils, Inc.*). Therefore, near surface groundwater is not expected on the project site and the potential for liquefaction is considered negligible.

No known active or potentially active faults cross the project site and none exist within the NMC. The nearest Type A fault is the Cucamonga Fault, located approximately 12.5 miles north of the project site. The nearest Type B fault is the Chino-Central Avenue (Elsinore) fault zone, located approximately 6.9 miles south of the proposed project site. For further detailed analysis of the topographic, soils and geologic site conditions, reference Section III-5 of this EIR.



Source: U.S. Geologic Survey, Corona North Quadrangle

USGS Topographic Map

Figure I-4-1

Agricultural Resources

The NMC is located in the central portion of the Chino Basin and is located within the San Bernardino County Agricultural Preserve. Many of the properties within the NMC have been subject to Williamson Act Contracts, a tool utilized by the state to provide the agricultural landowner with property tax breaks while also assisting in the long-term preservation of agricultural land. Historically, agriculture has been the primary land use throughout this area of southern California, including dairies, crop farms and wineries. Dairy operations in the Chino Basin area began more than 40 years ago. At its height, the larger Chino Basin, of which the NMC is a part, contained the highest concentration of dairy animals found anywhere in the world. According to the California Department of Food and Agriculture, there were approximately 354 dairies operating in the Chino Basin in 1989. As of 1999, about 300 dairies operated in the Chino Basin.

The proposed project site is part of the overall 8,200 acre area which was annexed into the City of Ontario, on November 30, 1999. In 1998, the City of Ontario adopted the GPA for the NMC which laid out a strategy for the development of the NMC. The proposed Specific Plan project area consists of approximately 223 acres of agricultural land. For further detailed analysis on the agricultural resources, reference Section III-1 of this EIR.

Air Quality

The project site lies within the boundaries of the eastern portion of the South Coast Air Basin (SCAB). The SCAB consists of Orange County together with the coastal and mountain portions of Los Angeles, Riverside, and San Bernardino counties. The interaction of land (offshore) and sea (onshore) breezes control local wind patterns in the area. Daytime winds typically flow from the coast to the inland areas, while the pattern typically reverses in the evening, flowing from the inland areas to the ocean (SCAQMD, 1993). Air stagnation may occur during the early evening and early morning when the transition between day and nighttime flows occurs. The region also experiences periods of hot, dry winds from the desert, known as Santa Ana winds.

Dominant onshore flow provides the driving mechanism for both air pollution transport and pollutant dispersion. Air pollution generated in coastal areas is transported east to inland areas by onshore flow during the daytime, at which point a natural barrier (the mountains) is confronted that limits the horizontal dispersion of pollutants. The result is a gradual degradation of air quality from coastal areas to inland areas, most evident with photochemical pollutants such as ozone. The greatest ozone problems are evident at the South Coast Air Quality Management District's (SCAQMD) monitoring stations located at the base of the San Gabriel and San Bernardino mountains, from the City of Santa Clarita east to the City of San Bernardino. For further detailed analysis of air quality, reference Section III-2 of this EIR.

Biological Resources

The proposed Specific Plan project site has been extensively used for agricultural operations, including dairy uses. Those areas not in active agricultural production are occupied by rural residential housing or open drainage facilities. The natural and vegetative conditions that once

occurred throughout the project area have been significantly altered through agricultural uses, leaving minimal native vegetation.

Based on a Biological Habitat Assessment (*Ecological Sciences, June 2005*), the proposed project site was evaluated and considered to be of low biological constraint and value. This designation is due to the high level of disturbance due to recent and long-standing agriculture-related activities resulting in low biological diversity on the proposed project site, absence of native plant communities, and the overall low potential for special status species to utilize or reside within areas proposed for development.

The federally endangered Delhi sands flower-loving fly (DSF) is known to exist in western San Bernardino County. Delhi soil groups are mapped within the project site. Biological surveys have determined that no suitable habitat exists on site, additionally, DSF protocol surveys were performed and no DSF have been sited within the project site over three years of surveying. For further detailed analysis on the biological resources, reference Section III-3 of this EIR.

Hydrology and Water Quality

The project site is located in the Chino Basin, which is part of the larger Santa Ana River watershed. The Regional Water Quality Control Board (RWQCB), Santa Ana Region (Region 8) is responsible for regulating the Santa Ana River watershed and watercourse. The Santa Ana RWQCB regulates surface and groundwater quality through adoption of water quality plans, standards and issuance of watershed permits.

The Santa Ana River, located approximately two to three miles south, is the closest river to the project site. Cucamonga Creek Channel, which is a San Bernardino County Flood Control facility, is a concrete-lined channel with no natural flow characteristics and located approximately two mile to the west of the project site. Day Creek Channel, which is in Riverside County Flood Control facility is also a concrete-lined channel with no natural flow characteristics and located approximately two miles east of the project site (see Figure I-2-2, Vicinity Map).

Dairy and agriculture operations characterize the project area. Per the GPA for the NMC Final EIR, approximately 600,000 dry tons of manure is produced in the Chino Basin from dairy cows in one year. The combination of washwater (used to rinse dairy cows prior to milking) and manure contains high salt levels (nitrogen and total dissolved solids [TDS]). Therefore, the Santa Ana RWQCB has restricted the method in which dairies can dispose of wastes. Washwater is required to be maintained on-site, limited quantities of manure are allowed on-site and excess manure must be transported and disposed of at regulated disposal and/or composting facilities. Groundwater within the NMC, as a whole, contains high concentrations of salt attributable to historic dairy farming.

Because most of the project site has been in agricultural use, only a limited portion of the project site is now covered with impervious surfaces. Normal rainfall to the area is, therefore, able to percolate through on-site soils and does not result in high volumes of surface run-off, as typically associated with urban areas. With the exception of major flood control channels such as

Cucamonga Channel and County Line Channel, intended to carry urban runoff, the existing storm drain system throughout the NMC, including the project site, is generally unimproved and consists primarily of open earthen swales along area roadways or curbed roadway surfaces. The southern portion of the project site contains a detention basin and open earthen culvert to collect surface runoff.

The high organic content of on-site soils in the NMC has contributed incrementally to the degradation of surface and ground water quality. Removal of the organic materials that constitute by-products of the dairy operations, and compliance with National Pollution Discharge Elimination System (NPDES) and other storm water permit requirements, will beneficially impact regional water quality. For further detailed analysis on the hydrologic and water quality conditions, reference Section III-7 of this EIR.

Unique Environmental Conditions – Methane

Due to the historical presence of dairies in the area, methane accumulation in the subsurface and surface ground cracking are becoming increasing problems as dairies are developed with residential and commercial structures. Methane generation in the subsurface is a result of organic matter decomposition with the soil in oxygen deficient conditions. Generally, areas prone to high concentration levels methane accumulation are located near a detention basin and/or pond used to store wastewater generated from the dairy and dairy feed lots. Surface ground cracking is also associated with organic materials (manure) mixed with the native soils.