

CHAPTER 2.0 SIGNIFICANT ENVIRONMENTAL EFFECTS OF THE PROPOSED PROJECT

2.1 Mineral Resources

A mineral resources investigation was prepared by David L. Schug with URS Corporation. The report, entitled “Mineral Resources Investigation Shadow Run Ranch” dated February 15, 2013, and Addendum to Mineral Resources Investigation, August 16, 2013 are included as Appendix T ~~Volume III~~, of the technical appendices of the DEIR.

2.1.1 Existing Conditions

Topographic Setting

The project area is within the Pauma Valley above the San Luis Rey River (SLRR). The property encompasses broad alluvial fans emanating from the Agua Tibia Mountains to the east.

Portions of the project site are mapped as MRZ-2 (see Figure 2-1-1, “Mineral Resource Zones”). The California Division of Mines and Geology defines MRZ-2 as those areas where adequate information indicates that significant mineral resources are present or where it is judged that a high likelihood for their presence exist.

The land within the MRZ-2 portion of the project area consists of a broad, gently sloping terrace-like surface that slopes down to the south towards the SLRR. Ground surface elevations within this area range between about 1,130 feet and 730 feet MSL. The upper part of the site (not within an MRZ-2) is a relatively steep mountain front.

The Elsinore Fault extends across the upper portion of the MRZ-2 area onsite. Past movement along the fault has created the relatively steep hillside area, to the east and upslope of the proposed residential area. The ground surface west of the fault slopes down to the west at about a 10 percent gradient. The land surface flattens to a gradient of about 6 to 7 percent slope in the approximate mid-portion of the proposed residential area.

Mineral Resource Potential

The MRZ-2 designation encompasses alluvial fan deposits on the northern and eastern sides of Pauma Valley (Figure 2-1-1). According to the County of San Diego Guidelines, this area encompasses about 5,818 acres and would potentially be a source of construction materials including sand, gravel and crushed rock.

According to the United States Geologic Survey, several past private producers have mined Quaternary alluvium as a source of construction sand and gravel in the same MRZ-2 area. Most of these operations involve extracting recent alluvial deposits from the SLRR.

A former quarry in an alluvial fan deposit near Pala covers an area of about 0.25 square miles to a depth of at least 20 feet, and consists of crudely stratified lenses of cobbles and boulders. After being crushed, sized, and washed, the material was used as concrete aggregate (Bureau of Mines, 1982).

Another former quarry had operated by Vulcan Materials within alluvial fan deposits about 3 miles west of the project site. The former 200-acre quarry has been closed for some time and is presently operated as an off-road vehicle park. Our brief reconnaissance of the former quarry indicates alluvial fan deposits had been removed from within broad pits to depths up to about 20 feet. There apparently has been no reclamation of the former pits.

Geology

The MRZ-2 within the project area includes Younger and Older Fan Deposits. Alluvial fan deposits underlie the entire proposed development area.

Exploratory trenches were excavated onsite during previous fault investigation (URS, 2001, 2009). Ten fault trenches were excavated mostly in the older (alluvial) fan deposits. The trenches were excavated with a heavy-duty backhoe, typically to refusal depths.

The alluvial fan deposits were described in the trenches as very coarse grained, largely unstratified and very poorly sorted. The deposits were primarily sandy containing a large percentage of gravels, cobbles and boulders. The boulders are mostly granitic, with diorite and dark gabbro. The alluvial fan deposits extend to depths at least 17 feet below ground surface, the maximum depth of the trenches. The granitic gravels, cobbles and boulders within the depths of the trenches were weathered and decomposed to varying degrees. Topsoil and other soil overburden were relatively thin in the trenches.

The fan gravels were highly weathered and decomposed in trenches excavated at higher site elevations, located generally along and to the east of the Elsinore fault (URS, 2009). Beneath a thin layer of younger alluvium, highly weathered and decomposed boulders were estimated to comprise about 30 percent of the older alluvium.

Although the alluvial fan deposits extend to depths greater than the trenches, the materials appear to become more weathered with depth. Existing water supply wells drilled along Frey Creek penetrated young alluvium and continued into the underlying older alluvial fan deposits, terminating in granitic bedrock. At depths greater than several tens of feet, the available well logs typically describe the boulders as “decomposed with iron coatings”, with zones of “DG” and clay layers.

2.1.2 Analysis of Project Effects and Determination as to Significance

To evaluate whether or not the onsite deposits within the MRZ-2 would be considered significant for construction material, three things were considered: anticipated material

quality and extraction requirements, land use compatibility, and an assessment of marketability and minimum dollar value for the extractable resource volume.

The material waste percentage of the alluvial fan deposits in the Pauma Valley area had been estimated at about 20 percent (WCC, 1979). Waste materials would result primarily from the high fines content and variable composition and weathering of the gravels, cobble and boulders. The more highly weathered and decomposed materials (as observed in the trenches) would likely provide low quality coarse aggregate material. The bulk unit weight is estimated to be about 98 pounds/cubic foot (1.3 tons/cubic yard).

Based on the trenches, the older alluvial fan deposits could be excavated to depths up to about 15 to 20 feet using heavy-duty grading equipment, such as a track-mounted track hoe (e.g., Komatsu 400PC with pneumatic rock breaker). Other earth moving equipment, such as a large dozer with ripper shanks and front end loader would be required to manage materials. An onsite grizzly and crusher would be required.

The material would need to be crushed, sized, and washed, to be used as concrete aggregate. Considering land use, an onsite quarry would need to have appropriate setbacks from property lines, environmentally sensitive areas, the Elsinore Fault and existing residences.

Some acreage would also be required for onsite crushing, processing and operations facilities. These constraints would reduce the amount of material that could be extracted from the site.

The potentially mineable area would be within the gently sloping topography down slope (west) of the Elsinore fault. The older fan deposits within the higher site areas (to the east of the fault) are likely too highly weathered and decomposed to be suitable for aggregate.

Given the above constraints, it is assumed an approximate 50-acre quarry could be located on the project site. Alluvial fan deposits over this area would be excavated to an average depth of about 15 to 20 feet. This would avoid open pit mining and potentially encountering groundwater. At least some of the disturbed area could be restored in the future.

Approximately 20 percent of the material would be non-commercial waste material. The total volume of the alluvial fan deposits within a 50-acre quarry (extracted to an average depth of 20 feet) would be approximately 1.3 million cubic yards (about 1.7 million tons). However, the existing residential properties along Adams Drive would require 1,300-foot noise buffer zones, which would constrain the potentially extractable acreage onsite to about 30 acres, thus decreasing the amount of material that could be extracted. Thus, the total volume of the alluvial fan deposits (mined to an average depth of 20 feet) would be approximately 770,000 cubic yards (about 1.0 million tons) for a 30-acre quarry.

2.1.2.1 Guidelines for the Determination of Significance

The County of San Diego’s *Guidelines for Determining Significance and Report Format and Content Requirements Mineral Resources (July 2008)* states that the following significance guidelines should guide the evaluation of whether a significant impact to mineral resources will occur as a result of project implementation.

A project will generally be considered to have a significant effect if it proposes any of the following, absent specific evidence to the contrary. Conversely, if a project does not propose any of the following, it will generally not be considered to have a significant effect on mineral resources, absent specific evidence of such an effect:

Guideline 1: The project is: on or within the vicinity (generally up to 1,300 feet from the site) of an area classified as MRZ-2; or on land classified as MRZ-3; or underlain by Quaternary alluvium; or on a known sand and gravel mine, quarry, or gemstone deposit, AND the project will result in the permanent loss of availability of a known mineral resource that would be of value to the region and the residents of the state; AND the deposit is minable, processable, and marketable under the technologic and economic conditions that exist at present or which can be estimated to exist in the next 50 years and meets or exceeds one or more of the following minimum values (in 1998 equivalent dollars):

Construction materials (sand, gravel, crushed rock)	\$12,500,000 ⁽¹⁾
Industrial and chemical mineral materials (limestone, dolomite, and marble [except where used as construction aggregate]; specialty sands, clays, phosphate, borates and gypsum, feldspar, talc, building stone and dimension stone)	\$2,500,000
Metallic and rare minerals (precious metals [gold, silver, platinum], iron and other ferroalloy metals, copper, lead, zinc, uranium, rare earths, gemstones and semi-precious materials, and optical-grade calcite)	\$1,250,000

Note 1: For purposes of this analysis, a minimum value of \$15,000,000 is utilized, based on Consumer Price Index conversion from 1998 to 2005 (per County Report Format and Content Requirements).

The project site is partially on an area classified as MRZ-2 and also adjacent to areas classified as MRZ-2. The project will result in the permanent loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

Major issues exist relative to mineral resource availability at the project site, including land use incompatibility, noise restrictions and biological constraints and marketability, as described below.

Land use compatibility considers onsite impacts from proposed onsite land uses, offsite impacts from proposed onsite land uses, and onsite impacts from offsite land uses as it relates to mineral resources.

Land Use - Onsite Impacts from Proposed Onsite Land Use

The Proposed Project would likely preclude sand and gravel mining on the same property.

The analysis of minimum dollar value indicates an onsite quarry needs to be at least about 35 to 40 acres to meet the minimum dollar value. The potentially mineable area is approximately ~~183440~~ acres and would exceed the minimum dollar value per County Guidelines. See Figure 2-1-2, “Conceptual Onsite Quarry Resources”.

Land Use - Offsite Impacts from Proposed Onsite Land Use

Existing residential properties are present along Adams Drive within 1,300 feet of the potential onsite mineable area. This offsite area would not support a mining operation. Similarly, the narrow 1,300-foot strip along and beyond Highway 76 to the south would not be practical to mine. The SLRR is too narrow to mine in the riverbed without flooding.

A portion of the MRZ-2 to the north of Frey Creek and within 1,300 feet of the proposed development could be mined for older alluvial fan deposits that underlie the project site. See Figure 2-1-3, “Offsite Quarry Resources”. The offsite impacted area would be about 60 acres. Assuming all of the 60 acres could be mined to an average depth of 20 feet, the total volume of the alluvial fan deposits would be approximately 1.5 million cubic yards (about 2.1 million tons).

Land Use - Onsite Impacts from Offsite Land Uses

The existing residential properties along Adams Drive would require 1,300-foot noise buffer zones, which would constrain the potentially extractable acreage onsite to about 75 acres. The total volume of the alluvial fan deposits (mined to an average depth of 20 feet) would be approximately 1.9 million cubic yards (about 2.6 million tons). See Figure 2-1-4, “Onsite Impacts from Offsite Land Uses”.

Marketability

According to the San Diego County General Plan Update EIR, the total amount of permitted aggregate resources in western San Diego County is only about 17 percent of the estimated 50-year demand for the County. With this projected deficit, the onsite materials may be marketable between the short term and the next 50 years.

Minimum Dollar Value

Assuming a given deposit is marketable, the County significance criteria consider whether or not a deposit meets a minimum dollar value. This analysis utilizes a

minimum value of \$15 million as noted above. This amount is considered consistent with the current depressed status of the sand and gravel industry in San Diego (Jim Bennett, personal communication, February 2012).

The average cost of coarse aggregate in San Diego County was reported at about \$15/ton (EnviroMINE, 2007). However, the average cost of coarse aggregate sold at Rosemary's Mountain quarry is currently about \$12/ton (Gary Nolan, Granite Construction, personal communication, 2012).

- The value of the 110-acre mineable area of the site would be about \$46 million dollars. This amount would be less than the County's minimum dollar value criteria (for 2005).
- The value of the 75-acre noise impacted offsite area would be about \$31 million dollars, which is above the minimum dollar value criteria (for 2005).

Because the project is in an area classified as MRZ-2; AND the project will result in the permanent loss of availability of a known mineral resource that would be of value to the region and the residents of the state; AND the deposit is mineable, ~~processable~~ processable, and marketable under the technologic and economic conditions that exist at present or which can be estimated to exist in the next 50 years and meets or exceeds one or more of the minimum values presented, Guideline 1 is exceeded, impacts are significant, and mitigation is required. **(MR-1)**

Guideline 2: The project would result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

The project site is not listed on any local general plan, specific plan, or other land use plan as being a locally-important mineral resource recovery site. Guideline 2 is not exceeded, impacts are less than significant, and no mitigation is required.

2.1.3 Cumulative Impacts Analysis

The cumulative analysis considers all of the cumulative projects listed in Table 1-1 and Figure 1-6. Of the 27 cumulative projects considered, one, GPA 06-009, Warner Ranch, has impacts related to mineral resources. This impact occurs approximately eight miles west of the Proposed Project, in alluvium associated with the foothills of Palomar Mountain. Mitigation is not possible because the location of even a few residences near the alluvium would preclude mining due to issues of dust, noise, and required setbacks. The Warner Ranch project was withdrawn in 2019. This effect, considered in combination with the unmitigable impacts of the Proposed Project, does not create a significant cumulative impact because adequate resources remain in the region to provide

needed gravel and sand. This includes extensive areas within the cumulative study area along the San Luis Rey River. Thus, cumulative impacts are determined to be less than significant.

2.1.4 Significance of Impacts Prior to Mitigation

MR-1 The project is in an area classified as MRZ-2; AND the project will result in the permanent loss of availability of a known mineral resource that would be of value to the region and the residents of the state; AND the deposit is minable, processable, and marketable under the technologic and economic conditions that exist at present or which can be estimated to exist in the next 50 years and meets or exceeds one or more of the minimum values presented in the County's guideline.

2.1.5 Mitigation

There is no feasible mitigation that can reasonably be proposed to mitigate for the loss of potentially-minable mineral resources. ~~because even a few residences on the site would preclude mining due to the required 1,300 foot setback.~~ Pursuant to the County's Mineral Resources significance guidelines, the only mitigation measures for the project would be extraction, reclamation and then project construction, or avoidance of the mineral resources. Neither of these are feasible as the housing would not be built for many years while the mine is permitted (if it could be permitted) and operated. Similarly, avoidance is not possible due to the areal extent of the potential mineral resources that would also result in the housing not being constructed.

2.1.6 Conclusion

A mineral resources analysis was prepared by URS. Alluvial fan deposits underlie the proposed development area within the MRZ-2. The analysis concluded that major issues exist relative to mineral resource availability at the project site, including noise restrictions and biological constraints. The onsite alluvial fan materials are variable in composition and quality, and would require processing to be suitable as construction materials. These deposits are only marginally suitable as sources of construction materials due to the high waste percentage, and the variable weathering of the granitic materials. Nevertheless, the loss of this MRZ-2 resource within the site area would be considered significant, pursuant to County guidelines. Impacts are significant. No feasible mitigation can be proposed because mining options would preclude residential development entirely. Cumulative impacts are not significant because adequate resources remain in the area that can provide gravel and sand.



URS

1" ~ 3200'

Topographic Base Map by U.S. Geological Survey
Reduced from 1:24,000

EXPLANATION



Drill Hole



OUTER BOUNDARY AREAS SUBJECT TO URBANIZATION

Boundaries established from data supplied by the Office of Planning and Research with modifications developed from information supplied by local government and other sources. Hachures lie within area undergoing urbanization.



EXISTING URBAN BOUNDARIES

Boundaries established by the Office of Planning and Research and by data supplied by local government agencies and other sources to reflect present conditions. Hachures lie within urban areas.



PRODUCTION-CONSUMPTION REGION BOUNDARY

(see text for discussion)

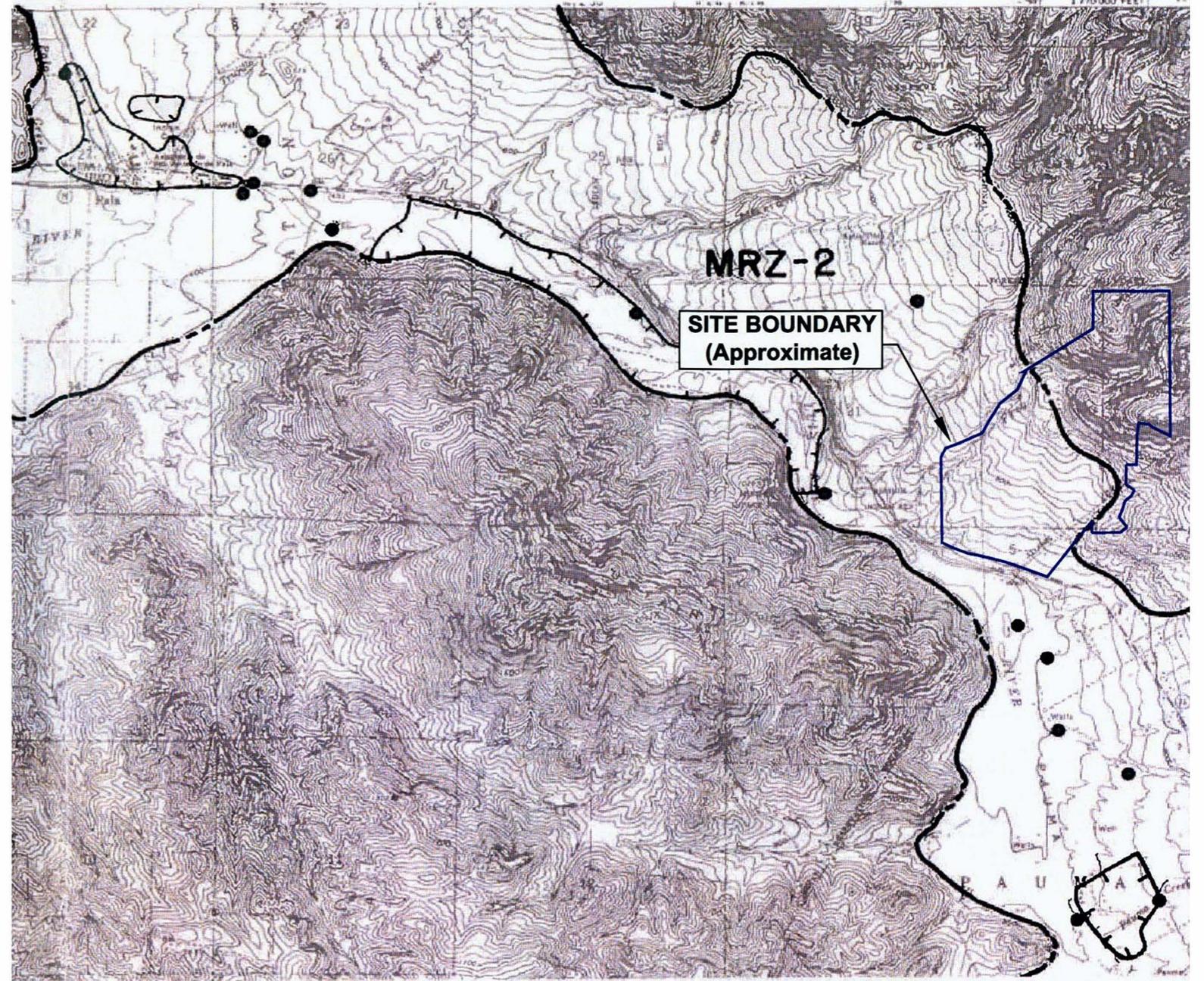
MRZ-1 Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists in their presence.

MRZ-2 Areas where adequate information indicates that significant mineral deposits are present or where it is judged that a high likelihood for their presence exists.

MRZ-3 Areas containing mineral deposits, the significance of which cannot be evaluated from available data.

MRZ-4 Areas where available information is inadequate for assignment to any other MRZ zone.

See text for additional explanation of MRZ Symbols.



**MINERAL LAND CLASSIFICATION MAP
AGGREGATE RESOURCES ONLY**

PREPARED IN COMPLIANCE WITH THE SURFACE MINING
AND RECLAMATION ACT OF 1975, ARTICLE 4, SECTION 2761

GeoMark
DATE 02.09.03 FEBRUARY 15, 2003

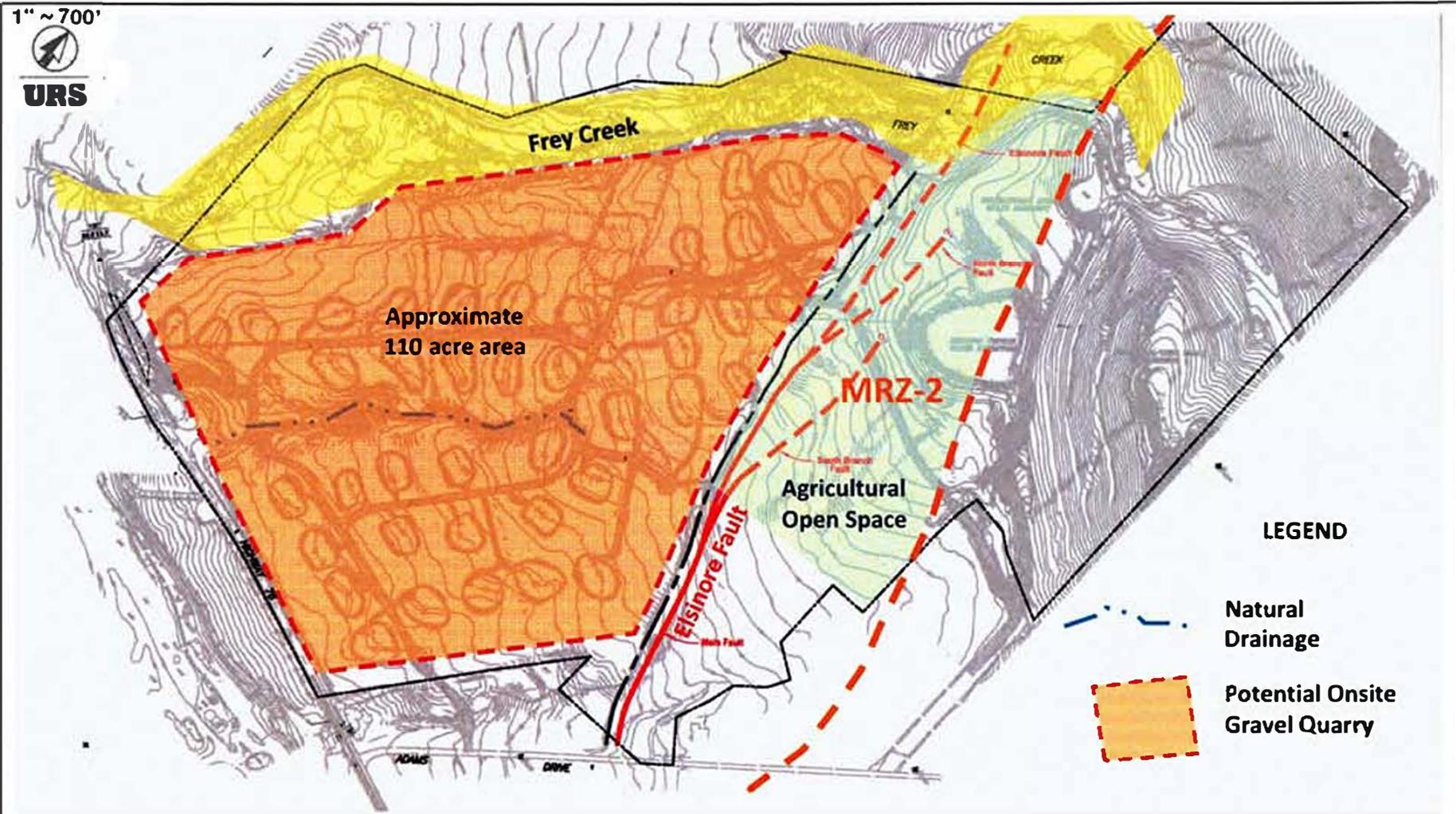


Figure
2-1-2

Conceptual Onsite Quarry

1" ~ 735'



URS

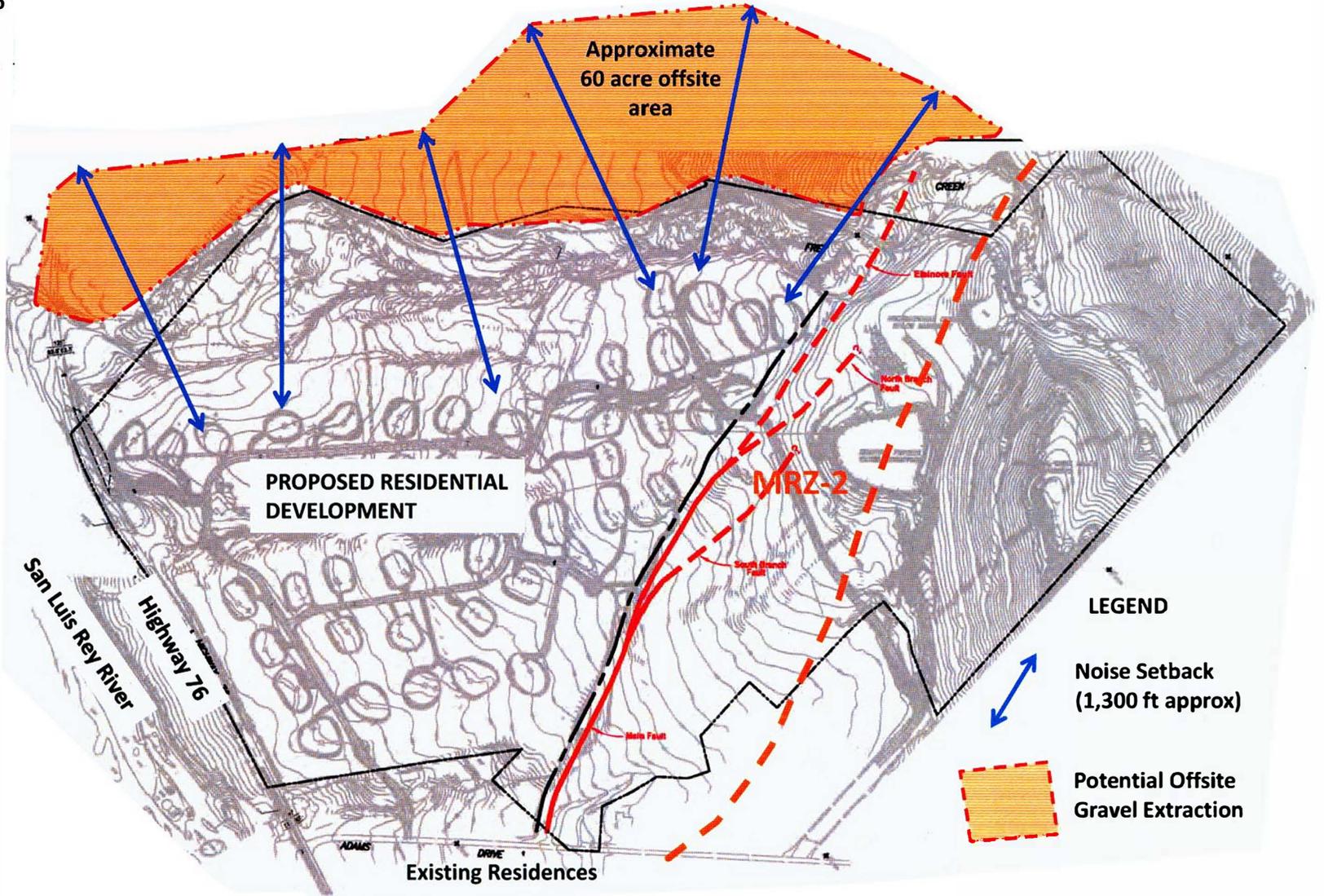
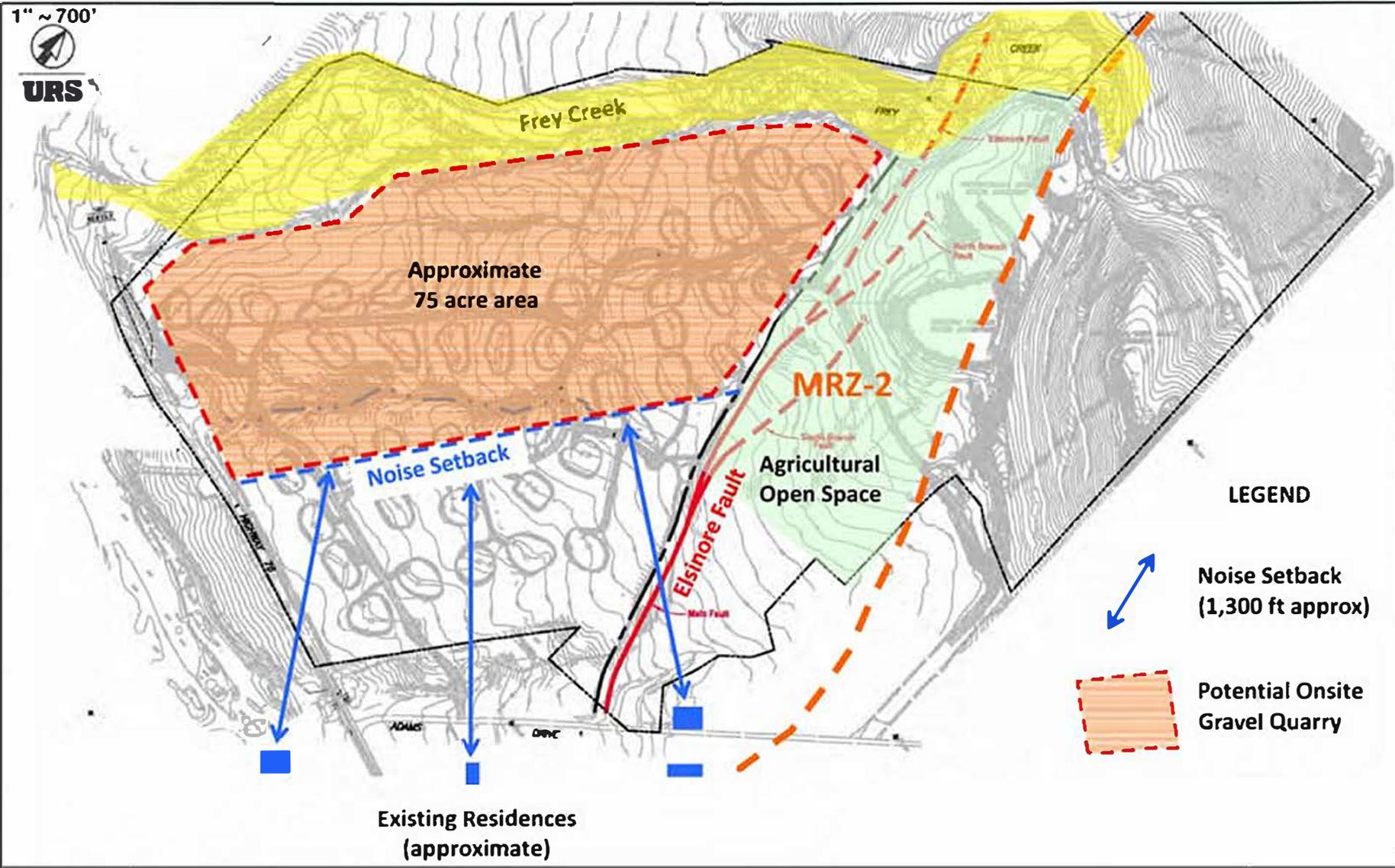


Figure
2-1-3

Offsite Quarry Resources



**Figure
2-1-4**

Onsite Impacts to Offsite Land Uses



2.2 Aesthetic Resources

An aesthetics analysis was prepared by Jerelyn B. Dilno, who is on the County of San Diego's Consultant List approved to prepare aesthetic analyses. The report, entitled "Visual Resources Impact Report for Shadow Run," dated December 2013, is included as Appendix A of the technical appendices of the DEIR.

2.2.1 Existing Conditions

The site of the Proposed Project is located approximately two miles northwest of the intersection of State Route 76/Pala Road (SR76) and Cole Grade Road. SR76 is the main artery connecting the Pala/Pauma region to Interstate 15 (I15) to the west and State Route 79 (SR79) to the east, and forms the south boundary of the project site.

The segment of SR76 that is within the viewshed of the proposed site is not designated as a scenic highway in the Scenic Highway Element of the San Diego County General Plan.

The site extends northerly with increasing elevation from SR76 approximately 3,500 feet to a ridge beyond a private reservoir onsite. The project site has an overall southwest-facing aspect. Southwest of the site across the San Luis Rey River, steep slopes increase in elevation from the river and generally have a northwest-facing aspect and have some agricultural grove development. The project site consists primarily of citrus and avocado groves, and surrounding development consists of similar agricultural uses along with rural residential development.

2.2.1.1 Landscape Units

There are three distinct landscape units on the project site, as shown in Figure 2-2-1, "Landscape Units."

Landscape Unit 1 is the northeastern section of the site, which is the termination of a ridge that rises above a private water reservoir. The primary element of this landscape unit is the reservoir and adjacent hillside and knoll which form the northeastern edge of the property. The terrain slopes upward approximately 430 feet from the flatter section near the center of the property along the eastern boundary creating a graduated grade from the lowest point to the foot of the knoll. The color moves from the green of the avocado groves, which define the western edge of the unit, to the more barren and steeper slopes above the reservoir. The ~~water feature~~ reservoir provides a natural break in color as the terrain becomes steeper. There is a shift in texture as the slope increases. ~~The most dominant feature of Landscape Unit 1 is the reservoir in the northeastern portion of the site.~~ Just above the reservoir the terrain slopes more sharply to the high point of the site, a knoll with an elevation of approximately 1,410 feet. These two features set the scale and diversity of the

landscape unit. Continuity is expressed by the continuing line of grade from the vegetated areas to the foot of the knoll.

Landscape Unit 2 forms the major portion of the site, northeasterly from SR76 to the reservoir. It is primarily composed of groves and is the proposed location of the PRD. Landscape Unit 2 is relatively uniform. The unit extends from the southern property boundary of SR76 northeasterly approximately two-thirds of the distance to the reservoir. At that point the rate of grade increases slightly and the groves change from citrus to primarily avocado. The line, color and texture of the landscape unit are uniform; the citrus groves are geometric and of the same deep green color throughout. The texture is broken only by service paths through the groves. The groves are the dominate feature of the landscape unit. There is little diversity, only that produced by service paths in the groves and a service road running northeast from the southern boundary to approximately the center of the project site. Scale and continuity are uniform throughout the landscape unit.

Landscape Unit 3 is a shallow to deeply incised drainage known as Frey Creek along the western edge of the property. It begins at the southwest corner of the property and extends to the northern edge of the site, generally following the western edge of the site. The dominant feature is the sandy/rocky drainage course and narrow dirt road through the natural vegetation, which forms the line of the landscape unit. The color and texture are defined by the natural scrub vegetation in the drainage. Landscape Unit 3 is the least dominant feature on the site as it is located at lower elevation than the rest of the site. The scale is minimal in comparison with Landscape Units 1 and 2. Landscape Unit 3 shows little diversity in character either in the color, shape or texture. It does have a sense of continuity as it traverses the western boundary.

2.2.1.2 Key Views

Four key views were selected to analyze the potential negative effects to the aesthetic quality of the site. Figure 2-2-2, "Index to Key Views," shows the locations and perspectives of the key views. This section describes the existing view from each key location.

Key View 1

Key View 1 is taken from SR76 (Pala Road) looking northwesterly into the project site. The existing view is of citrus and avocado groves. Figure 2-2-3, "Key View 1, SR76 (Pala Road) Looking Northwest," demonstrates the perspective from the roadway for a traveler heading westerly toward Pala. There are three distinct border tree groupings. Approaching from the southeast, looking northeasterly, a viewer will encounter a stand of large mature trees where Adams Drive intersects SR 76. These trees completely screen the proposed site to the west. See Figure 1-2C, "Conceptual Landscape Plan," for the location of existing trees. Figure 1-2D provides the detail

notes for the plan. After passing the mature trees, there are no trees immediately bordering the shoulder of SR76 for a distance of approximately 330 feet. The citrus grove sits approximately 15 feet from the pavement along this stretch of roadway. A roadway and gated service road that is perpendicular to SR 76 occurs in this area. The entry is screened by a palm and a row of densely vegetated persimmon trees that parallels the highway. In the distance can be seen a stand of mature oaks that occur approximately 680 feet from the southwest boundary of the site.

Key View 2

Key View 2 is taken from SR76 (Pala Road) traveling southeasterly and looking northerly into the project site, as shown in Figure 2-2-4, “Key View 2, SR76 (Pala Road) Looking Southeast,” The approximate boundary of the Proposed Project is shown in red. The viewer approaches the proposed site rounding a curve in the road. As the traveler approaches the project site, the first visual is of an older cut bank. This area is covered in dense native vegetation. As the traveler proceeds southeasterly the character of the vegetation bordering the roadway changes to a stand of tall mature oaks, seen in the photograph. Beyond these, the stand of persimmon trees adjacent to the roadway is encountered. These trees form a barrier between SR76 and the existing grove access road, as shown in Key View 1. After passing the palm tree, noted in Key View 1, the character of the trees bordering SR76 changes to citrus.

Key View 3A

The perspective of Key View 3A (Figure 2-2-5) is from residents living to the east of the Proposed Project. The specific photo was taken from a private drive, approximately 1,430 feet east of the property. The view was selected because it is typical of residents living along Adams Drive, east of the Proposed Project. The area in the vicinity of Key View 3A is comprised of Rural Residential homesites that have a substantial agricultural component. From the aerial view, several groves and thick stands of trees are apparent. From the ground view, it is clear that the project site is well screened from this view. Landscape trees line Adams Ave. and each homesite has a complement of ornamental trees and citrus groves.

Key View 3B

This view (Figure 2-2-6) is taken from Adams Ave. at the intersection of El Sandero Drive and looks northwesterly toward the Proposed Project. The area in the vicinity of Key View 3B is comprised of Rural Residential homesites that have a substantial agricultural component. From the aerial view, several groves and thick stands of trees are apparent. Adams Ave is bounded by thick stands of trees and other natural vegetation. Note that the area immediately in front of the viewer is part of an approximately 450 foot wide area that is off site and will not be developed. This view

represents the perspective of travelers along Adams Ave. as well as homes to the east side of the roadway.

The viewshed of the Proposed Project is shown on Figure 2-2-8, “Existing Viewshed.”

2.2.2 Analysis of Project Effects and Determination as to Significance

Project aesthetic impact analysis considers several factors, including viewer response, viewer sensitivity, viewer groups, viewer exposure, and viewer awareness. Each of these is discussed below.

2.2.2.1 Viewer Response

Viewer response evaluates four variables: sensitivity, viewer groups, exposure and awareness.

2.2.2.2 Viewer Sensitivity

Sensitivity to the site is an effort to predict the level of response to the visual landscape at the public level. The Pala-Pauma Subregional Plan does not specify any goals or policies with regard to aesthetics. However, experience predicts that different viewer groups in the area will have varied responses to the scenic quality of the site. The following sections will describe the viewer groups and their general experience of the scenic components of the site.

2.2.2.3 Viewer Groups

Viewer groups are defined by the distinct view they have of the site. Three viewer groups are identified: travelers along SR76, the southwestern boundary of the site; residents of the rural estate homes to the east of the site; and recreational users of the national forest lands to the north of the site. The area to the west is uninhabited. A review of the area using Google Earth indicates the only inhabited area is Agua Tibia Ranch, which is shown in on Figure 2-2-8, “Existing Viewshed ,” to be outside the viewshed of the project. A recreational vehicle camping site is located south of the site across SR76, which is otherwise uninhabited.

2.2.2.4 Viewer Exposure

Two types of travelers, commuters and visitors, comprise the viewer group along SR76. The speed limit is 55 miles per hour (mph). The site would be in view for approximately 0.8 of a mile. Therefore, the average traveler would be able to view the site for approximately 53 seconds. The average daily traffic count (ADT) along SR76

is 540². The quality of the view depends on the screening features of the terrain and the interest of the traveler.

There are approximately 19 homes within a three-quarter mile radius of the site's eastern boundary. These homes are rural residential and have mature landscaping, many with their own citrus grove. These viewers do not have a clear view of the site beyond their immediate surroundings. In addition to existing landscaping, there are obstacles of buildings and terrain to screen the view of the site.

The Cleveland National Forest is located to the north of the site. The area is rugged but is used by hikers and campers during part of the year. These viewers are surrounded by heavy natural vegetation which does not allow for a clear view of the site. Additionally, the knoll in the northeastern portion of the site serves as an interruption in the lines of sight between these viewers and the project site.

2.2.2.5 Viewer Awareness

Awareness of the viewer along SR76 is dependent of the purpose of the traveler. One type is the local user who is commuting or traveling on errands. The second is the visitor to the area who may be passing through to Pala on the northwest or the Pauma Valley/Rincon area to the southeast. This viewer may be more interested in the visual aspects of the trip than the commuter who makes frequent trips. Viewer awareness of this group is moderate to high.

It is expected that residents to the east are not generally aware of the site. From their perspective there is little difference between their immediate surroundings and the site. The area is developed as rural residential; citrus and avocado trees are common in the area. Viewer awareness of this group is moderate to low.

Hikers and campers using the Cleveland National Forest to the north would be expected to have a high viewer awareness as they are in the area to enjoy the outdoors including any scenic views.

2.2.2.6 Guidelines for the Determination of Significance

The project was evaluated for impacts to visual resources using the *County of San Diego Guidelines for the Determination of Significance - Visual Resources* (July 30, 2007). Based on the CEQA Guidelines, the project would have significant impacts on area visual resources if it would:

Introduce features that would detract from or contrast with the existing visual character and quality of the community or surrounding area by conflicting with important visual elements or being inconsistent with applicable design guidelines;

²Shadow Run Ranch Traffic Study, November, 2009 by KOA Corporation

Result in the removal or substantial adverse change of one or more features that contribute to the visual character of the area, i.e. landmarks, historic resources, trees, and rock outcroppings;

Substantially obstruct, interrupt, or detract from a valued focal point or panoramic vista from:

- a. a public road,
- b. a trail within an adopted County or State trail system,
- c. a scenic vista or highway, or
- d. a recreational area; and,

Does the project comply with applicable goals, policies or requirements of an applicable County Community Plan, Subregional Plan, or Historic District Zoning.

2.2.2.7 Analysis- Guideline 1

Four key views of the Proposed Project from the surrounding area were selected to evaluate the project's potential visual impacts including an assessment of the project's effect on visual character.

Visual character is assessed by evaluating the changes to the environment during the stages of the project's development. These stages are: existing conditions, during construction, end of construction, and at maturity.

Visual Character Change Analysis

Key View 1

Figure 2-2-3, is the view of a traveler headed northwest on SR76 (Pala Road). Point A (service road) is a common point of reference in successive photosimulations. In the lower view, the white post on the right side of the roadway, in the center of the photo, is the approximate location of the easterly property line of the project site. As the viewer approaches the property at Adams Drive a heavy concentration of oak trees obscures any view of the site.

As the viewer continues westerly, the vegetation bordering the right side of SR76 becomes primarily citrus and avocado groves and is only interrupted by an existing service road which is also the proposed location for the project access road. Figure 2-2-7 simulates the new entrance. The natural vegetation at this point will be protected in an impact neutral easement that will screen the new roadway, as shown in the figure. Groves immediately north of the road need to remain in place in order to screen views of houses.

The speed limit along SR76 is 55 miles per hour. The frontage of the property along SR76 is approximately 1,850 feet. A viewer traveling at the average rate of speed

would pass the site within a range of 22 seconds. If the groves adjacent to SR76 were to be removed as part of project development, the future residences on Lots 5, 6, 15, 16, and 30 are likely to be visible from SR76.

Views from the new entry and along SR 76 could be impacted if groves adjacent to SR 76 were removed. This represents a significant change in visual character for this Key View. A visual buffer is required along the project frontage to prevent this effect (**Impact AE-1**).

Key View 2

Figure 2-2-4 is the view of a traveler headed southeast on SR76 (Pala Road). The traveler approaches a bank on the left as the roadway turns to border the project site. The red outline approximates the position of the site boundary. The trees seen just beyond the property line correspond to the stand of persimmons as noted in Key View 1 and on the Concept Landscape Plan. They will remain or a similar type of vegetation will be planted to provide a barrier to visual effects of the project.

As noted above, the length of time to pass the site is approximately 22 seconds. The viewer will have little opportunity to see the project beyond the trees which currently screen the site and which will remain.

Figure 2-2-9, "Plan and Profile, Lots 29 and 30, From View 2," indicates the line of sight from viewers approaching the site from the northwest, proceeding easterly. As motorists approach, then pass the southwest corner of the project, the view of Lots 29 and 30 are below the line of sight. The angle of the terrain prevents the viewer from seeing the proposed development of the lots. The natural terrain will ensure the project will not result in a significant change in visual character from this Key View.

Key Views 3A and 3B

Figures 2-2-5 and 2-2-6 are representative of the viewer group of residents along Adams Drive and travelers along Adams Avenue. These viewers are separated by distance, topography, and vegetation from the project site. The aerial view shows the location of the photo vantage points and the extensive existing vegetation between the vantages and the project site.

Both the view from a nearby residence and the view from El Sendero Drive indicate the site location. The existing vegetation prevents the site from being seen. There are five homesites located on Adams Avenue, east of the project; two homes are located on El Sendero Drive and two homes are on Paseo Lindo, just east of Adams Drive. All of these homesites have mature screening landscaping. They are further screened from the project by the natural vegetation along Adams Avenue, which will be left intact. Thus, the project would not result in a significant change in visual character from these two key views.

Construction

The conditions described above for each key view would not significantly change during construction. Lot pads will be graded during the construction phase. However, the only existing grove trees that will be removed are those immediately on the building pad location. The majority of the existing citrus and avocado trees will remain intact. Therefore home construction will be screened by existing trees.

It is anticipated that all the proposed pads will be graded in a single phase. The grading will be sequential and not all pads will be graded at the same time. While heavy equipment will be onsite and trucks will be removing debris, they will not impact visual resources because the existing landscaping will screen the heavy equipment which will remain onsite during construction. At the conclusion of construction, the pads will be at an elevation that is significantly below the existing and remaining tree line.

Visual Quality Assessment

The site currently consists largely of avocado and citrus groves. The southern boundary of the Proposed Project is lined with trees. The visual quality of the site is defined by the unity of the groves and perimeter trees.

As previously noted, the construction of the project will take place with sequential grading of the pads. Construction of homes will follow and the project will be built out as one unit. Existing grove trees will be preserved beyond the pad areas, masking construction activities from the viewshed. A small increase in the presence of commercial trucks will be necessary for bringing in equipment and supplies and removal of debris. These effects will be transitory and will not have a significant long term effect.

The project landscaping will essentially be at a mature stage at the end of construction since the majority of grove trees will remain and landscaping along will remain intact. At the end of construction, the visual character of the site will be substantially unchanged, thus the project will not result in a significant change in visual quality.

Viewer Response Assessment

The exposure and sensitivity of the viewer determine their response to the changes to the visual environment brought about by the project.

The viewer group identified as travelers along SR76, Pala Road, will experience little exposure to the project during the stages from existing condition to maturity. The existing conditions and the screening feature of the landscaping are shown in Figures 2-2-3 and 2-2-4 which demonstrate the views approaching the site from the southwest and the northeast. During construction these viewers will note little distraction from their view as demonstrated in these figures. The site is almost fully screened from

view by existing vegetation consisting of mature trees. Although the groves on lots along SR76 will largely be retained, individual lot owners could remove the groves. If the groves adjacent to SR76 were to be removed as part of project development, the future residences on Lots 5, 6, 15, 16, and 30 are likely to be visible from SR76. This represents a significant change in viewer response. A visual buffer is required along the project frontage to prevent this effect (**Impact AE-1**).

The viewer group to the east of the site, consisting of residents on large rural lots, will not experience a significant change to the current view of the area. Figure 2-2-6 illustrates both existing and future conditions. Mature trees are already in place and provide screening of the project site to this viewer group. Additionally, the existing residential sites to the east have extensive landscaping and grove trees onsite. These add to the limitation of visual effects for this viewer group.

The areas west and north of the project site are unpopulated. The potential viewer group of these areas would consist of grove workers, hikers, or campers. This viewer group is already screened by topography and existing vegetation from the project site. Planned changes to the site will not affect this group.

2.2.2.8 Analysis- Guideline 2

Grading on each lot will be restricted to pads and roads, and the existing grove on the remainder of each lot, estimated to be a minimum of one acre, will be maintained. As a result, approximately 110 acres of the existing 154 acres of grove (approximately 71 percent) will be retained, with 39.12 acres of grove being placed within an agricultural open space easement (Lot 45).

The design of the project proposes no substantial changes to landmarks, historic resources, trees or rock outcroppings. In addition to the agricultural open space easement, the project proposes a 91.3-acre biological open space easement (Lot 46) and a 7.9-acre recreation lot (Lot 47). These open space easements protect the natural visual resources of the site.

Additionally, the project design calls for retention of all existing grove trees not located on proposed pads. This will maintain the visual resources of site. While the retention of groves cannot be guaranteed, evidence from similar developments indicates that when lots with existing groves are purchased for a single family residence, the groves are often maintained by the owners.

The project also proposes an impact neutral easement that will extend approximately 1,000 feet into the site along a shallow drainage feature between Lots 12 through 14 and 17 through 20. Since the project will not result in the removal or substantial adverse change of one or more features that contribute to the visual character of the area, Guideline 2 is not exceeded and impacts are less than significant.

2.2.2.9 Analysis- Guideline 3

Four Key Views were used to analyze the potential impacts to potential viewers of the Proposed Project:

Analysis of Guideline 3.a. View from a public road:

Key View 1, as shown in Figure 2-2-3 provides the perspective of travelers on SR76 heading in the northwesterly direction. Changes associated with Key View 1 were analyzed under Guideline 1. If the groves adjacent to SR76 were to be removed as part of project development, the future residences on Lots 5, 6, 15, 16, and 30 are likely to be visible from SR76. This represents a significant change in visual character from a public road (**Impact AE-1**).

Key View 2 (Figure 2-2-4) reflects the perspective of travelers heading southeasterly on SR76 and Figure 2-2-9 shows the line of sight for these viewers. Changes associated with Key View 2 were analyzed under Guideline 1. The analysis concluded that pad elevation for Lots 29 and 30 are below the line of sight from the center line of the roadway. Therefore, the project would not substantially obstruct, interrupt, or detract from a valued focal point or panoramic vista from a public road as noted in Key View 2.

Analysis of Guideline 3.b. View from a trail within an adopted County or State trail system.

There is no adopted County or State trail within the viewshed of the Proposed Project. The Cleveland National Forest is located to the north of the site. The area is rugged and used by hikers and campers during part of the year. These viewers are surrounded by dense natural habitat and do not have a clear view of the project site. Therefore, the Proposed Project will not substantially obstruct, interrupt, or detract from a valued focal point or panoramic vista from a recreational area. Therefore, Guideline 3.b is not exceeded, impacts are not significant, and no mitigation is required.

Analysis of Guideline 3.c. View from a scenic vista or highway:

Key View 1 and Key View 2 represent the viewpoint of travelers on SR76. The segment of SR 76 adjacent to the property is not a scenic highway listed in the County Scenic Highway Element. While SR 76 is an Eligible State Scenic Highway under State of California regulations, it has not been officially designated as such. Impacts are not significant because there are no state or county scenic highways in the vicinity. No mitigation is required.

Analysis of Guideline 3.d. View from a recreational area:

Wilderness Gardens County Park is located approximately one-half mile west-northwest of the subject property. The park is at an elevation lower than that of the subject property, and is separated from the viewshed by hillsides. The Proposed Project is not visible from the park. The Cleveland National Forest is located to the north of the site. The area is rugged and used by hikers and campers during part of the year. These viewers are often surrounded by dense natural vegetation which obstructs a clear view of the project site. Intermittent views of the valley from a high elevation will encompass the foothills, river valley, and distant mountains. The site represents a small part of this view. Additionally the site will appear as an ongoing agricultural site even after development due to the project design being used. Therefore, the Proposed Project will not substantially obstruct, interrupt, or detract from a valued focal point or panoramic vista from a recreational area because of intervening vegetation and the large scale of the views from the hiking trails higher in the mountains. Therefore, Guideline 3.d is not exceeded, impacts are less than significant, and no mitigation is required.

2.2.2.10 Analysis- Guideline 4

The Proposed Project is subject to the following regulatory documents pertaining to protection of aesthetic resources:

San Diego County General Plan – Scenic Highway Element

A 2.2 mile segment of SR76 passes through the project viewshed in a northwesterly-southeasterly alignment. The Scenic Highway Element of the San Diego County General Plan does not include this portion of the highway in the Scenic Highway System Priority List. The Element defines SR76 from El Camino Real east to Interstate 15 (excluding portion within the City of Oceanside) as a first priority scenic route and SR76 from East Grade Road east to SR 79 as a second priority scenic route.

Pala/Pauma Subregional Plan

The Pala/Pauma Subregional Plan does not directly address visual or aesthetic resources. The Proposed Project is not in conflict with any goals of the community plan with regard to aesthetic resources.

The project complies with the applicable San Diego County General Plan and the Pala/Pauma Subregional Plan in regards to aesthetic resources. Therefore Guideline 4 is not exceeded. Impacts are not significant and no mitigation is required.

2.2.3 Cumulative Impact Analysis

Cumulative impacts were assessed using County of San Diego KIVA Net data base. The boundary for analyzing the cumulative impacts of the project area is based on the

viewshed. Figure 2-2-10, “Cumulative Study Area,” shows the viewshed overlain on the cumulative project map. The viewshed defines the cumulative impact study area boundary.

The ‘List of Projects Method’ was used to identify projects in the area which may contribute to a cumulative visual impact. Seven projects were identified as being within the cumulative boundary of the project and are considered in this analysis. Other projects are outside of the project viewshed and are not included in this analysis. Of the projects that are considered, two are completed, one has been withdrawn, and four are currently active. The seven are listed in the table below:

Map ID #	Project Identification	Visual Impact
2	MUP 05-014 Cell Tower	Visual impacts mitigated by camouflage and vegetative screening.
14	MUP 67-092 Campground	None
15	MUP 99-001 Packing Plant	None–
3	AP 05-065 Nursery Expansion	None
10	TPM 20896 Diana Acres	Withdrawn
20	MUP 08-045	Negative findings
21	AD 11-037 Sol Orchard Solar	Visual impact mitigated by landscaping. Glare expected to be minimal due to design of panels to allow maximum transmission of energy

The cell tower located within the study area, MUP 05-014, has been camouflaged and visual impacts mitigated by design. Solar panels on AD 11-037 will be screened by landscaping and the panels are designed to minimize glare.

The project in conjunction with other recently approved and pending projects within the cumulative boundary will not have a significant cumulative effect to visual resources. Effects of other projects are minimal or isolated and have been fully mitigated. The overall visual appearance of the area will not be changed as a result of the projects. The visual experience of the area will still be one of open land and scattered houses in a natural setting. Cumulative impacts are less than significant and no mitigation is required.

2.2.4 Significance of Impacts Prior to Mitigation

AE-1 Potential for significant change in visual character and quality from removal of agricultural groves along the project frontage adjacent to SR76.

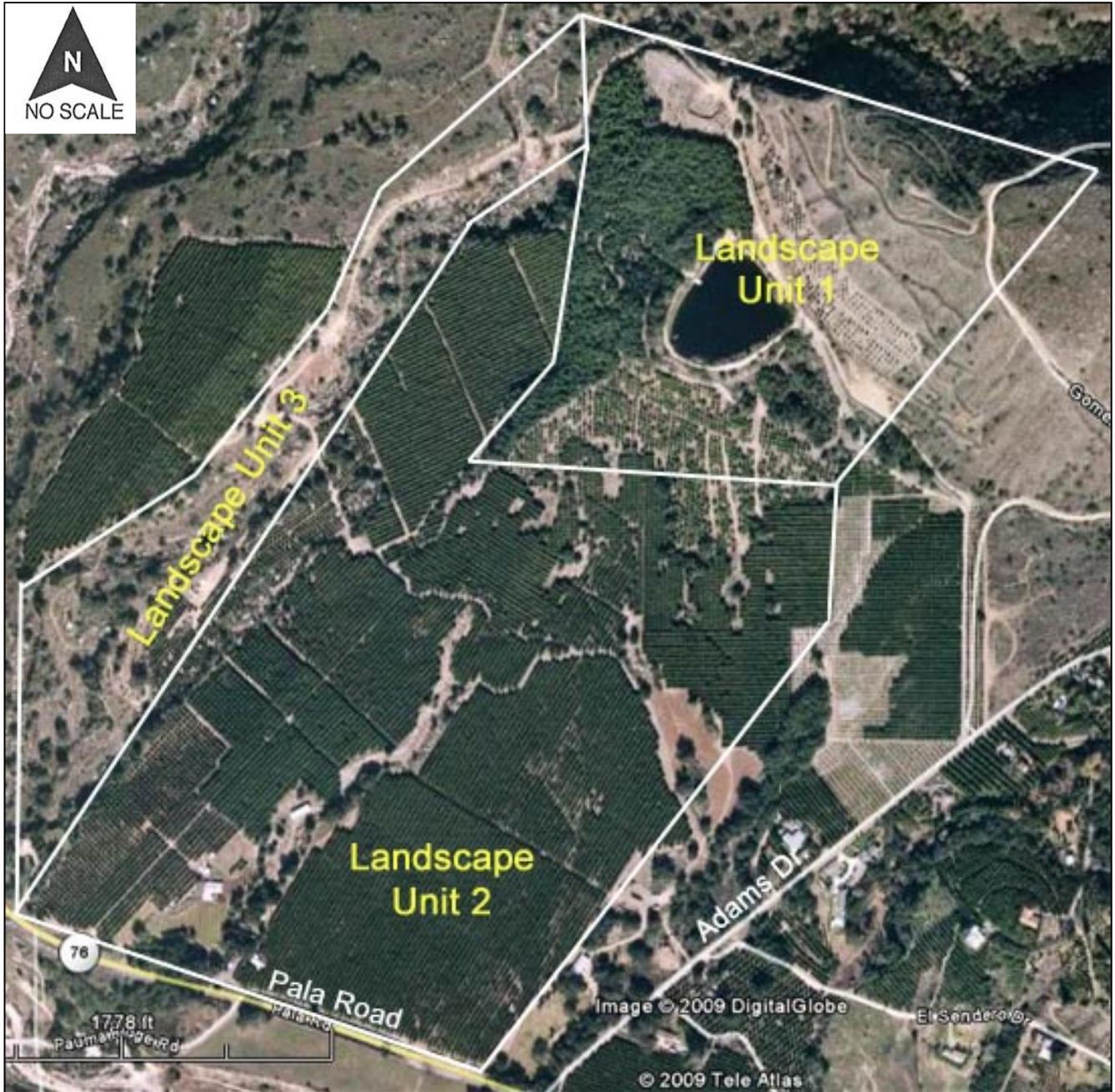
2.2.5 Mitigation

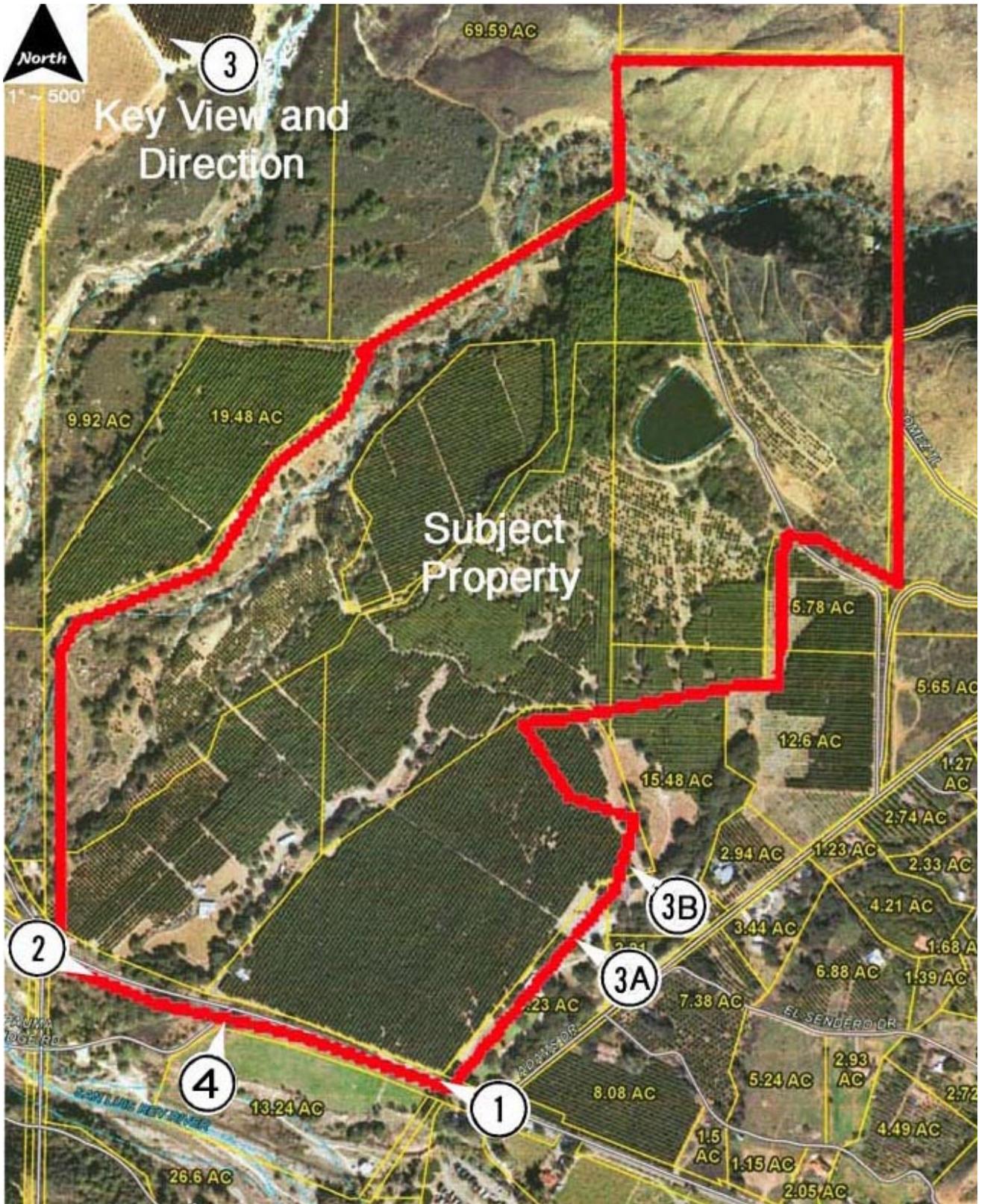
M-AE-1

To mitigate for impacts to the visual character of SR 76 along the project boundary (AE – 1), a 100-foot wide easement shall be placed along the project frontage with SR 76. The easement will be located on lots 5, 6, 15, 16 and 30. The specific purpose of the easement will be to maintain groves to screen residences from view for travelers on SR 76. Lot 30 encompasses both grove trees and oaks. The oaks will not be disturbed as part of the project and will be retained within the easement.

2.2.6 Conclusion

An aesthetics study was carried out by a County-listed consultant. The study analyzed changes in visual character and quality from four key views. The analysis concluded that the potential removal of groves along the project frontage on SR76 could result in a significant change in visual quality and character for travelers on SR76, which is also a public road. Implementation of mitigation, which will require a 100-foot wide easement on Lots 5, 6, 15, 16, and 30 will require the retention and maintenance of groves along the project frontage in these lots. Retention and maintenance of these groves will screen future residences from travelers on SR76. Implementation of this mitigation measure will reduce the potential impacts to below a level of significance. Cumulative impacts were determined to be less than significant.





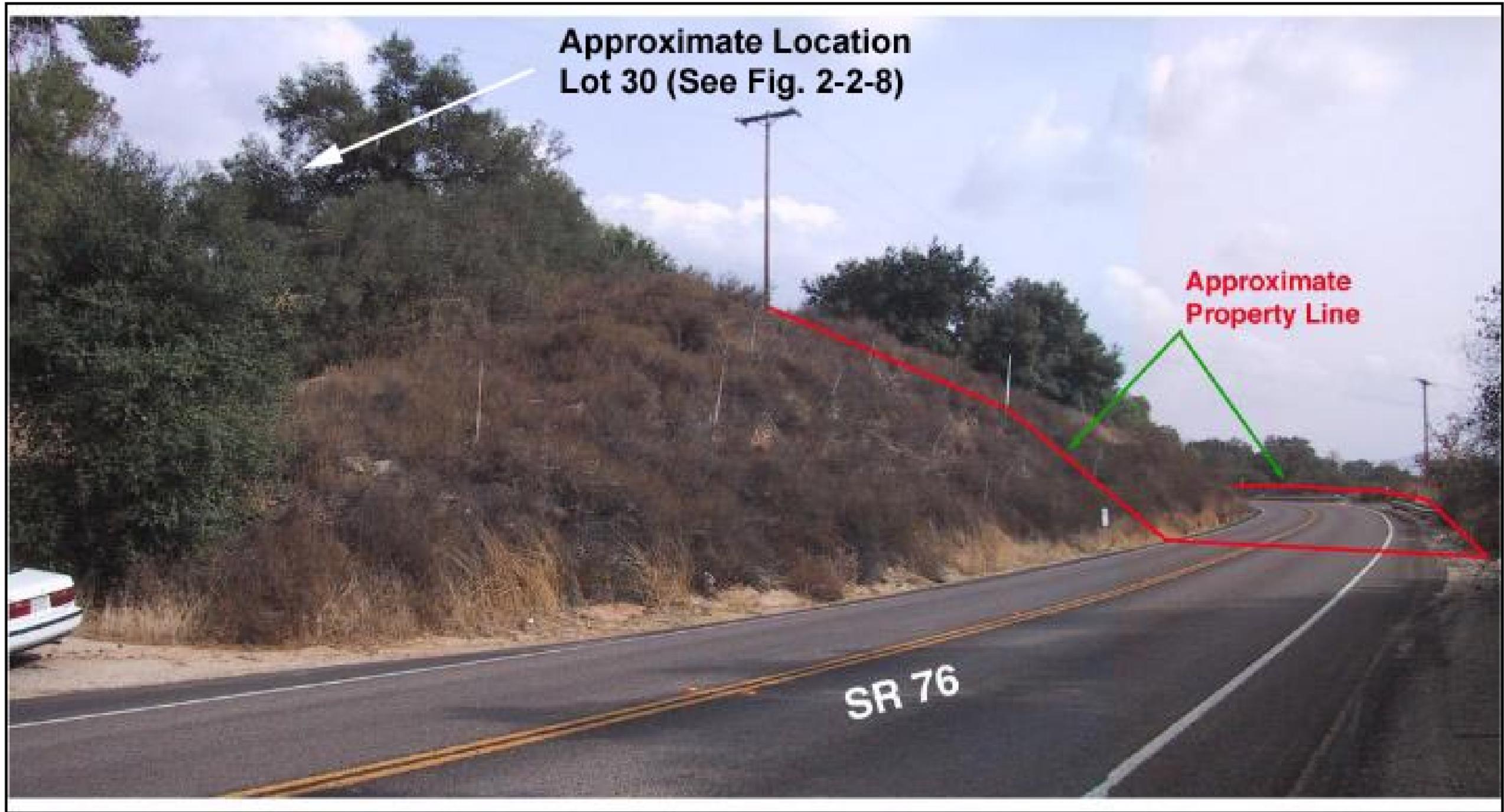
Index to Key Views

Figure 2-2-2



**Key View 1 – Pala Road (SR 76)
Looking Northwest**

**Figure
2-2-3**



Key View 2 SR 76 (Pala Road)
Looking Southeast

Figure
2-2-4



The typical view from Rural Estate properties located east of the site. View is looking westerly into the site of the proposed project. Access Road connects with Adams Dr.

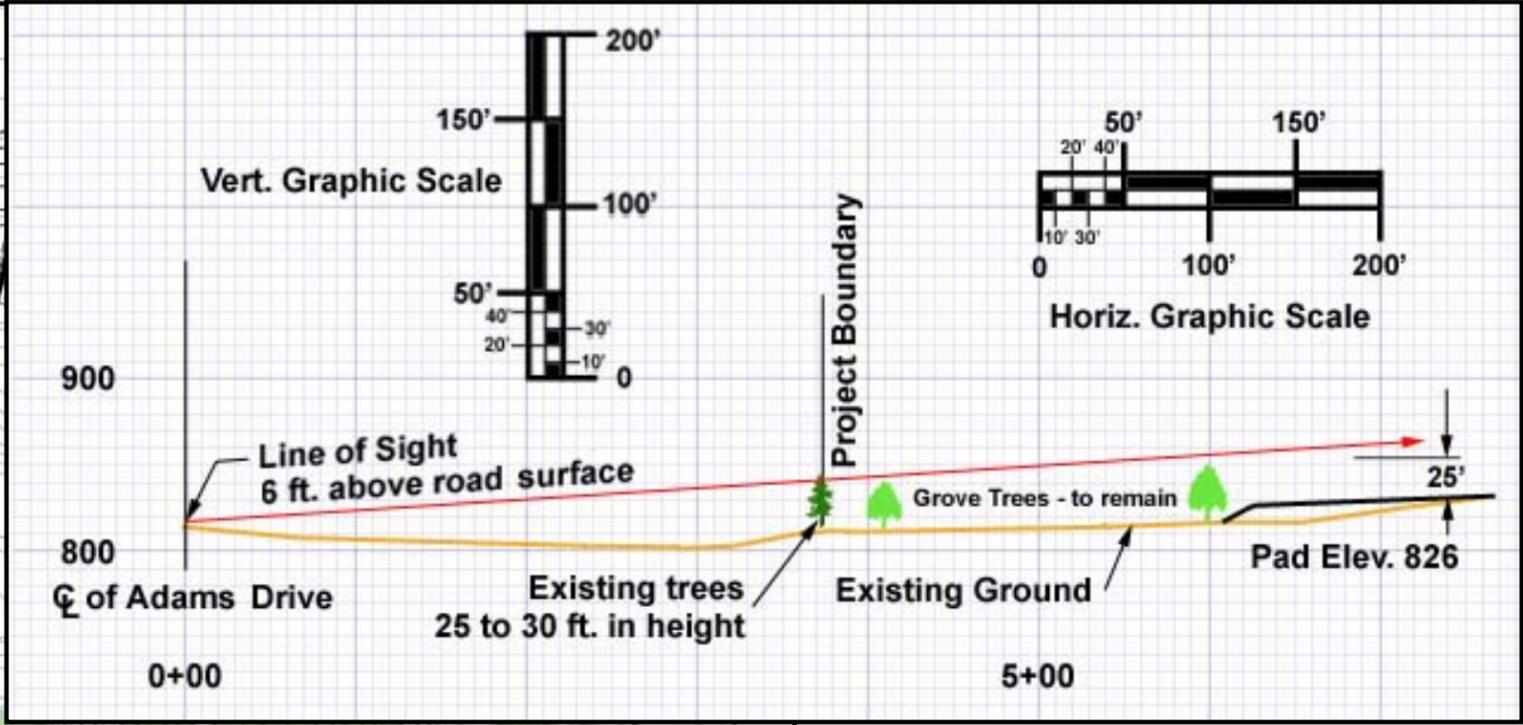
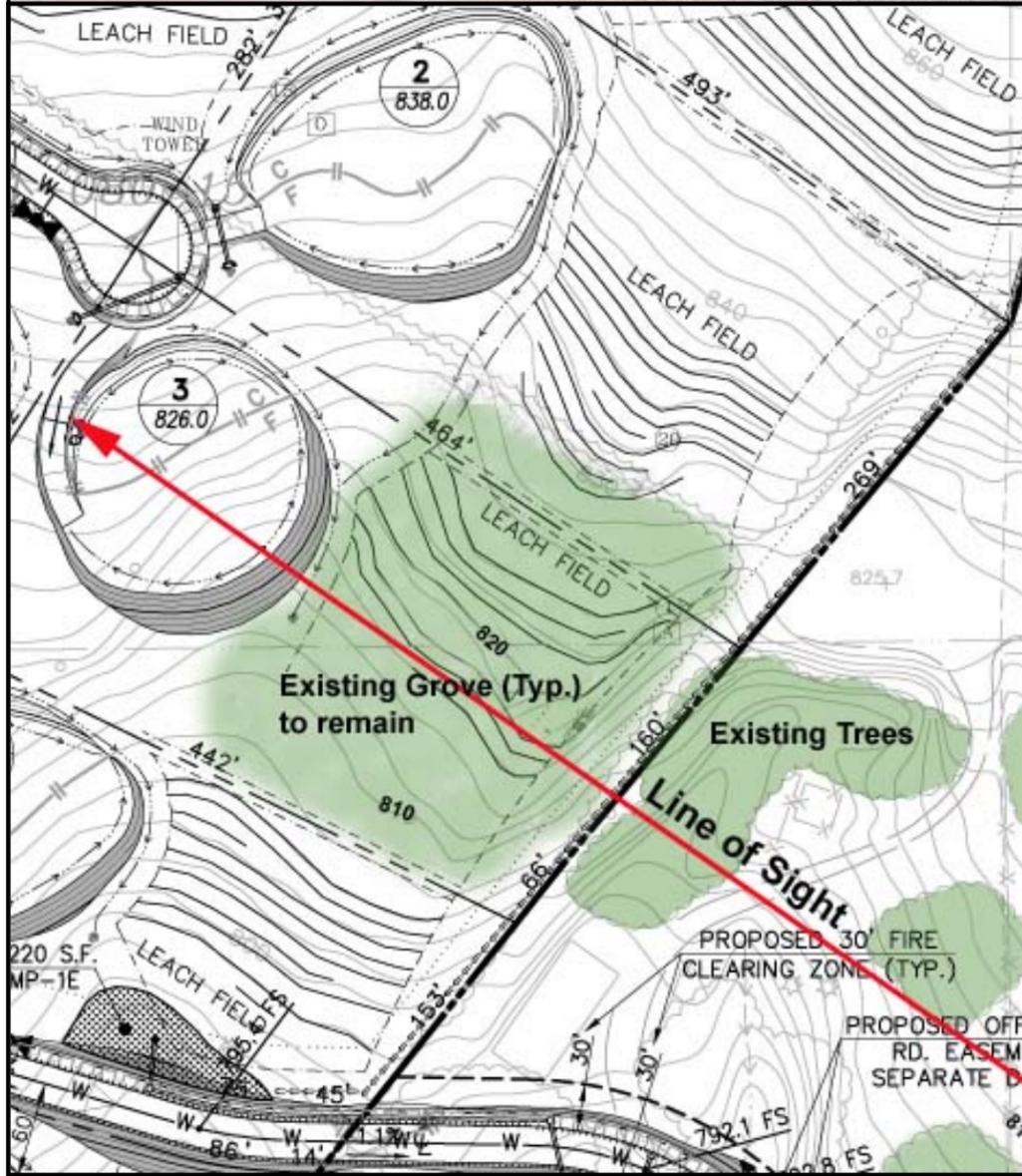
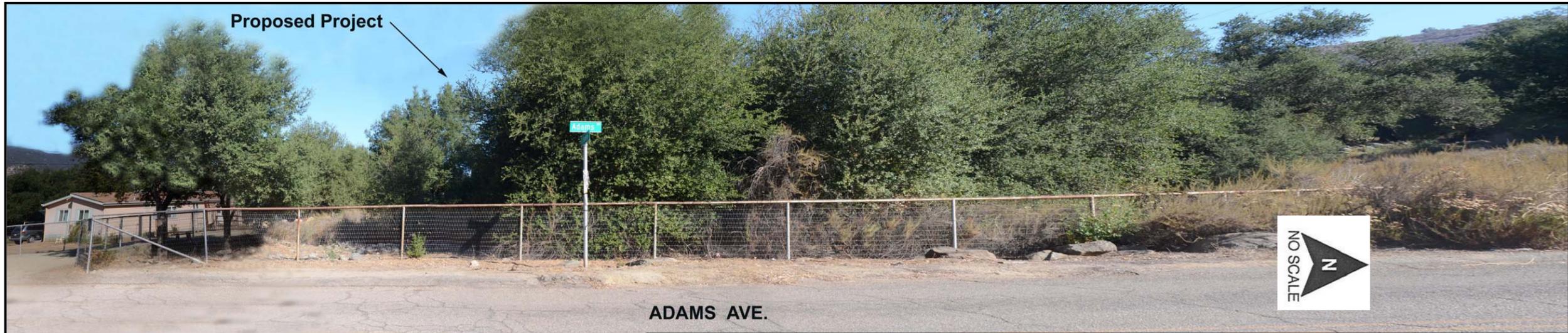
Location of Key View 3A

Aerial view, which demonstrates the orientation of the viewpoint as shown above.
Source: Google Earth



Key View 3 A
Rural Residential Area – East of Project Boundary

Figure 2-2-5



PROFILE VIEW



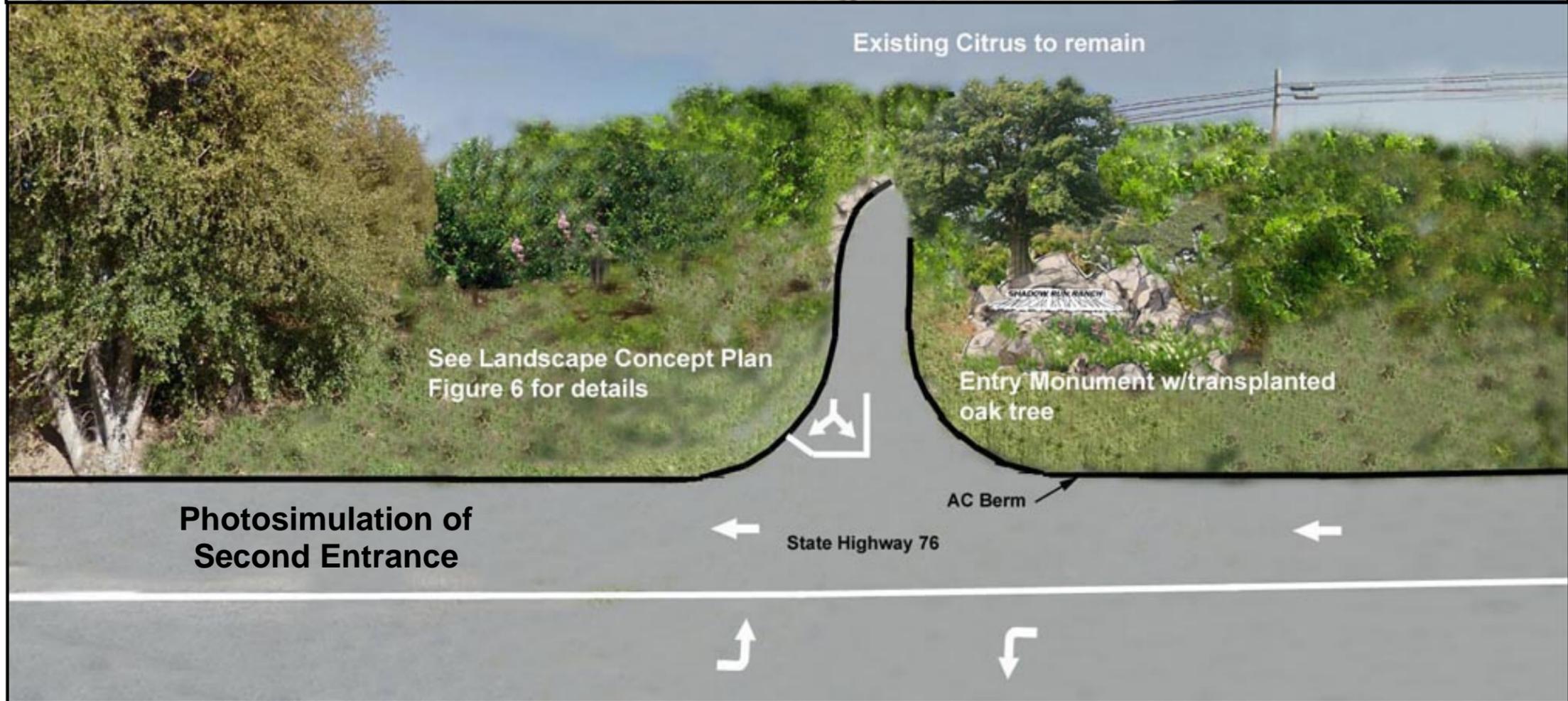
PLAN VIEW

Key View 3B
Looking Northwesterly from Adams Drive

Figure 2-2-6



Existing View of Second Entrance



Photosimulation of Second Entrance

Existing Citrus to remain

See Landscape Concept Plan Figure 6 for details

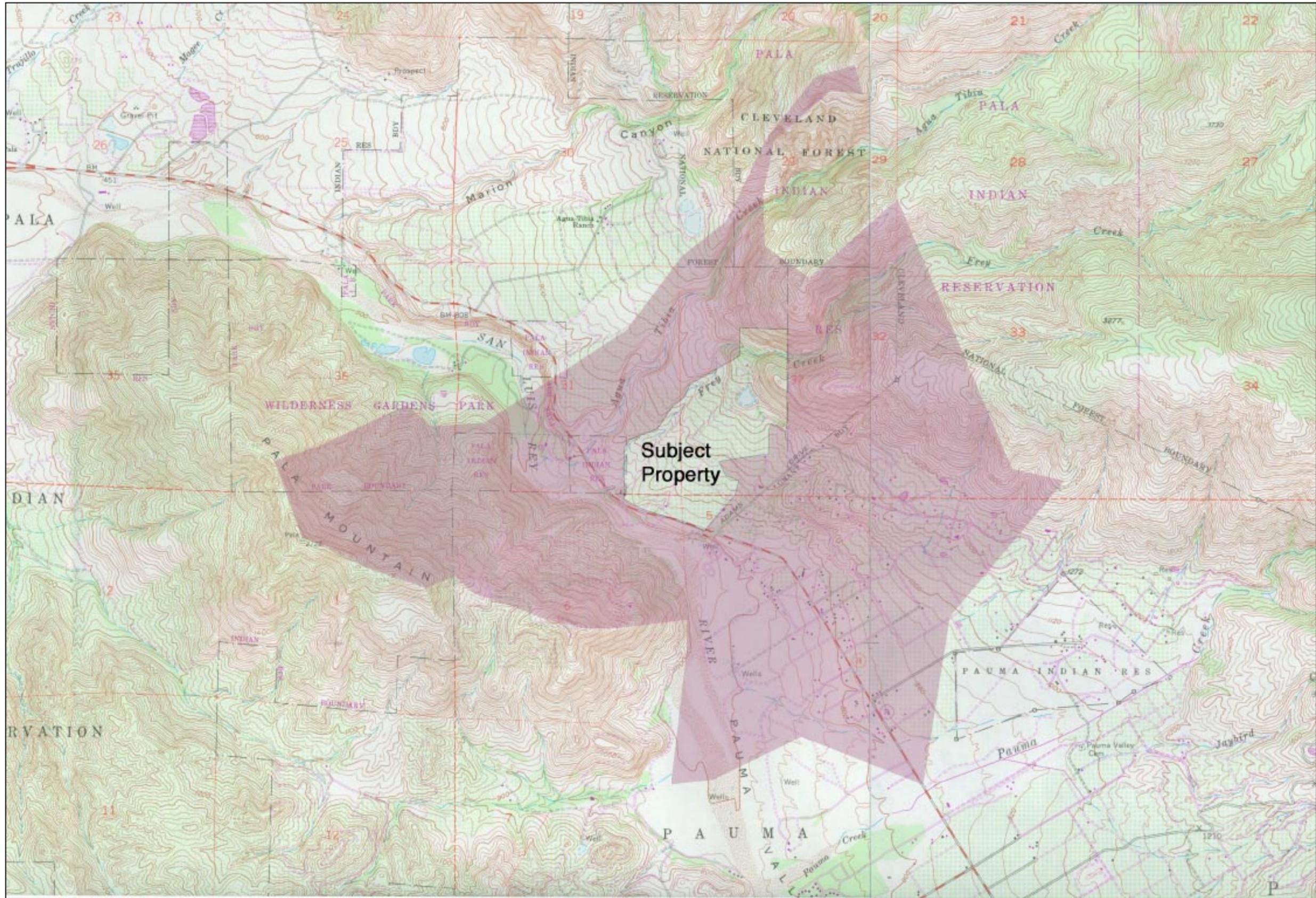
Entry Monument w/transplanted oak tree

AC Berm

State Highway 76

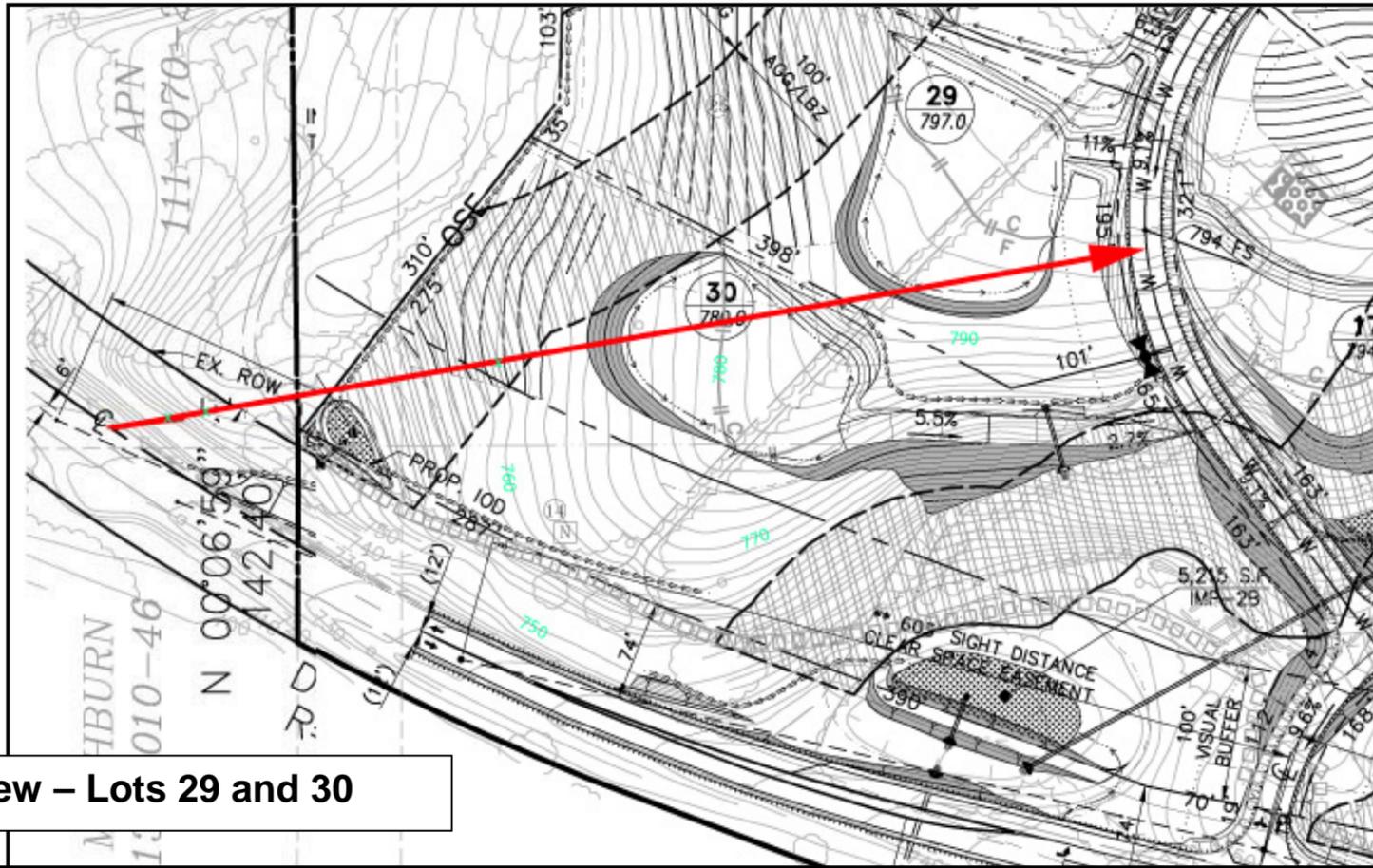
Photosimulation: Main Entrance

Figure 2-2-7

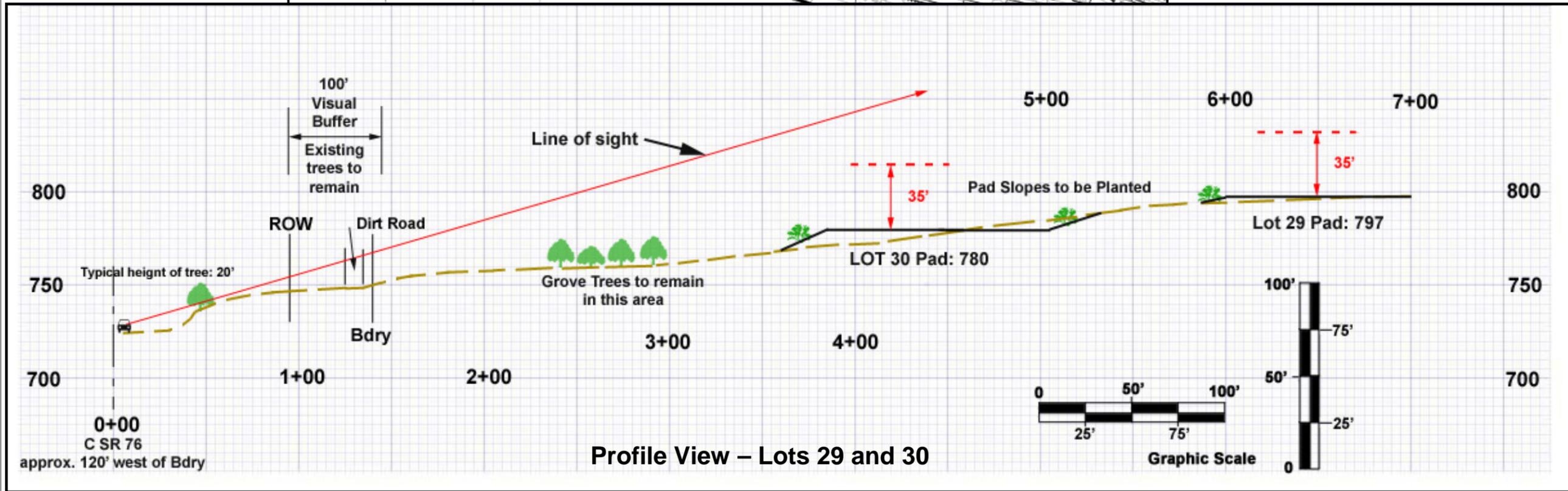


Existing Viewshed

Figure 2-2-8



Plan View – Lots 29 and 30



Profile View – Lots 29 and 30

**Plan and Profile
Lots 29 and 30
From View 2**

**Figure
2-2-9**

Completed Projects

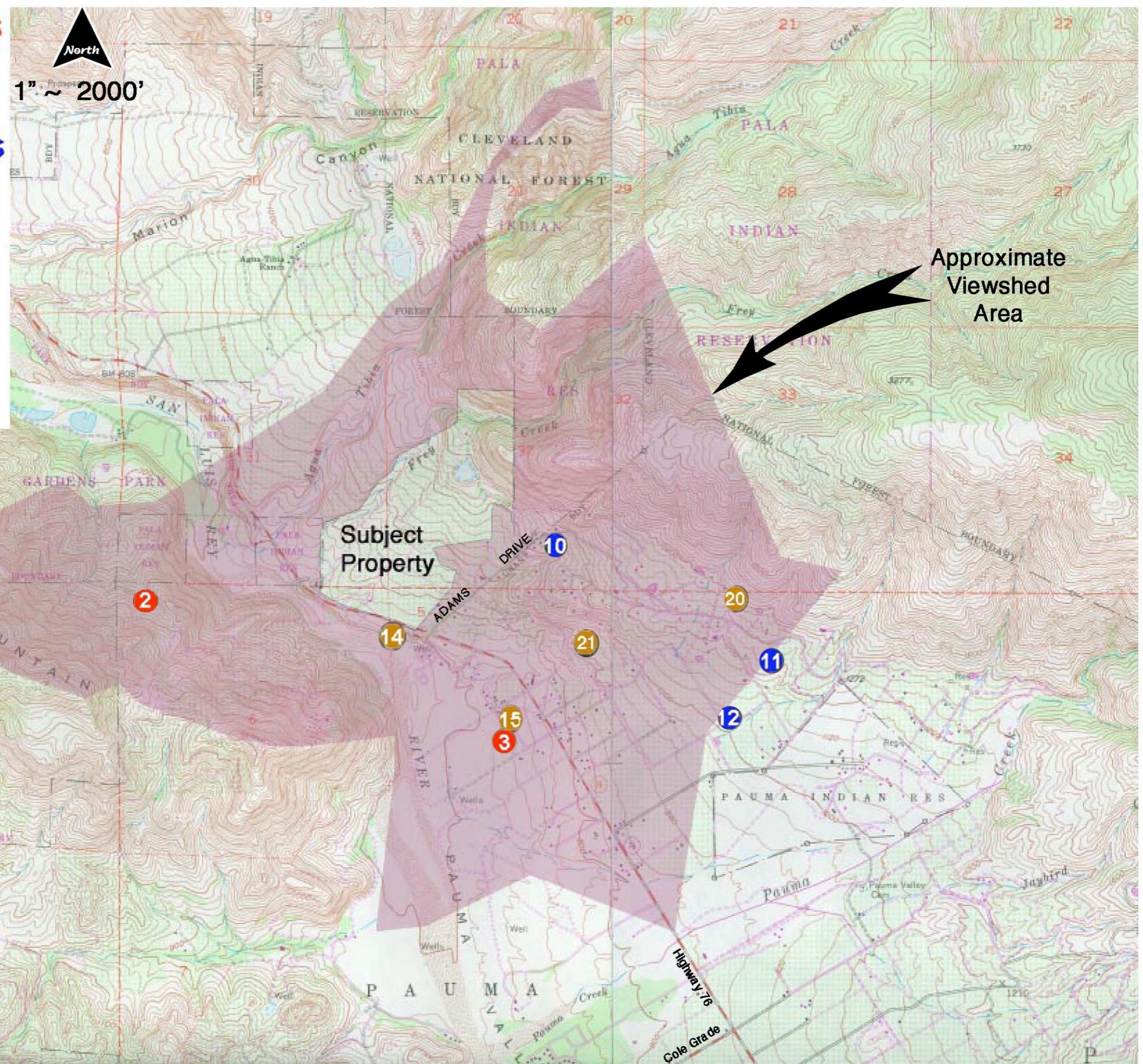
- 2 MUP 05-014
- 3 AP 05-065

Withdrawn Projects

- 10 TPM 20896
- 11 MUP 05-009
- 12 TPM 20959

Open Projects

- 14 MUP 67-092
- 15 MUP 99-001
- 20 MUP 08-045
- 21 AP 11-037



Cumulative Study Area

Figure 2-2-10

2.3 Air Quality

An air quality assessment was prepared for the Proposed Project by Ldn Consulting, Inc., entitled, “Air Quality Study Shadow Run Ranch Residential Development TM 5223,” dated ~~May 12, 2014~~ February 21, 2017. The report was prepared by Jeremy Loudon, who is on the County’s CEQA Consultants List of qualified consultants. The report is provided as Appendix B of the technical appendices to this DEIR.

2.3.1 Existing Conditions

2.3.1.1 Environmental Setting

The project is located within the San Diego Air Basin (SDAB or Basin), whose climate is dominated by a semi-permanent high pressure cell or region in which air pressure is higher than surrounding areas. This cell influences the direction of prevailing winds (westerly to northwesterly) and maintains clear skies for much of the year. The high pressure cell also creates two types of temperature inversions that may act to degrade local air quality. Temperature inversions are situations in which warmer polluted air is trapped closer to the earth under a layer of cooler air. As the pollutants become more concentrated in the atmosphere, photochemical reactions occur that produce ozone commonly known as smog.

The climate of the coastal southern California, including the County of San Diego, is determined largely by high pressure that is almost always present off the west coast of North America. High pressure systems are characterized by an upper layer of dry air that warms as it descends. This warm, dry air acts as a lid, restricting cool air located near the surface, creating an inversion of typical temperature conditions.

During the summer and fall, emissions generated in the region combine with abundant sunshine under the influences of topography and the aforementioned inversion to create conditions that are conducive to the formation of photochemical pollutants, such as ozone, and secondary particulates, such as sulfates and nitrates. As a result, air quality in the SDAB is often the poorest during the warmer summer and fall months.

Average summer high temperatures are similar to Bonsall and are approximately 80 degrees Fahrenheit (F°). Average winter low temperatures are approximately 48°F. The average rainfall in the project vicinity is approximately 13.5 inches annually. (Source: <http://www.city-data.com/city/Bonsall-California.htm>, <http://www.weather.com /weather/wxclimatology/monthly/graph/USCA0116>).

The distinctive climate of the project area and the SDAB is determined by its terrain and geographical location. The Basin is located in a coastal plain with connecting

broad valleys and low hills, bounded by the Pacific Ocean in the southwest quadrant with high mountains forming the remainder of the perimeter.

The prevailing winds in the project area move predominately from west to east with an average wind speed of 1.12 meters per second (m/s). Meteorological data from the Escondido air monitoring station was used to represent conditions at the project area's inland location.

2.3.1.2 Regulatory Setting

Federal Standards

The Federal Clean Air Act (CAA) was passed in 1970 and further amended in 1990. This law provides the basis for the national air pollution control effort. An important element of the Act included the development of federal air quality standards for criteria pollutants called the National Ambient Air Quality Standards (NAAQS).

The Clean Air Act established Primary Standards, which relates to public health and protections for sensitive populations such as asthmatics, children, and the elderly, and Secondary Standards, which focuses on protections against decreased visibility, damage to animals, crops, vegetation, and buildings.

The EPA Office of Air Quality Planning and Standards (OAQPS) has set National Ambient Air Quality Standards for the following criteria pollutants:

- Carbon Monoxide (CO)
- Lead (Pb)
- Nitrogen Dioxide (NO₂)
- Particulate Matter – less than 10 microns in size (PM₁₀) and less than 2.5 microns in size (PM_{2.5})
- Ozone (O₃)
- Sulfur Dioxide (SO₂)

State Standards

The California Air Resources Board (CARB) is responsible for ensuring implementation of the California Clean Air Act (AB2595), compliance with the federal CAA, as well as for regulating emissions from consumer products and motor vehicles. The CARB establishes the California Ambient Air Quality Standards (CAAQS) for all pollutants for which the federal government has NAAQS (as listed above), with additional standards for visibility reducing particles, sulfates, hydrogen sulfide (H₂S), and vinyl chloride. The California Ambient Air Quality Standards (CAAQS) are either the same as or more restrictive than the NAAQS.

Regional Standards

Local air quality management districts, such as the San Diego Air Pollution Control District (SDAPCD), are responsible for ensuring that criteria pollutant levels are below federal and state standards. All air pollution control districts have been formally designated as ‘attainment’ or ‘nonattainment’ for each NAAQS and CAAQS. Air basins that exceed either NAAQS or CAAQS for any criteria pollutant are designated ‘non-attainment’. Currently, there are 18 non-attainment areas for the federal ozone standard, 10 non-attainment areas for the federal PM₁₀ standard, and seven non-attainment areas for the federal PM_{2.5} standards in California. The state has responded by creating the California State Implementation Plan (SIP), which is designed to provide emission reduction strategies in an effort to reach attainment.

The SDAPCD along with the San Diego Association of Governments (SANDAG) have developed and implemented a clean air plan for attainment and maintenance of the ambient air quality standards in the SDAB called the San Diego County Regional Air Quality Strategy (RAQS). The SDAPCD has also developed the air basin’s input to the SIP.

2.3.1.3 Existing Air Quality/Attainment Status

Ambient air quality standards indicate the levels of criteria pollutants that are considered safe, with an adequate margin of safety, to protect public health and welfare. Those standards currently in effect for both California and federal quality standards are shown in Table 2.1 of Appendix B.

Currently, San Diego has a ‘non-attainment’ status for federal O₃ and state PM₁₀ and PM_{2.5}. An attainment plan is available for O₃ only.

The RAQS is largely based on population predictions published by SANDAG. Projects that produce less growth than predicted by SANDAG would generally conform to the RAQS. Projects that create more growth than the SANDAG projections, and projects which are determined to have cumulative impacts, may create a significant impact assuming the project produces unmitigable emissions in excess of the regional standards.

The RAQS update of 2009 mostly clarifies and enhances emission reductions with the implementation of new volatile organic compounds (VOC) and oxides of nitrogen (NO_x) reduction measures. VOC and NO_x are precursors to O₃ formation through photochemical reactions in the atmosphere. The criteria pollutant standards are considered attained when each monitor within a region experiences no exceedances during a period of three calendar years. The nearest long-term air quality monitoring station to the project for O₃, CO, NO_x, PM₁₀, and PM_{2.5} is carried out at the Escondido-East Valley Parkway monitoring station located approximately 16 miles southwest of the project site. See Table 2.4, “Three-Year Ambient Air Quality

Summary near the Project Site,” in the Air Quality report, provided at Appendix B to this DEIR.

Rule 1200 (Toxic Air Contaminants – New Source Review) adopted June 12, 1996, requires evaluation of potential health risks for any new, relocated, or modified emission unit which may increase emissions of one or more toxic air contaminants (TACs) or hazardous air pollutants (HAPs). The rule requires that projects that propose to increase cancer risk to between 1 and 10 in 1 million need to implement Toxics Best Available Control Technology (T-BACT), or impose the most effective emission limitation, emission control device or control technique to reduce cancer risk. At no time shall a project increase the cancer risk to over 10 in 1 million. Projects that create cancer risks of less than 1 in 1 million are not required to implement T-BACT technology. Methodologies for calculating air quality impacts are detailed in Appendix B, the air quality report, Section 3.0.

2.3.2 Analysis of Project Effects and Determination as to Significance

2.3.2.1 Guidelines for the Determination of Significance

The following guidelines are from the County of San Diego’s *Guidelines for Determining Significance and Report Format and Content Requirements, Air Quality* (March 19, 2007). The Proposed Project would have a significant air quality impact if it would:

1. Conflict with or obstruct implementation of the San Diego Regional Air Quality Strategy (RAQS) or applicable portions of the State Implementation Plan (SIP).
2. Result in emissions that would violate any air quality standard or contribute substantially to an existing or proposed air quality violation.
 - a. The project will result in emissions that exceed 250 pounds per day of NO_x, or 75 pounds per day of VOCs.
 - b. ~~The project will result in emissions of carbon monoxide that, when totaled with the ambient concentrations, will exceed a 1-hour concentration of 20 parts per million (ppm) or a 8-hour average of 9 ppm.~~ The project will result in emissions of carbon monoxide (CO) that when totaled with the ambient concentrations will exceed 550 lbs/day.
 - c. The project will result in emissions of PM_{2.5} that exceed 55 pounds per day.
 - d. The project will result in emissions of PM₁₀ emissions that exceed 100 pounds per day. ~~and increase the ambient PM10 concentration by 5~~

- ~~micrograms per cubic meter (5 µg/m³) or greater at the maximum exposed individual.~~
- e. The project will result in emissions of SO₂ that exceed 250 pounds per day.
3. Result in a cumulatively considerable net increase of any criteria pollutant for which the San Diego Air Basin is in non-attainment under an applicable Federal or State Ambient Air Quality Standards.
 - a. Construction Emissions: A project that has a significant direct impact on air quality with regard to emissions of PM₁₀ PM_{2.5}, NO_x and/or VOCs, would also have a significant cumulatively considerable net increase.
 - b. Construction Emissions: In the event direct impacts from a proposed project are less than significant, a project may still have a cumulatively considerable impact on air quality if the emissions of concern from the proposed project, in combination with the emissions of concern from other proposed projects or reasonably foreseeable future projects within a proximity relevant to the pollutants of concern, are in excess of the guidelines identified in Table 2-3-1.
 - c. Operational Emissions: A project that does not conform to the RAQS and/or has a significant direct impact on air quality with regard to operational emissions of PM₁₀ PM_{2.5}, NO_x and/or VOCs, would also have a significant cumulatively considerable net increase.
 - d. Projects that cause road intersections to operate at or below LOS E (analysis only required when the addition of peak-hour trips from the proposed project and the surrounding projects exceeds 2,000) and create a CO “hotspot” create a cumulatively considerable net increase of CO.
 4. Expose sensitive receptors to substantial pollutant concentrations.
 - a. The project places sensitive receptors near CO “hotspots” or creates CO “hotspots” near sensitive receptors.
 - b. Project implementation will result in exposure to TACs resulting in a maximum incremental cancer risk greater than 1 in 1 million without application of Toxics Best Available Technology (T-BACT) or a health hazard index greater than one would be deemed as having a potentially significant impact.

5. The project which is not an agricultural, commercial or an industrial activity subject to SDAPCD standards, as a result of implementation will either generate objectionable odors or place sensitive receptors next to existing objectionable odors, which will affect a considerable number of persons or the public.

The San Diego County's *Guidelines for Determining Significance and Report Format and Content Requirements, Air Quality*, dated March 19, 2007, provide screening criteria to be used in Air Quality Impact Assessments (AQIA) for determining CEQA impacts. These screening thresholds for construction and daily operations are shown in Table 2-3-1, "Screening Thresholds for Criteria Pollutants." Note that the U.S. Environmental Protection Agency (EPA) uses the term Volatile Organic Compounds (VOC) to describe reactive organic gases and the California Air Resources Board's (CARB's) Emission Inventory Branch (EIB) uses the term Reactive Organic Gases (ROG) for a very similar concept. The thresholds for both are the same. VOC is used in this summary for the sake of clarity.

2.3.2.2 Analysis

Guideline 1: Conflict with or obstruct implementation of the San Diego RAQS or applicable portions of the SIP.

A determination of whether the potential emissions resulting from operations of the proposed project would result in a significant impact is based on an evaluation of the proposed project's conformance to existing regional or local plans. Any project that proposes development that is consistent with or lower than the growth anticipated by the County of San Diego General Plan would be consistent with the RAQS. If a project proposes development that is greater than that anticipated in the General Plan and SANDAG growth projection, the project would be in conflict with the RAQS and SIP, and might have a potentially significant impact on air quality.

The Proposed Project qualifies as a pipelined project under the rules adopted for the Current General Plan by the Board of Supervisors in 2003. As such it is evaluated under the general plan in effect prior to August 3, 2011. The Project's proposed 44 lots fall below the allowable density under the General Plan, the Zoning Ordinance, and, in cases where steep slopes are present, the Resource Protection Ordinance (RPO). Therefore the project would be consistent with both the RAQS and the SIP. Guideline 1 is not exceeded and impacts are less than significant. No mitigation is required.

Guideline 2: Result in emissions that would violate any air quality standard or contribute substantially to an existing or proposed air quality violation.

The San Diego APCD does not provide quantitative thresholds for determining the significance of construction or mobile-source related impacts. However, the district

does specify Air Quality Impact Analysis (AQIA) trigger levels for new or modified stationary sources. If these incremental levels for stationary sources are exceeded, an AQIA must be performed for the proposed new or modified source.

For CEQA purposes, the screening thresholds, as outlined in SDAPCD Rule 20.2, can be used to demonstrate that a project's total emissions would not result in a significant impact to air quality. This is consistent with direction provided by the County's *Guidelines for Determining Significance* for Air Quality.

Guidelines 2a through 2d address the criteria pollutant thresholds individually as follows:

Guideline 2a: The project will result in emissions that exceed 250 pounds per day of NO_x, or 75 pounds per day of VOCs.

Table 2-3-2, "Expected Construction Emissions Summary", shows the construction phase of the Proposed Project is anticipated to generate a maximum of 98.431 lbs/day of NO_x in its primary construction year (2016) and 77.73 lbs/day of NO_x in the following year. This is below the screening threshold of 250 lbs/day; therefore, construction related NO_x emissions would be less than significant. VOC/ROGs would be 8.660 lbs/day in its primary construction year (2016) and 30.100 lbs/day in the following year. This is under the threshold of 75 lbs/day; therefore construction related to VOC/ROG emissions would be less than significant.

As shown in Table 2-3-3, "Expected Daily Pollutant Generation," the operation phase of the Proposed Project is anticipated to generate 6.17 lbs/day of NO_x during the summer and 7.04 lbs/day in the winter. This is below the screening threshold of 250 lbs/day; therefore, operational related NO_x emissions would be less than significant. The Project operation is anticipated to generate 71.53 lbs/day of VOCs/ROG during the summer and 71.64 lbs/day in the winter. This is below the screening threshold of 75 lbs/day; therefore, operational related VOC/ROG emissions would be less than significant. In summary, Guideline 2a is not exceeded, and impacts are less than significant. No mitigation is required.

Guideline 2b: The project will result in emissions of carbon monoxide (CO) that when totaled with the ambient concentrations will exceed 550 lbs/day.

A shown in Table 2-3-2, "Expected Construction Emissions Summary", the construction phase of the Proposed Project is anticipated to generate a maximum of 63.838 lbs/day of CO in its primary construction year (2016) and 21.646 lbs/day of CO in the following year. This is below the screening threshold of 550 lbs/day; therefore, construction related CO emissions would be less than significant.

As shown in Table 2-3-3, "Expected Daily Pollutant Generation," the operation phase of the Proposed Project is anticipated to generate 109.06 lbs/day of CO during the summer and 109.60 lbs/day of CO in the winter. This is below the screening threshold

of 550 lbs/day; therefore, operational related CO emissions would be less than significant. CO emissions are the result of the combustion processes and therefore primarily associated with mobile source emissions (vehicles). CO concentrations tend to be higher in urban areas where there are many mobile source emissions. CO “hotspots” or pockets where the CO concentration exceeds the NAAQS and/or CAAQS have been found to occur only at signalized intersections that operate at or below level of service (LOS) E with peak-hour trips for intersections exceeding 3,000 trips. Therefore, any project that would place receptors within 500 feet of a signalized intersection operating at or below LOS E whose peak-hour trips exceed 3,000 trips must conduct a “hotspot” analysis for CO. Based on the traffic study conducted for the Proposed Project, at no time will the project directly or cumulatively cause existing intersections within the project study area to operate at LOS E or F and therefore will not require micro-scale CO emission analysis. Guideline 2b is not exceeded, and impacts are less than significant. No mitigation is required. In summary, Guideline 2b is not exceeded and impacts are less than significant. No mitigation is required.

Guideline 2c: The project will result in emissions of PM_{2.5} that exceed 55 pounds per day.

As shown in Table 2-3-2, during its construction phase, the Proposed Project is anticipated to generate 7.784 31.24 lbs/day of PM_{2.5} in its primary construction year (2016) and 1.926 lbs/day of CO in the following year. This is below the screening threshold of 55 lbs/day; therefore construction related PM_{2.5} emissions are less than significant.

Per Table 2-3-3, the operation phase of the Proposed Project is anticipated to generate 12.87 4.90 lbs/day PM_{2.5} during the summer and 12.87 9.40 lbs/day PM_{2.5} during the winter. This is below the screening threshold of 55 lbs/day; therefore operational related PM_{2.5} emissions are less than significant. In summary, Guideline 2c is not exceeded, and impacts are less than significant. No mitigation is required.

Guideline 2d: The project will result in emissions of PM₁₀ that exceed 100 pounds per day . and increase the ambient PM₁₀ concentration by 5 micrograms per cubic meter (5 µg/m³) or greater at the maximum exposed individual.

A shown in Table 2-3-2, “Expected Construction Emissions Summary”, the construction phase of the Proposed Project is anticipated to generate a maximum of 11.838 lbs/day of PM₁₀ in its primary construction year (2016) and 2.235 lbs/day of PM₁₀ in the following year. This is below the screening threshold of 100 lbs/day; therefore, construction related PM₁₀ emissions would be less than significant.

As shown in Table 2-3-3, “Expected Daily Pollutant Generation,” the operation phase of the Proposed Project is anticipated to generate 15.90 lbs/day of PM₁₀ during the

summer and 15.90 lbs/day of PM₁₀ in the winter. This is below the screening threshold of 100 lbs/day; therefore, operational related PM₁₀ emissions would be less than significant. Guideline 2d is not exceeded, and impacts are less than significant. No mitigation is required. As shown in Table 2-3-2, during the grading phase of the Proposed Project, PM₁₀ emissions are anticipated to generate approximately 137.5 pounds lb/day, which exceeds the 100 lb/day limit. This represents a significant impact. (Impact AQ-1).

The operation phase of the Proposed Project is anticipated to generate 9.75 lbs/day PM₁₀ during the summer and 17.23 lbs/day PM₁₀ during the winter. This is below the screening threshold of 100 lbs/day for PM₁₀ emissions; therefore, operational related PM₁₀ emissions are less than significant.

In summary, construction related PM₁₀ emissions exceed the screening thresholds and operational PM₁₀ emissions do not exceed the threshold. Mitigation is required for construction related PM₁₀ emissions.

Guideline 2e: The project will result in emissions of SO₂ that exceed 250 pounds per day.

As shown in Table 2-3-2, “Expected Construction Emissions Summary”, the construction phase of the Proposed Project is anticipated to generate a maximum of 0.087 lbs/day of SO₂ in its primary construction year (2016) and 0.034 lbs/day of SO₂ in the following year. This is below the screening threshold of 250 lbs/day; therefore, construction related SO₂ emissions would be less than significant.

As shown in Table 2-3-3, “Expected Daily Pollutant Generation,” the operation phase of the Proposed Project is anticipated to generate 0.10 lbs/day of SO_x during the summer and 0.09 lbs/day of SO_x in the winter. This is below the screening threshold of 250 lbs/day; therefore, operational related SO₂ emissions would be less than significant. Guideline 2e is not exceeded, and impacts are less than significant. No mitigation is required.

Guideline 3: Result in a cumulatively considerable net increase of any criteria pollutant for which the San Diego Air Basin is in non-attainment under an applicable Federal or State Ambient Air Quality Standard (PM₁₀, PM_{2.5} or exceed quantitative thresholds for O₃ precursors, oxides of nitrogen (NO_x) and Volatile Organic Compounds (VOCs).

Guidelines 3a through 3d provide the analysis for cumulative impacts concerning criteria non-attainment pollutants.

Guideline 3a: Construction Emissions: A project that has a significant direct impact on air quality with regard to emissions of PM₁₀, PM_{2.5}, NO_x and/or VOCs, would also have a significant cumulatively considerable net increase.

As shown in the analysis above, the Proposed Project will not have ~~has been determined to have~~ a potentially significant direct impact to air quality from construction emissions of PM₁₀, PM_{2.5}, NO_x, and /or VOCs. Therefore Guideline 3a is not exceeded, and impacts are not significant. No mitigation is required. ~~Therefore the Proposed Project is anticipated to have a significant cumulative impact for this criteria pollutant. Guideline 3a is exceeded, and impacts are significant. Mitigation is required.~~

Guideline 3b: Construction Emissions: In the event direct impacts from a proposed project are less than significant, a project may still have a cumulatively considerable impact on air quality if the emissions of concern from the proposed project, in combination with the emissions of concern from other proposed projects or reasonably foreseeable future projects within a proximity relevant to the pollutants of concern, are in excess of the guidelines identified in Table 2-3-1.

There are no identified projects within the worst-case construction emission radius as predicted by the SCREEN3 model. Since no overlapping construction emissions are expected, ~~For those criteria pollutants which do not have significant impacts as a result of the Proposed Project (ROG, NO_x, CO, SO_x, and PM_{2.5}), since no overlapping construction emissions are expected,~~ Guideline 3b is not exceeded, impacts are less than significant. No mitigation is required.

Guideline 3c: Operational Emissions: A project that does not conform to the RAQS and/or has a significant direct impact on air quality with regard to operational emissions of PM₁₀ PM_{2.5}, NO_x and/or VOCs, would also have a significant cumulatively considerable net increase.

As discussed under Guideline 1, the Proposed Project's density falls within the limits created by SANDAG and the General Plan and is therefore in conformance with the RAQS on that basis.

Additionally, the Proposed Project was analyzed for potential air quality impacts associated with anticipated operational traffic. Based on the traffic study conducted for the Proposed Project, as many as 528 daily trips will be generated. Rural trip assumptions in the URBEMIS2007 program were used for this analysis.

Table 2-3-3 shows the anticipated operational emissions during summer and winter. The analysis shows that the Proposed Project is not anticipated to exceed the screening level thresholds for any of the criteria pollutants. Guideline 3c is not exceeded, and impacts are less than significant. No mitigation is required.

Guideline 3d: Projects that cause road intersections to operate at or below LOS E (analysis only required when the addition of peak-hour trips from the proposed

project and the surrounding projects exceeds 2,000) and create a CO “hotspot” create a cumulatively considerable net increase of CO.

As described under the analysis of Guideline 2b, above, the Proposed Project is not anticipated to directly or cumulatively cause existing intersections within the project study area to operate at LOS E or F, and is therefore not anticipated to create a cumulatively considerable net increase of CO. Guideline 3d is not exceeded and impacts are less than significant. No mitigation is required.

Guideline 4: Expose sensitive receptors to substantial pollutant concentrations.

Air quality regulators typically define sensitive receptors as schools, hospitals, resident care facilities, day-care centers, or other facilities that may house individuals with health conditions that would be adversely impacted by changes in air quality. For the purposes of CEQA analysis, the County’s definition of a sensitive receptor is extended to include residents. There are residents in the vicinity that are located to the east and south of the project, however the nearest receptor is 180 meters east of the site which is identified in Figure 1-B “Proposed Project Site Plan,” in the Air Quality report, provided at Appendix B to this DEIR. The two primary emissions of concern regarding health effects for land development projects are diesel-fired particulates and carbon monoxide.

Guidelines 4a and 4b provide the analysis for potential impacts to sensitive receptors.

Guideline 4a: The project places sensitive receptors near CO “hotspots” or creates CO “hotspots” near sensitive receptors.

CO emissions are the result of the combustion processes and therefore primarily associated with mobile source emissions (vehicles). CO concentrations tend to be higher in urban areas where there are many mobile-source emissions. CO “hotspots” or pockets where the CO concentration exceeds the NAAQS and/or CAAQS have been found to occur only at signalized intersections that operate at or below level of service (LOS) E with peak-hour trips for intersections exceeding 3,000 trips. Therefore, any project that would place receptors within 500 feet of a signalized intersection operating at or below LOS E whose peak-hour trips exceed 3,000 trips must conduct a “hotspot” analysis for CO.

As shown in the analysis under Guidelines 2b and 3d, above, the Proposed Project is not anticipated to directly or cumulatively cause existing intersections within the project study area to operate at LOS E or F, and is therefore not exposing sensitive receptors to CO ‘hotspots.’ In addition, the project does not create any CO “hotspots” near the project site during construction or operation phases. Guideline 4a is not exceeded and impacts are less than significant. Mitigation is not required.

Guideline 4b: Project implementation will result in exposure to TACs resulting in a maximum incremental cancer risk greater than 1 in 1 million without application of Toxics Best Available Technology (T-BACT) or a health hazard index greater than one would be deemed as having a potentially significant impact.

For typical land use projects that do not propose stationary sources of emissions regulated by SDAPCD, such as the Proposed Project, diesel fired particulates (DPM) are the primary TAC of concern.

Health risks associated with exposure to carcinogenic compounds are defined in terms of the probability of developing cancer as a result of exposure to a chemical at a given concentration. The Proposed Project is expected to generate maximum DPM during grading of the site, anticipated to take place over the course of approximately 314 work days at 8 hours per day. The Proposed Project was estimated to put 0.97 ~~0.63~~ individuals per million at risk, which is below the restriction limit of one individual in one million. It should be noted that the calculation is based on the maximum DPM, which is projected to occur approximately 498 meters from the geometric center of the site. Sensitive receptors including the existing residential development onsite would not be exposed to DPM in excess of that which is predicted in the analysis as all receptors are either within or beyond the 498-meter radius and would have a cancer risk CR of less than 0.97 ~~0.63~~ individuals per million, which is below the 1 per million threshold. ~~Also~~†The nearest sensitive receptor (at 180 meters to the east) was analysed and it was found that the cancer risk at that location was only 0.78 ~~0.51~~, which is also below the threshold. Therefore Project emissions will remain below the 1 per million threshold. Guideline 4b is not exceeded and impacts are less than significant. No mitigation is required.

Guideline 5: The project which is not an agricultural, commercial or an industrial activity subject to SDAPCD standards, as a result of implementation will either generate objectionable odors or place sensitive receptors next to existing objectionable odors, which will affect a considerable number of persons or the public.

Odors Onsite

Potential onsite odor generators would include those resulting from short-term construction activities, such as asphalt and concrete paving, and painting. However, these aspects of the overall project are anticipated to be short-lived, and as a result are not anticipated to cause significant odor impacts.

The Proposed Project will place sensitive receptors within a residential development that is combined with onsite agricultural uses. Agriculture has been carried out on the site for over 60 years, and agricultural activity will be continued by the proposed project. Future homeowners will be aware of the agricultural nature of the

development; every lot is anticipated to retain existing agriculture, and every new homeowner will have the opportunity to participate in agricultural production. Therefore prospective residents will be aware of the agricultural nature of the Project and its potential effects on odor.

Every new homeowner will be provided a full disclosure statement to this effect, informing them to expect that continued agricultural use onsite may result in the continued generation of associated odors. Any odors associated with the continued agricultural use will be understood and accepted as part of living within the Proposed Project and near to surrounding similar agricultural grove operations. Odors are expected to be minimal as the onsite and nearby agricultural operations are groves and not dairies, chicken ranches or other animal operations which can produce strong odors. Therefore, impacts would be less than significant.

Odors Offsite

~~The two~~One nuisance-odor generating land uses in the vicinity of the Proposed Project ~~are is the proposed Gregory Canyon Landfill and the existing Pala Wastewater Treatment Plant. However, these~~this use is ~~are~~ over one mile distant from the Proposed Project site, and the intervening topography and adherence to operational requirements will serve to further eliminate the potential for odor impacts. ~~Additionally, the focused air quality study for the landfill indicated that any generated odors would be contained through the implementation of the operation plan for that project, which calls for covering waste with soil as soon as it is brought in. As a result, odor impacts from this offsite sources are is not anticipated and impacts are less than significant.~~

In summary, onsite and offsite odor impacts will be less than significant. Guideline 5 is not exceeded and impacts are less than significant. No mitigation is required.

2.3.3 Cumulative Impact Analysis

~~Guidelines 3 a through 3d analyzed the Proposed Project's potential for cumulative air quality impacts related to (PM₁₀, PM_{2.5}, O₃ precursors, oxides of nitrogen (NO_x) and Volatile Organic Compounds (VOCs). One impact was found to be significant. Because the construction phase of the Proposed Project is anticipated to create emissions of PM₁₀ in excess of the thresholds, a cumulative impact for that criteria pollutant was identified (AQ-2). No significant impacts were found and no mitigation is required. Guideline 4a analyzed the potential for cumulative hot spot emissions. No significant impacts were found and no mitigation is required. Guideline 4b analyzed the potential incremental cancer risk associated with exposure to TACs. Potential risk remained below the one in one-million threshold and there are no cumulative projects that could contribute to a combined risk of over one on one-million. Therefore potential cumulative impacts are not significant.~~

2.3.4 Significance of Impacts Prior to Mitigation

There are no significant impacts.

~~AQ-1 Short term construction impacts for PM₁₀ emissions are significant prior to the application of mitigation measures.~~

~~AQ-2 Cumulative impacts related to PM₁₀ emissions are significant prior to the application of mitigation measures.~~

2.3.5 Mitigation

No mitigation is required.

~~The following actions shall occur throughout the duration of the grading construction:~~

~~M-AQ-1 and M-AQ-2.~~

~~In Order to mitigate for emissions of PM₁₀ and diesel particulate matter, the project shall comply with the following Air Quality measures:~~

- ~~a) All haul/dump trucks entering or leaving the site with soil or fill material must maintain at least 2 feet of freeboard or cover loads of all haul/dump trucks securely (unnumbered design measure).~~
- ~~b) Dust control measures of the Grading Ordinance will be enhanced with a minimum of three (3) daily applications of water to the construction areas, between dozer/scrapper passes and on any unpaved roads within the project limits.~~
- ~~c) Grading is to be terminated in winds exceed 25 mph.~~
- ~~d) Sweepers and water trucks shall be used to control dust and debris at public street access points.~~
- ~~e) Dirt storage piles will be stabilized by chemical binders, tarps, fencing or other suppression measures.~~
- ~~f) Internal construction roadways will be stabilized by paving, chip sealing or chemicals after rough grading.~~
- ~~g) A minimum of four 15 mph signs shall be posted and enforced on unpaved areas during construction.~~
- ~~h) Electricity from the utility grid shall be used to power construction equipment to the maximum extent feasible.~~

~~The applicant shall comply with the Air Quality requirements of this condition. The following actions shall occur throughout the duration of the grading construction. The County shall make sure that the grading contractor complies with the Air Quality requirements of this condition. The County building inspection department shall contact the Department of Planning and Development Services for referral to Code Enforcement if the applicant fails to comply with this condition.~~

2.3.6 Conclusion

The Proposed Project was analyzed for possible impacts to air quality by a County-approved consultant. The analysis concluded that temporary construction and operation activities would not have significant impacts to air quality. ~~are anticipated to result in PM₁₀ emissions in excess of the screening thresholds identified by the County. This direct impact is carried forward in the cumulative analysis and results in a significant cumulative effect as well (AQ-1 and AQ-2). Impacts for PM₁₀ emissions will be mitigated through the implementation of grading operations best management practices as listed in numbers 1 through 6 above in sub-chapter 2.3.5. With implementation of these mitigation measures, construction related PM₁₀ emissions would be reduced to 63.51 lbs/day, which is below a level of significance.~~

The estimated risk level for exposure to TACs (AQ-3) from diesel emissions during grading activities was 0.97 ~~0.64~~ individuals per million, which is below the 1 individual per million threshold. The Proposed Project was determined to not exceed the incremental cancer risk.

Operational emissions from the Proposed Project are also anticipated. Most of these emissions are the result of project related traffic, but also include emissions resulting from natural gas usage, landscaping equipment, and repainting. The analysis concluded that emissions generated during long-term project operational activity will not exceed significance thresholds for criteria pollutant emissions. Additionally, the project will not result in any CO 'hotspots,' thus the project is not expected to result in adverse impacts for emissions of CO. Because the project will not exceed San Diego County Screening Level Thresholds or any County of San Diego significance thresholds, the project will not result in a significant impact. The analysis also concluded that the Proposed Project will not result in a significant odor impact. ~~The Proposed Project fully mitigates for anticipated impacts resulting from PM₁₀ emissions, and all other guidelines of significance are met. No additional impacts are anticipated. No further mitigation is required.~~

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Pollutant	Total Emissions (Pounds per Day)
Construction Emissions	
Respirable Particulate Matter (PM ₁₀ and PM _{2.5})	100 and 55
Nitrogen Oxide (NO _x)	250
Sulfur Oxide (SO _x)	250
Carbon Monoxide (CO)	550
Volatile Organic Compounds (VOCs)	75
Reactive Organic Gases (ROG) SCAQMD	75
Operational Emissions	
Respirable Particulate Matter (PM ₁₀ and PM _{2.5})	100 and 55
Nitrogen Oxide (NO _x)	250
Sulfur Oxide (SO _x)	250
Carbon Monoxide (CO)	550
Lead and Lead Compounds	3.2
Volatile Organic Compounds (VOCs)	75
Reactive Organic Gases (ROG) SCAQMD	75

Table
2-3-1

Screening Threshold for Criteria Pollutants



Year	ROG	NO _x	CO	SO ₂	PM ₁₀ (Dust)	PM ₁₀ (Exhaust)	PM ₁₀ (Total)	PM _{2.5} (Dust)	PM _{2.5} (Exhaust)	PM _{2.5} (Total)
2016	8.660	99.431	63.838	0.087	7.163	4.675	11.838	3.484	4.301	7.784
2017	30.100	29.089	21.646	0.034	0.273	1.962	2.235	0.073	1.853	1.926
Significance Threshold (lb/day)	75	250	550	250	-	-	100	-	-	55
SDAPCD Impact?	No	No	No	No	-	-	No	-	-	No

	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Area	69.55	0.96	86.61	0.03	11.67	11.67
Energy	0.04	0.31	0.13	0.00	0.02	0.02
Mobile	2.05	5.22	22.86	0.06	4.21	1.17
Total (Lb/Day)	71.64	6.48	109.60	0.09	15.90	12.87
SDAPCD Thresholds	75	250	550	250	100	55
Significant?	No	No	No	No	No	No
Daily pollutant generation assumes trip distances within CALFEEMOD 2013.2.2						

Winter

	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Area	69.55	0.96	86.61	0.03	11.67	11.67
Energy	0.04	0.31	0.13	0.00	0.02	0.02
Mobile	1.94	4.90	22.33	0.06	4.20	1.17
Total (Lb/Day)	71.53	6.17	109.06	0.10	15.90	12.87
SDAPCD Thresholds	75	250	550	250	100	55
Significant?	No	No	No	No	No	No
Daily pollutant generation assumes trip distances within CALFEEMOD 2013.2.2						

Summer

2.4 Biological Resources

Biological surveys of the site were conducted by URS, Vincent Scheidt, and others during various periods from 2001 through ~~2014~~2019. These surveys are included in the most recent study, “A Biological Resources Survey Report for the Shadow Run Ranch Project TM 5223RPL³,” dated March 2014, and in the memo “Current Status of Biological Resources—Shadow Run Ranch 3100-5223”, dated April 3, 2019. They are attached to this DEIR as Appendix C of the technical appendices to the DEIR. The report was authored by Vincent Scheidt, a biologist on the County’s CEQA Consultant List.

2.4.1 Existing Conditions

The topography of the subject property slopes gently to steeply from approximately 770 feet above mean sea level (MSL) in the south to 1,620 feet MSL in the north. Existing dirt roadways on the subject property provide access to the agricultural areas, the reservoir in the northeast portion of the property, as well as existing trailers and single family homes. Soil types found onsite include Soboba stony loamy sand (SsE), Greenfield sandy loam (GrD), Cieneba-Fallbrook rocky sandy loam (CnE2), and Stony Land (SvE).

There are 11 generally discrete subcategories of plant communities found onsite. They are as follows: (1) Orchards and Vineyards, (2) Chamise Chaparral, (3) Diegan Coastal Sage Scrub, (4) Southern Sycamore-Alder Riparian Woodland, (5) Southern Coast Live Oak Riparian Forest, (6) Floodway, (7) Coast Live Oak Woodland, (8) Open Water, (9) Disturbed Habitat, (10) Urban/Developed, and (11) Field/Pasture. These areas are depicted on Figure 2-4-1, “Biological Resources,” (also found in the back pocket of this DEIR). Table 2-4-1, “Habitat Impacts and Mitigation Analysis.” summarizes the data for each of these habitats.

2.4.1.1 Sensitive Habitats

Nine of the habitat-types found onsite are categorized as sensitive habitat-types in the analysis.

Chamise Chaparral (0.5 acre)

Chamise Chaparral (CC) covers the extreme north end of the subject property. Indicators in this dense, brushy habitat include Chamise (*Adenostoma fasciculatum*), Mission Manzanita (*Xylococcus bicolor*), and other hard-woody shrubs. The onsite CC was formerly dense and relatively impenetrable, but was burned in the 2007 Poomacha Fire. The CC is currently growing back. The biological resource value of the CC is moderate to high, and qualifies as a sensitive habitat-type according to the County of San Diego Guidelines for Determining Significance pursuant to CEQA.

The CC onsite also likely qualifies as Sensitive Habitat Lands (SHL) as defined by the County of San Diego Resources Protection Ordinance (RPO), insofar as it has the potential to support the “the habitats of rare or endangered species or sub-species of animal or plants, as defined by Section 15380 of the State CEQA Guidelines.

Diegan Coastal Sage Scrub (50.0 acres onsite)

Diegan Coastal Sage Scrub (CSS) vegetation is located mostly on the northern and western portions of the site in association with south-facing slopes and the floodplain of Frey Creek. Several small patches of remnant or successional CSS associated with large rock outcrops are scattered throughout the agricultural area. Indicators in the CSS habitat include Flat-top Buckwheat (*Eriogonum fasciculatum*), California Sagebrush (*Artemisia californica*), California Brickellbush (*Brickellia californica*), Laurel Sumac (*Malosma laurina*), Our Lord’s Candle (*Yucca whipplei*), and other soft-woody shrubs. The CSS in Frey Creek is interspersed with mature Coast Live Oaks (*Quercus agrifolia*), which are mapped as Coast Live Oak Woodland where the canopies of the trees are less than 100 feet apart. Small California Sycamores (*Platanus racemosa*) are also occasional in the CSS in Frey Creek. The CSS on the northernmost portion of the property was burned in the 2007 Poomacha Fire. This area is re-generating and is expected to fully recover. The biological resource value of the large-block areas of CSS is high, based on the presence of sensitive species and habitat connectivity. The small patches of CSS located within the groves are of limited biological resource value. CSS is a sensitive habitat-type in San Diego County, according to the *County of San Diego Guidelines for Determining Significance* pursuant to CEQA. The CSS onsite also likely qualifies as SHL as defined by the RPO, insofar as it has the potential to support the “the habitats of rare or endangered species or sub-species of animal or plants, as defined by Section 15380 of the State CEQA Guidelines.

Southern Sycamore-Alder Riparian Woodland (2.5 acres)

The headwaters of Frey Creek, located on the northeastern-most portion of the property, support a substantial Southern Sycamore-Alder Riparian Woodland (SSARW). This habitat-type was burned in the 2007 Poomacha wildfire, but is re-generating vigorously. The canopy of the SSARW is currently open, although it is anticipated that it is closing as it recovers from the fire. Some areas are likely to remain open, particularly at the western boundary of the SSARW where it converts to Southern Coast Live Oak Riparian Forest. Indicators in the SSRAW include White Alder (*Alnus rhombifolia*), Red Willow (*Salix laevigata*), and Black Cottonwood (*Populus trichocarpa*), re-sprouting California Sycamores and Coast Live Oaks, and herbaceous wetland species, such as Desert Grape (*Vitis girdiana*), California Blackberry (*Rubus ursinus*), and Poison Oak (*Toxicodendron diversilobum*). This habitat-type continues offsite to the northeast. The biological resource value of this

wetland habitat-type is very high, based on its scarcity in the County of San Diego and its connectivity to other wetland habitat-types along Frey Creek. SSARW is a sensitive habitat-type in San Diego County, according to the *County of San Diego Guidelines for Determining Significance* pursuant to CEQA. The SSARW onsite also likely qualifies as SHL as defined by the RPO, insofar as it has the potential to support the “the habitats of rare or endangered species or sub-species of animal or plants, as defined by Section 15380 of the State CEQA Guidelines.

Southern Coast Live Oak Riparian Forest (3.3 acres)

The floodplain of Frey Creek immediately to the west of the SSARW supports Southern Coast Live Oak Riparian Forest (SCLORF). This habitat-type also burned in the Poomacha Fire and is currently re-generating. Due in part to the fire, the canopy of the onsite SCLORF is very open. It is expected that more cover will be provided as the Coast Live Oaks and California Sycamores that form the overstory of this habitat-type regenerate, although it is unlikely that this area will ever support a completely closed canopy. Understory species in the SCLORF include scattered Mule Fat (*Baccharis glutinosa*), Douglas Sagewort (*Artemisia douglasiana*), and CSS species. The onsite SCLORF exhibits habitat connectivity with additional SCLORF offsite to the west and SSARW to the east. The biological resource value of this wetland habitat-type is high. SCLORF is a sensitive habitat-type in San Diego County, according to the *County of San Diego Guidelines for Determining Significance* pursuant to CEQA. The SCLORF onsite also likely qualifies as SHL as defined by the RPO, insofar as it has the potential to support the “the habitats of rare or endangered species or sub-species of animal or plants, as defined by Section 15380 of the State CEQA Guidelines.

Floodway (2.1 acres)

The floodway (i.e., incised channel) of Frey Creek supports Floodway habitat. This habitat-type consists mainly of bare sand, gravel, and small to very large boulders. Riparian species, such as Mule Fat, Arroyo Willow (*S. lasiolepis*), and Western Cottonwood (*Populus fremontii*), and upland scrub species are occasional in the Floodway. This habitat-type continues offsite to the southwest in the floodway of Frey Creek. Floodway is of high biological resource value, and is categorized as a sensitive habitat-type in San Diego County, according to the *County of San Diego Guidelines for Determining Significance* pursuant to CEQA. The Floodway onsite also likely qualifies as SHL as defined by the RPO, insofar as it has the potential to support the “the habitats of rare or endangered species or sub-species of animal or plants, as defined by Section 15380 of the State CEQA Guidelines.

Coast Live Oak Woodland (23.8 acres onsite, 0.7 acres offsite)

Both Dense and Open Coast Live Oak Woodland (CLOW) are found onsite in areas where mature Coast Live Oak trees are dominant or co-dominant. Because these two habitat-types are difficult to distinguish one from the other, they are both mapped simply as CLOW for the purposes of the current analysis. CLOW occurs onsite within the floodplain of Frey Creek, on a north-facing slope on the northern portion of the property, and in several patches scattered throughout the groves. The understory of the CLOW within Frey Creek, on the northern portion of the property, and to the south of the reservoir consists mostly of CSS shrubs, Poison Oak, and other native species. The understory of the patches of CLOW located within the groves consists of citrus trees, weeds, and developed areas. Isolated Coast Live Oaks are also found scattered throughout the groves, but these trees are not mapped as part of the CLOW because they do not function as part of this habitat-type. CLOW occurs within the southerly offsite road alignment, along segments of Adams Drive, and offsite to the west, east, and south. The biological resource value of the CLOW onsite is moderate to high, depending on patch size, habitat connectivity, and understory species composition. CLOW is a sensitive habitat-type in San Diego County, according to the *County of San Diego Guidelines for Determining Significance* pursuant to CEQA. The CLOW onsite also likely qualifies as SHL as defined by the RPO, insofar as it has the potential to support the “the habitats of rare or endangered species or sub-species of animal or plants, as defined by Section 15380 of the State CEQA Guidelines.

Open Water (2.7 acres)

The site’s water storage reservoir supports Open Water (OW). This feature is man-made and stores groundwater that has been pumped from onsite wells, as a source of irrigation water for the groves. The reservoir is lined and treated with chemicals for vector control. The water level fluctuates regularly as the water is pumped into the reservoir to replenish it, and is then used through a gravity system to irrigate the groves. Additionally, water sprayers are regularly used to disturb the surface of the water in the reservoir for mosquito abatement. The combination of these activities minimizes the presence of vectors in the reservoir. The reservoir is not located in any watercourse. A single small stand of Cattails (*Typha latifolia*) is located at the edge of the reservoir and is mapped as part of the OW. The reservoir also supports aquatic macrophytes (submersed aquatic plants) in shallow areas as well as introduced game fish. The biological resource value of this habitat-type is low to moderate, due to its man-made origin and the required ongoing maintenance. Nevertheless, OW is a sensitive habitat-type in San Diego County, according to the *County of San Diego Guidelines for Determining Significance* pursuant to CEQA. The OW onsite likely does not qualify as SHL as defined by the RPO.

Field/Pasture 0.5 acre onsite

The southern edge of the property extends to the southern edge of SR 76. This area contains a narrow strip of Field/Pasture (F/P) onsite. The F/P continues offsite to the south, where it is grazed by hoof stock and supports mostly irrigated turf with weeds growing along its fringes. The biological resource value of this habitat-type is moderate, as it does provide open area for raptor foraging. F/P is considered sensitive in San Diego County, according to the *County of San Diego Guidelines for Determining Significance* pursuant to CEQA. The F/P onsite likely does not qualify as SHL as defined by the RPO because it does not appear to support rare or endangered species, and is not part of any wildlife corridor as defined by Section 15380 of the State CEQA Guidelines.

2.4.1.2 Sensitive Plant and Animal Species

The property was surveyed for sensitive plants and animals. Sensitive plants and animals are those considered sensitive by the County of San Diego, or any State or Federal agency. Of the 185 species of vascular plants observed, none are sensitive. Of the 90 species of animals were observed, 13 species are considered sensitive. Sensitive species identified on the project site include: Cooper’s Hawk, White-tailed Kite, Turkey Vulture, Yellow Warbler, Southern California Rufous-crowned Sparrow, Red-shouldered Hawk, Great Blue Heron, Mountain Lion, Bobcat, Mule Deer, San Diego Desert Woodrat, Coastal Western Whiptail, and Orange-throated Whiptail.

Other sensitive animals known to inhabit the general vicinity of the property are listed in Table 7 of the Biological Resources Survey Report, Appendix C to this DEIR.

2.4.1.3 Wetlands/Jurisdictional Waters

The project site supports regionally-significant wetlands. Areas of the site that fall within the floodway of Frey Creek qualify as supporting federal (ACOE-defined), state (CDFW-defined), and County (RPO) wetlands, as well as ‘waters of the State’ and ‘waters of the United States.’ Other federal and state jurisdictional areas onsite include the SCLORF and an unvegetated upland swale that drains the center of the site. Figure 2.4-2, “Jurisdictional Water and Wetlands” depicts the jurisdictional areas on the project site.

A second unvegetated upland swale is present within the proposed project on the project’s eastern boundary. All of these areas likely qualify as state wetlands and state and federal ‘waters,’ but not federal or county wetlands. Although the Open Water of the reservoir supports wetland habitat, it does not qualify as jurisdictional wetlands or ‘waters’ due to the fact that it is a man-made, lined, agricultural feature that requires constant maintenance. The current definitions utilized by these agencies with respect

to wetlands regulation are provided in the project biological resources survey report (EIR Appendix C).

2.4.1.4 Threatened or Endangered Species

Several directed field surveys and habitat evaluations were conducted in conjunction with the biological assessment for the project.

Directed Field Survey: California Gnatcatcher

The California Gnatcatcher is a federally-listed ‘threatened’ songbird, and has been found on habitat similar to that found on the project site. Gnatcatchers occur in coastal and interior areas of coastal sage and related scrub habitats typically dominated by California Sagebrush (*Artemisia californica*), Flat-top Buckwheat (*Eriogonum fasciculatum*), Laurel Sumac (*Malosma laurina*), and other soft-woody shrubs.

Protocol gnatcatcher presence/absence field surveys were conducted in 2001, 2005, and 2009, but none were detected on the property. The project site is considered ‘unoccupied’ by this federally-listed Threatened Species.

Directed Field Survey: Arroyo Toad

Arroyo Toad (*Bufo microscaphus californicus*), is a federally listed ‘Endangered’ amphibian. This species is a small (two to three inches), variably-colored anuran with warty skin and small dark spots.

Frey Creek, which runs along the western edge of the property, supports areas that could qualify as potential Arroyo Toad breeding habitat. The nearest known breeding areas for Arroyo Toad are approximately 3.8 miles to the south, between the subject property and the Pauma Valley Country Club, and approximately 3 miles to the northwest. It is also highly likely that Arroyo Toads reproduce in the nearby areas of San Luis Rey River (SLRR) floodway, which is located a short distance to the south of the project site, across SR76. Arroyo Toads are known to move at least 1 km in all directions from breeding areas during dispersal. Even if not breeding in Frey Creek, specimens could easily move up this ephemeral drainage from its confluence with the San Luis Rey River during post-reproductive dispersal, where toads are expected to occur.

A series of six Arroyo Toad presence/absence field surveys, pursuant to the current United States Fish and Wildlife Service (USFWS) protocol, was completed for the project site during April, May, and June of 2007. An updated survey was completed in April, May and June 2012. No Arroyo Toads were detected during any of the nocturnal surveys, and the subject site is considered ‘unoccupied’ by this federally-listed Endangered Species, based on the results of the 2007 and 2012 field surveys.

Arroyo Toad could utilize parts of the subject property for aestivation and as a post-reproductive dispersal corridor. However, this would be restricted to Frey Creek and the adjoining natural areas to the north and west. The agricultural areas of the site are unsuitable for aestivation and post-reproductive dispersal due to past management as a grove, including the use of herbicides, pesticides, changes in the soil chemistry, compaction and other activities associated with past grove maintenance.

Habitat Evaluation: Least Bell's Vireo

Least Bell's Vireo (*Vireo bellii pusillus*), a state-listed and federally-listed Endangered migratory songbird, occurs in dense willow-dominated riparian habitats similar to that found in patches along portions of Frey Creek. Least Bell's Vireo is also known to nest in nearby upland areas, such as Black Mustard (*Brassica nigra*) thickets (D. Mayer, CDFW, personal communication). The nearest known reproducing populations of this rare species are approximately 3 miles to the northwest of the project site, in the San Luis Rey River (SLRR), which passes a short distance to the south of the property (although specimens are not reported in proximity to the site). In order to avoid the need for focused field surveys for this species, all of the riparian habitats on this site are considered potentially 'occupied' by Least Bell's Vireo and other riparian nesting species during the breeding season. However, it should be noted that no Least Bell's Vireos have been observed on the property during any of the biological field surveys, which have taken place over the course of many years.

Habitat Evaluation: Southwestern Willow Flycatcher

Southwestern Willow Flycatcher (*Empidonax trailii extimus*) is a federally-listed Endangered migratory songbird that nests in mature riparian vegetation that is most typically located over running or standing water, with a specific type of understory structure. Portions of the habitat at the northern end of Frey Creek are marginally suitable for this species. The nearest known populations of this very rare species are approximately three miles to the northwest of the project site in the SLRR, (although specimens are not reported in proximity to the site). In order to avoid the need for focused field surveys for this species, all of the riparian habitats on this site are considered potentially 'occupied' by Southwestern Willow Flycatcher and other riparian nesting species during the breeding season. However, it should be noted that no Southwestern Willow Flycatchers have been observed on the property during any of the biological field surveys, which have taken place over the course of many years

Habitat Evaluation: Quino Checkerspot Butterfly

Quino Checkerspot Butterfly (*Euphydryas editha quino*) is a federally-listed Endangered butterfly known to occur in portions of San Diego, western Riverside County, and adjacent Baja California, Mexico. This distinctive, colorful, medium-

sized butterfly is apparently restricted to open habitats supporting at least one of several larval food-plants. The best understood Quino indicator is Dot-seed Plantain (*Plantago erecta*), a very common annual forb associated with numerous open habitats. Our understanding of this species suggests that Quino is dependent on very specific features associated with P.E. In their absence, it is unlikely that Quino would be a resident species.

The project site supports certain features that might constitute Quino indicators, including ‘hilltopping’ sites, openings in the brush, plants in the Scrophularaceae family (including Dot-seed Plantain), etc. However, there are no recent records for Quino occurring in the Pauma Valley. Based in these factors, the probability for Quino to occur on this site is considered moderate. If present, specimens would generally be found in areas proposed for open space conservation. The probability for occurrence in the development area of the site is considered very low.

Directed Field Survey: Jurisdictional Wetland Delineation

A formal Jurisdictional Wetland Delineation, pursuant to the Unified Federal Method (1987), was conducted for the project site by URS in August and September of 2001. In addition, a directed Resource Protection Ordinance (RPO) wetland survey, pursuant to the County’s revised (2007) RPO definitions, was completed by Vincent Scheidt and Julia Groebner in July and August of 2009. Portions of the site qualify as county, state, and federal jurisdictional wetlands. Although the RPO wetland survey did not include a formal delineation, each of the drainage areas identified in the URS delineation were examined during the survey and their jurisdictional statuses were updated based on current site conditions. The results of the RPO wetland survey have been incorporated into Section 1.4.7 as well as Figure 7 of the Biological Resources Survey Report (EIR Appendix C).

2.4.1.5 Habitat Connectivity and Wildlife Corridors

The project site provides both locally-important and regionally-important wildlife corridors. Local corridors facilitate wildlife movement from nesting or sheltering area to nearby sources of food, water, or similar daily necessities. Regional corridors provide movement areas between large habitat blocks, facilitating animal migration on a larger scale. Frey Creek functions as both a local and regional wildlife corridor, connecting SLRR with the natural slopes on the south flanks of Palomar Mountain. This corridor extends along the western side of the property, beginning offsite to the north in forest service lands, and ending at the SLRR, where up-river/down-river dispersal and movement occurs. Many species of wildlife are dependent on the ecological function provided by the project site. Numerous large animals occur on the project site, including Mountain Lion, Mule Deer, Bobcat, Coyote, and Gray Fox. All of these species use the wildlife corridor provided by Frey Creek. Rodent and

lagomorphs, scores of riparian and other birds, reptiles and amphibians are also known to use resources found on the project site.

2.4.2 Analysis of Project Effects and Determination as to Significance

2.4.2.1 Methodology

A County-approved biologist reviewed the existing literature, including: U.S. Department of Agriculture (USDA) Soil Conservation Service (SCS) mapping for the project area; a database query of potential on-site sensitive species based on a determination of the site's physical characteristics (e.g., location, elevation, soils/substrate, and topography); documentation of California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDDB) records for the project vicinity; and previous biology reports prepared for the project area.

Field surveys of the TM 5223RPL³ property were completed in April of 2005, April through June of 2007, July and August of 2009, and April through July of 2012. The specific dates, personnel, and weather conditions are presented in Table 1 of the Biological Resources Survey Report (EIR Appendix C). The site was revisited in 2019.

A previous biology study and wetland delineation of the subject property was completed by URS in 2001. The raw data from that report (*Biological Resources and Wetland Delineation Report; Schoepe Ranch Property; Pala, California; TM 5223*) have been incorporated into the current biological resources survey report in Appendix C, with the exception of obvious errors, such as Yellow Willow (*Salix lutea*), a plant that does not occur in San Diego County but was included on the species list of the URS biology report.

All plants, animals, and habitats encountered during survey periods were noted in the field. The limits of each habitat-type were mapped in the field utilizing an aerial photograph of the property. All plants and animals identified in association with the property are listed in Tables 4 and 5 of Appendix C. Plants were identified *in situ*, or based on characteristic floral parts collected and later examined in detail. Binoculars were used to aid in observations and all wildlife species detected were noted. Several directed field surveys and habitat evaluations were conducted in conjunction with the biological survey of the property. Each survey complied with approved protocols to maximize detection of the respective biological resources, if present.

All potential project-related effects were evaluated using the guidelines for significance.

Guidelines for significance were determined using appropriate provisions of the San Diego County General Plan, CEQA, and other relevant federal and state ordinances,

policies, and regulations. In addition, County of San Diego staff provided further consultation in the formulation of guidelines.

2.4.2.2 Guidelines for the Determination of Significance – Special Status Species

According to the *County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements for Biological Resources* (September 2010), the project would have a significant impact to sensitive status species if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on a candidate, sensitive, or special status species listed in local or regional plans, policies, or regulations, or by the CDFW or USFWS.

2.4.2.3 Analysis – Special Status Species

The project development envelope totals 105.1 acres, including 10.1 acres that are “impact neutral” and 7.6 acres that will be impacted for road improvements. The project also includes 39.1-acre of agricultural open space easement, 7.9-acres of recreational open space easement, and 91.3 acres of biological open space easement.

The analysis of this threshold is guided by ten criteria, as noted below.

Criterion 1: The project would impact one or more individuals of a species listed as federally or state endangered or threatened.

The site is considered potentially occupied by Least Bell’s Vireo, a state and federally-listed Endangered Species, and Southwestern Willow Flycatcher, which is listed as federally endangered. Least Bell’s Vireo and Southwestern Willow Flycatcher are not expected to occur in any of the areas proposed for development, but they could potentially be indirectly impacted by the noise associated with construction in the absence of seasonal restrictions on noise-generating activities. Criterion 1 is exceeded and mitigation is required for anticipated impacts. (**Impact BI-1**)

Criterion 2: The project would impact the regional long-term survival of a County Group A or B plant species, or a County Group I animal species, or a species listed as a state Species of Special Concern.

Although the project will impact Cooper's Hawk, Southern California Rufous-crowned Sparrow, Red-shouldered Hawk, Turkey Vulture, and White-tailed Kite, all of which are County Group I animal species, those impacts will not affect the regional long-term survival of any of these species. This is because, although sensitive, all of these species are relatively widely distributed in San Diego County, occurring, in some cases, over hundreds of thousands of acres. Furthermore, habitat

supporting these species, including the most biologically sensitive areas of the site, will be preserved in dedicated biological open space, thereby ensuring the long-term survival of these species on the project site. Criterion 2 is not exceeded, less than significant impacts are anticipated, and no mitigation is necessary.

Criterion 3: The project would impact the regional long-term survival of a County Group C or D plant species or a County Group II animal species.

Although the project will impact Great Blue Heron, Yellow Warbler, Mountain Lion, San Diego Desert Woodrat, Mule Deer, Bobcat, Orange-throated Whiptail, and Coastal Western Whiptail, all of which are County Group II animal species, those impacts will not affect the regional long-term survival of any of these species. This is because, although sensitive, all of these species are relatively widely distributed in San Diego County, occurring, in some cases, over hundreds of thousands of acres. Furthermore, habitat supporting these species, including the most biologically sensitive areas of the site, will be preserved in dedicated biological open space, thereby ensuring the long-term survival of these species on the project site. Criterion 3 is not exceeded, impacts are less than significant, and no mitigation is necessary.

The project site was surveyed for the presence of the Southwestern Pond Turtle, a California Species of Concern. The site supports limited areas of Southwestern Pond Turtle habitat. These areas were searched and no evidence of this species was found. Criterion 3 is not exceeded. Impacts are less than significant and no mitigation is necessary.

The project site was surveyed for the presence of the San Diego Cactus Wren, and no evidence of the species was found. Limited habitat for this bird species is found in the extreme northern portion of the property, within a proposed open space area and approximately 2,750 feet (0.52 miles) from any development area. The site was determined to be unoccupied by the San Diego Cactus Wren. Criterion 3 is not exceeded, and impacts are less than significant. No mitigation is necessary.

Criterion 4: The project may impact Arroyo Toad aestivation or breeding habitat.

Arroyo Toad does not occur on this site, based on the results of a protocol survey in 2007 and 2012. However, aestivation could take place on the project site. The only areas of the site where this would take place are associated with Frey Creek and the adjoining lands to the north and west. These areas are proposed for open space. Encompassing Frey Creek in biological open space will protect any dispersal and aestivation areas because the area will be protected with an easement that will provide for fencing and signage that will deter intrusions into the area.

The agricultural areas on the project site do not support any suitable Arroyo Toad aestivation habitat due to ongoing grove maintenance activities. Criterion 4 is not exceeded, less than significant impacts are anticipated, and no mitigation is necessary.

Criterion 5: The project would impact Golden Eagle habitat.

Although the project could impact Golden Eagles foraging habitat, the most suitable foraging habitat, which coincides with the most biologically sensitive areas of the site, will be preserved in dedicated biological open space, thereby ensuring the long-term use of this site by this species. Criterion 5 is not exceeded, less than significant impacts are anticipated, and no mitigation is required.

Criterion 6: The project would result in a loss of functional foraging habitat for raptors.

The entire project site provides foraging habitat for raptors, although the most high-value areas in terms of raptor foraging are composed of the scrub and woodlands, depending on the raptor species. Raptor species onsite include Cooper's Hawk, Red-shouldered Hawk, Red-tailed Hawk and others. Therefore, the project will result in the loss of approximately 101.5 acres of potential raptor foraging habitat. This loss is not sufficient to result in regionally-significant, adverse impacts. This is because all of the raptor species found onsite are wide-ranging and are not anticipated to be dependent on resources provided solely by the TM 5223RPL³ project site.

Furthermore, approximately 91.3 acres of the highest quality raptor foraging habitat will be preserved onsite in biological open space, thereby ensuring the continuing viability of much of the raptor foraging habitat onsite. Additionally, raptors will also be able to continue to forage in the 39-acre agricultural and 8-acre recreation open space lots. Therefore, Criterion 6 is not exceeded, less than significant impacts are anticipated, and no mitigation is necessary.

Criterion 7: The project would increase noise and/or nighttime lighting to a level above ambient proven to adversely affect sensitive species.

The project could increase noise and/or nighttime lighting. However, it is not expected that this increase would be to levels that could affect sensitive species. The project includes a 200-foot biological buffer of Frey Creek along most of its length to ensure that noise and/or nighttime lighting from the proposed development will not increase to levels that could affect the behavior of the site's resident wildlife. Additionally, lighting associated with the future development will be low lumen and directed downward. The draft Resource Management Plan (RMP) requires that no lighting be installed within the biological open space and that any lighting associated with the development area shall be directed downward and away from the preserve. Furthermore, the proposed residential development project will comply with the County of San Diego Light Pollution Code, also known as the Dark Sky Ordinance. Impacts with respect to lighting are not significant and no mitigation is required. With regard to noise, potential noise impacts associated with construction activities on

nesting birds is a significant impact, ~~would be mitigated through limitations on construction timing.~~ Operational noise impacts would be less than significant due to adequate buffering. Therefore, ~~Criterion 7 is not exceeded and impacts are less than significant. No mitigation is required.~~ Criterion 7 is exceeded and mitigation is required (Impact BI-3).

Criterion 8: The project would impact the viability of a core wildlife area, defined as a large block of habitat (typically 500 acres or more not limited to project boundaries, though smaller areas with particularly valuable resources may also be considered a core wildlife area) that supports a viable population of a sensitive wildlife species or an area that supports multiple wildlife species.

The project site does not constitute a core wildlife area, because it is not within a 500 acre or larger block of native habitat. Criterion 8 is not exceeded, less than significant impacts are anticipated, and no mitigation is necessary.

Criterion 9: The project would increase human access or predation or competition from domestic animals, pests or exotic species to levels that would adversely affect sensitive species.

The project could increase human access or predation or competition from domestic animals, pests or exotic species to levels that would adversely affect sensitive species. Increased human use of the site could result in access, predation and/or competition impacts to special status species. Criterion 9 is exceeded, and mitigation for anticipated impacts will be required. **(Impact BI-2)**

Criterion 10: The project would impact nesting success of sensitive animals through grading, clearing, modification, and/or noise generating activities such as construction.

The project could impact nesting success of sensitive animals through grading, clearing, modification, and/or noise generating activities such as construction. Criterion 10 is exceeded, and mitigation for anticipated impacts is necessary. **(Impact BI-3)**

In summary, the project will result in some significant indirect impacts (Criteria 1, 7, 9, and 10) to special status species as described above. Edge effects, which include human presence and competition introduced by domestic pets, are also anticipated. These impacts will require mitigation. The remainder of the guidelines are not impacted.

2.4.2.4 Guidelines for the Determination of Significance – Riparian Habitat or Sensitive Natural Community

According to the *County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements for Biological Resources* (September

2010), the project would have a significant impact to riparian habitat or sensitive natural communities if it would:

- Have a substantial adverse effect on riparian habitat or another sensitive natural community identified in local or regional plan, policies, regulations or by the CDFW or USFWS.

2.4.2.5 Analysis – Riparian Habitat or Sensitive Natural Community

TM 5223RPL³ is anticipated to cause significant direct impacts and indirect long-term impacts to riparian habitats or other sensitive natural communities under the stated guidelines. This threshold is analyzed with the guidance of the following five criteria.

Criterion 1: Project-related construction, grading, clearing, construction or other activities will temporarily or permanently remove sensitive native or naturalized habitat on or off the project site.

Project-related future construction, grading, clearing, or other activities will permanently remove sensitive native or naturalized habitat on the project site, including direct impacts to 0.5 acre of field/pasture (F/P), 1.2 acres of CSS and 3.0 acres of CLOW. Unauthorized clearing resulting in an additional loss of 2.3 acres of CSS and 0.14 of CLOW will also be considered an impact, but will be mitigated at a higher ratio.

These vegetation-types are relatively well distributed in San Diego County, although CSS and CLOW habitats have decreased historically due to historical development. Therefore, Criterion 1 is exceeded, and mitigation for anticipated significant impacts is required. **(Impact BI-54)**

Criterion 2: Any of the following will occur to or within jurisdictional wetlands and/or riparian habitats as defined by ACOE, CDFW and the County of San Diego: removal of vegetation; grading; obstruction or diversion of water flow; adverse change in velocity, siltation, volume of flow, or runoff rate; placement of fill; placement of structures; construction of a road crossing; placement of culverts or other underground piping; any disturbance of the substratum; and/or any activity that may cause an adverse change in native species composition, diversity and abundance.

Project-related future construction, grading, clearing, or other activities will result in impacts to jurisdictional wetlands as defined by ACOE and CDFW.

Although most of the site's jurisdictional wetlands and all of the site's riparian habitats will be protected in a biological open space easement, certain relatively minor impacts to two unvegetated upland swales located within the project footprint are unavoidable. These impacts will consist of the construction of three drainage crossings associated with the required road improvements. One of the drainage

crossings will be located near the center of the project site; and two crossings are located at the southern end of the site. Impacts to jurisdictional wetlands associated with the crossings may include grading; temporary obstruction or diversion of water flow; the placement of fill; and the placement of culverts or other underground piping. These improvements will impact approximately 0.015 acre (258 lineal feet) of state wetland and state and federal “waters”. The project will not impact County (RPO) wetlands, as these are avoided by project design. Criterion 2 is exceeded, impacts are significant, and mitigation for anticipated impacts is required. **(Impact BI-4-5)**

Criterion 3: The project would draw down the groundwater table to the detriment of groundwater-dependent habitat, typically a drop of 3 feet or more from historical low groundwater levels.

The project will result in a net reduction of 28-percent in the amount of non-potable groundwater used on the project site. This is because some groundwater-irrigated citrus trees will be retired and the related groundwater usage (from wells) will be eliminated. Therefore, impacts to groundwater-dependent habitats are anticipated to be below any currently experienced as a result of the use of existing wells. Any project-related use of groundwater will be monitored pursuant to approved county, state, and/or federal protocols. Potable water will be provided by the YMWD from off-site wells. When projected potable water use and project’s agricultural water use are combined, total use is approximately ~~2540~~ percent below current demand.

Therefore, Criterion 3 is not exceeded, impacts are less than significant, and no mitigation is required.

Criterion 4: The project could increase human access or competition from domestic animals, pests or exotic species to levels proven to adversely affect sensitive habitats.

The project could increase human access or competition from domestic animals, pests, or exotic species to levels proven to adversely affect sensitive habitats. Increased human use of the site could result in access, predation and/or competition impacts to sensitive habitats. Criterion 4 is exceeded, impacts are significant, and mitigation for anticipated impacts is required. **(Impact BI-6)**

Criterion 5: The project does not include a wetland buffer adequate to protect the functions and values of existing wetlands.

The project includes wetland buffers that are adequate to protect the functions and values of existing wetlands. The project design incorporates wetland buffers that extend at least 50 feet from the outer edge of all RPO wetlands, with protection from future fire clearing through the dedication of 100-foot Limited Building Zones (LBZs). Additionally, as required by the RPO, the project provides up to a 200-foot wetland buffer in areas where CLOW adjoins the RPO wetlands over most of the

length of Frey Creek. The project will provide a 100 foot native vegetation buffer, a 100 foot agricultural (citrus) buffer, and a 100 foot LBZ along the entire length of Frey Creek (RPO Wetland) with the exception of a pinch point on Lots 33-35 where the buffer would narrow to only 100 feet of native vegetation and a 100-foot LBZ . The development area on Lots 33-35 will be adjacent to a steep cliff on their western side and between 37 and 55 feet higher than the creek. Therefore the narrowed buffer will not impact wetlands due to the physical separation between sensitive areas and proposed development. Agriculture would not continue in the first 100 feet, and the trees in that area will be removed. Existing agriculture could continue in the second 100 feet, but only as long as it remains in continuous operation; the applicants couldn't expand the groves beyond their current extent, and once agricultural use has ceased, it can't be re-established in that buffer area. As a result adequate buffers are maintained. Therefore, Criterion 5 is not exceeded and impacts are less than significant. No mitigation is required.

In summary, the project has direct significant impacts to 0.5 acre of F/P 1.2 acres of CSS and 3.0 acres of CLOW. Unauthorized clearing resulting in an additional loss of 2.3 acres of CSS and 0.14 of CLOW will also be considered an impact to be mitigated at a higher ratio. Although most of the site's jurisdictional wetlands and riparian habitats will be protected in biological open space; certain relatively minor impacts to these features are unavoidable. These are restricted to impacts associated with required road and drainage improvements. The project will not impact County (RPO) wetlands, as these are avoided by design.

2.4.2.6 Guidelines for the Determination of Significance – Jurisdictional Wetlands and Waterways

According to the *County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements for Biological Resources* (September 2010), the project would have a significant impact to jurisdictional wetlands and waterways if it would:

- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrologic interruption or other means.

2.4.2.7 Analysis– Federal Jurisdictional Wetlands and Waterways

This threshold is analyzed with the guidance of the following three criteria.

Criterion I: Project-related construction, grading, clearing, construction or other activities would temporarily or permanently remove federally protected wetlands on or off the project site.

Project-related construction, grading, clearing, construction or other activities will not temporarily or permanently remove federally protected wetlands on or off the project site. Criterion 1 is not exceeded, impacts are not significant, and no mitigation is required.

Criterion 2: Any of the following will occur to or within jurisdictional wetlands and/or riparian habitats as defined by ACOE, CDFW and the County of San Diego: removal of vegetation; grading; obstruction or diversion of water flow; adverse change in velocity, siltation, volume of flow, or runoff rate; placement of fill; placement of structures; construction of road crossings; placement of culverts or other underground piping; any disturbance of the substratum; and/or any activity that may cause an adverse change in native species composition, diversity and abundance.

Project-related future construction, grading, clearing, or other activities will result in impacts to federal jurisdictional wetlands as defined by ACOE and CDFW. Although most of the site's jurisdictional wetlands and all of the site's riparian habitats will be protected in biological open space, certain relatively minor impacts to two unvegetated upland swales located within the project footprint are unavoidable. These impacts will consist of the construction of three drainage crossings associated with the required road improvements. One of the drainage crossings will be located near the center of the project site; and two crossings are located at the southern end of the site. Impacts to federal jurisdictional wetlands associated with the crossings may include grading; temporary obstruction or diversion of water flow; the placement of fill; and the placement of culverts or other underground piping. These improvements will impact approximately ~~0.20~~ 0.015 acre (~~258~~ 344-lineal feet) of state wetland and state and federal "waters". The project will not impact County (RPO) wetlands, as these are avoided by design. Criterion 2 is exceeded, impacts are significant, and mitigation for anticipated impacts is required. **(Impact BI-45**

Criterion 3: The project would draw down the groundwater table to the detriment of groundwater-dependent habitat, typically a drop of three feet or more from historical low groundwater levels.

The project will result in a 28 percent net reduction in the amount of groundwater used for irrigation on the project site (Appendix P). Potable water for 44 residences will be provided by offsite wells under the control of the YMWD. When this use is included, overall water use is reduced by ~~40~~ 25 percent. This is because groundwater-irrigated citrus trees will be retired and the related groundwater usage (from wells) will be eliminated. Therefore, impacts to groundwater-dependent habitats are not anticipated beyond any currently experienced as a use of existing wells. Any project-related use of groundwater will be monitored pursuant to approved County, state, and/or federal protocols. Potable water will be provided from imported sources.

Criterion 3 is not exceeded, impacts are less than significant, and no mitigation is required.

Criterion 4: The project would increase human access or competition from domestic animals, pests, or exotic species to levels proven to adversely affect federally protected wetlands.

The project will not increase human access or competition from domestic animals, pests, or exotic species to levels proven to adversely affect federally-protected wetlands. Criterion 4 is not exceeded, impacts are not significant, and no mitigation is required.

Criterion 5: The project does not include a wetland buffer adequate to protect the functions and values of existing wetlands.

The project includes wetland buffers that are adequate to protect the functions and values of existing wetlands. The proposed buffers extend at least 50 feet from the outer edge of all RPO wetlands, with protection from future fire clearing through the dedication of 100-foot LBZs. Furthermore, as required by the RPO, the project provides a 200-foot wetland buffer in areas where CLOW adjoins the RPO wetlands over most of the length of Frey Creek. Therefore, Criterion 5 is not exceeded, impacts are less than significant, and no mitigation is required.

2.4.2.8 Guidelines for the Determination of Significance – Wildlife Movement and Nursery Sites

According to the *County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements for Biological Resources* (September 2010), the project would have a significant impact to wildlife movement and nursery sites if it would:

- Interfere substantially with the movement of the native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

2.4.2.9 Analysis – Wildlife Movement and Nursery Sites

This guideline is analyzed with the guidance of the following six criteria.

Criterion 1: The project would prevent wildlife access to foraging habitat, breeding habitat, water sources, or other areas necessary for their reproduction.

The project could prevent wildlife access to foraging habitat, breeding habitat, water sources, or other areas necessary for their reproduction. However, most areas onsite that are used by wildlife will be protected in a biological open space easement.

Wildlife use of the water storage reservoir is very limited, due to its very small size and the fact that it is chemically-treated. Certain native birds and mammals probably

used this feature for foraging or as a water source. However, the proposed project will not impact wildlife use of the reservoir, as that area will be included in a Recreational Open Space Easement and will not be directly impacted by development. No change in its use or function is anticipated. This easement adjoins the biological open space easement to the north and east and an Agricultural Open Space Easement to the south, thereby buffering the reservoir from possible edge effects associated with development of the project site. Any potential impacts to wildlife access to foraging habitat, breeding habitat, water sources, or reproduction areas are expected to be negligible and therefore, less than significant. Therefore, Criterion 1 is not exceeded and impacts are less than significant. No mitigation is ~~required~~ proposed.

Criterion 2: The project would substantially interfere with connectivity between blocks of habitat, or would potentially block or substantially interfere with a local or regional wildlife corridor or linkage.

The project will not substantially interfere with connectivity between blocks of habitat, nor would it potentially block or substantially interfere with a local or regional wildlife corridor or linkage. The project preserves the local and regional wildlife corridor provided by Frey Creek within a biological open space easement. Criterion 2 is not exceeded, impacts are less than significant, and no mitigation is necessary.

Criterion 3: The project would create artificial wildlife corridors that do not follow natural movement patterns.

The project will not create artificial wildlife corridors that do not follow natural movement patterns for wildlife. The biological open space easement is designed to preserve existing blocks of habitat and avoid narrowed corridors. Criterion 3 is not exceeded and impacts are less than significant. No mitigation is proposed.

Criterion 4: The project would increase noise and/or nighttime lighting in a wildlife corridor or linkage to levels proven to affect the behavior of the animals identified in a site specific analysis of wildlife movement.

The project could increase noise and/or nighttime lighting in a wildlife corridor, linkage, or nursery. However, it is not expected that this increase would be to levels that could affect the behavior of the site's resident wildlife. A site specific analysis of wildlife movement was not conducted; however, the extensive field surveys of the property included observations regarding wildlife movement. These surveys identified Frey Creek as a local and regional wildlife corridor and nursery site. Frey Creek will be completely avoided by design, and the project includes a 200-foot biological buffer of Frey Creek along most of its length to ensure that noise and/or nighttime lighting from the proposed development will not increase to levels that could affect the behavior of the site's resident wildlife. Additionally, lighting

associated with the future development will be low lumen and directed downward. The draft RMP requires that no lighting be installed within the preserve area and that any lighting associated with the development area shall be directed downward and away from the preserve. Further, the proposed residential development project will comply with the County of San Diego Light Pollution Code, also known as the Dark Sky Ordinance. Therefore, Criterion 4 is not exceeded and impacts are less than significant. No mitigation will be required.

Criterion 5: The project does not maintain an adequate width for an existing wildlife corridor or linkage and/or would further constrain an already narrow corridor through activities such as (but not limited to) reduction of corridor width, removal of available vegetative cover, placement of incompatible uses adjacent to it, and placement of barriers in the movement path.

The proposed project places 91.3 acres into biological open space, all of which is linked and fully supports wildlife movement. The project will not further constrain an already narrow corridor, no removal of vegetative cover (other than exotics removal pursuant to an approved RMP) will take place within the open space, no incompatible uses will be placed adjacent to the open space, and no barriers to the movement path will be created. Criterion 5 is not exceeded, and impacts are less than significant. No mitigation is necessary.

Criterion 6: The project does not maintain adequate visual continuity (i.e., long lines-of-sight) within wildlife corridors or linkage.

The project's 91.3 acres of biological open space provide adequate visual continuity within wildlife corridors and/or linkages because it follows natural drainage courses and no obstruction will be placed in the corridor. Criterion 6 is not exceeded, impacts are less than significant, and no mitigation is required.

2.4.2.10 Guidelines for the Determination of Significance – Local Policies, Ordinances, Adopted Plans

According to the *County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements for Biological Resources* (September 2010), the project would have a significant impact to local policies, ordinances, and adopted plans if it would:

- Conflict with one or more local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, and/or would conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or state habitat conservation plans.

2.4.2.11 Analysis – Local Policies, Ordinances, Adopted Plans

This threshold is analyzed with the guidance of the following 12 criteria.

Criterion 1: For lands outside of the Multiple Species Conservation Program (MSCP), the project would impact coastal sage scrub (CSSSCE) vegetation in excess of the County's 5% habitat loss threshold as defined by the Southern California Coastal Sage Scrub Natural Community Conservation Planning Process (NCCP) Guidelines.

The project site is located outside of the MSCP, but it supports far less than 5 percent of the CSS habitat loss threshold as defined by Southern California Coastal Sage Scrub NCCP Guidelines. Onsite impacts to CSS include project-related impacts of 1.2 acres of CSS, with additional historical unauthorized clearing of 2.3 acres that will also be addressed by the project, totaling 3.5 acres requiring mitigation. Impacts to 3.5 acres of CSS will be mitigated pursuant to the issuance of Habitat Loss Permit, and subject to the Southern California Coastal Sage Scrub NCCP Conservation Guidelines (See Impact BI-4 above and Impact BI-7 below). Criterion 1 is not exceeded, impacts are less than significant, and no mitigation is required.

Criterion 2: The project would preclude or prevent the preparation of the subregional NCCP. For example, the project proposes development within areas that have been identified by the County or resource agencies as critical to future habitat preserves.

The project will not preclude or prevent the preparation of the subregional NCCP. Although the subject site is identified as a Pre-approved Mitigation Area and major wildlife linkage in the County's draft North County MSCP, the majority of the development portion of the site is in active agriculture, disturbed, and/or fragmented. Furthermore, the project preserves all areas of the site that function as viable wildlife linkages in biological open space. Therefore, the project does not propose development within any areas that are critical to future habitat preserves. Criterion 2 is not exceeded, impacts are less than significant, and no mitigation is necessary.

Criterion 3: The project will impact any amount of sensitive habitat lands as outlined in the Resource Protection Ordinance (RPO).

The project will impact a measurable amount of habitats that could be identified as Sensitive Habitat Land (SHL) as defined by the RPO. The project will directly impact 1.2 acres of CSS and 3.0 acres of CLOW. Unauthorized clearing that resulted in an additional loss of 2.3 acres of CSS and 0.14 of CLOW is also be considered a project impact. These impacts qualify as SHL impacts. Mitigation will be required. **(Impact BI-7)**

Criterion 4: The project would not minimize and/or mitigate coastal sage scrub habitat loss in accordance with Section 4.3 of the Natural Communities Conservation Planning Process (NCCP) Guidelines.

The project minimizes and mitigates all impacts to CSS habitat in accordance with Section 4.3 of the NCCP Guidelines. The project accomplishes this by preserving a large block of CSS along the northern and western boundaries of the site and by minimizing development of the large block of CSS along the eastern property boundary. The project design maximizes the use of areas that are already developed, disturbed, and/or fragmented. Furthermore, the project will fully mitigate all impacts to CSS habitat. Criterion 4 is not exceeded, impacts are less than significant, and no mitigation is necessary.

Criterion 5: The project does not conform to the goals and requirements as outlined in any applicable Habitat Conservation Plan (HCP), Habitat Management Plan (HMP), Special Area Management Plan (SAMP), Watershed Plan, or similar regional planning effort.

The project is not located in an area subject to the goals and requirements as outlined in any existing Habitat Conservation Plan (HCP), Habitat Management Plan (HMP), Special Area Management Plan (SAMP), Watershed Plan, or similar regional planning effort. Criterion 5 is not exceeded, impacts are less than significant, and no mitigation is necessary.

Criterion 6: For lands within the Multiple Species Conservation Program (MSCP), the project would minimize impacts to Biological Resource Core Areas (BRCAs), as defined in the Biological Mitigation Ordinance (BMO).

The project is not located within any implemented MSCP Subarea Planning Area. Therefore, the project is not subject to the designation of Biological Resource Core Areas (BRCAs), as defined in the Biological Mitigation Ordinance (BMO). Criterion 6 is not exceeded, impacts are less than significant, and no mitigation is required.

Criterion 7: The project would preclude connectivity between areas of high habitat values, as defined by the Southern California Coastal Sage Scrub Natural Communities Conservation Planning Process (NCCP) Guidelines.

The project will not preclude connectivity between areas of high habitat values, as defined by the NCCP Guidelines because it preserves large blocks of habitat in protected open space. Criterion 7 is not exceeded, impacts are less than significant, and no mitigation is required.

Criterion 8: The project does not maintain existing movement corridors and/or habitat linkages as defined by the Biological Mitigation Ordinance (BMO).

The project is not subject to the Biological Mitigation Ordinance (BMO). Criterion 8 is not exceeded, impacts are less than significant, and no mitigation is necessary.

Criterion 9: The project does not avoid impacts to MSCP narrow endemic species and would impact core populations of narrow endemics.

The project is not subject to the narrow endemic species provisions of the BMO. Furthermore, the project will not impact any core populations of narrow endemic species. Criterion 9 is not exceeded, impacts are less than significant, and no mitigation is required.

Criterion 10: The project would reduce the likelihood of survival and recovery of listed species in the wild.

The project could result in potential indirect impacts to the state and federally-listed Least Bell's Vireo and the federally-listed Southwestern Willow Flycatcher. This represents a potentially significant impact. Therefore, Criterion 10 is exceeded, impacts are potentially significant, and mitigation is required. **(Impact BI-1)**

Criterion 11: The project would result in the killing of migratory birds or destruction of active migratory bird nests and/or eggs (Migratory Bird Treaty Act).

The project could result in the killing of migratory birds or destruction of active migratory bird nests and/or eggs (Migratory Bird Treaty Act) due to grading on or near nesting habitats. Impacts will be significant, and mitigation is required. **(Impact BI-8)**

Criterion 12: The project would result in the take of eagles, eagle eggs or any part of an eagle (Bald and Golden Eagle Protection Act).

The project site does not support Golden Eagles or eagle eggs Criterion 12 is not exceeded, impacts are less than significant, and no mitigation is necessary.

2.4.3 Cumulative Impact Analysis

A study area approximately 65 square miles around the project was selected to encompass the primary population centers in the region, as well as the principal biological features in the area, in order to capture the maximum number of potential cumulative projects. These biological features include Agua Tibia Wilderness, Pala Mountain, and the SLRR. The study area is shown on Figure 2-4-4, "Cumulative Projects for Biology."

According to the *County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements for Biological Resources* (September 2010), the project would have a significant cumulative impact to biological resources if it would:

- Have impacts that are individually limited, but cumulatively considerable.

The analysis of cumulative impacts is addressed for special status species, riparian/sensitive natural community, jurisdictional wetlands and waterways, wildlife movement/nursery sites, or local policies/ordinances/adopted plans.

2.4.3.1 Special Status Species

Although Special Status Species will be directly and indirectly impacted by the project, mitigation reducing impacts to a level of no significance will ensure that the project will not contribute to any significant cumulative impacts when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects affecting the same resource. This is because all of the Special Status Species onsite are relatively widely distributed in San Diego County, and no critical populations of these species would be supported by the TM 5223RPL³ project site or sites of other proposed projects affecting some of these same species. Other proposed projects affecting some of the same Special Status Species found on the project site include TM 5338, TM 5499, TM5545, TM 5540, TM 5263, TPM 21004, and MUP 05-014. All of these projects have either minimal impacts or have incorporated mitigation to reduce the impact to below a level of significance (e.g., no construction during nesting season, preservation of habitat in open space easements). Thus, cumulative impacts related to special status species are determined to be less than significant.

2.4.3.2 Riparian Habitat or Sensitive Natural Community

The Proposed Project will contribute to the cumulative loss of riparian habitat or other sensitive natural communities. Project-related future construction, grading, clearing, or other activities will permanently remove sensitive native or naturalized habitat on the project site. That is, the project will directly impact 0.5 acres of F/P, 1.2 acres of CSS and 3.0 acres of CLOW. Unauthorized clearing resulting in an additional loss of 2.3 acres of CSS and 0.14 of CLOW will also be considered an impact, but will be mitigated at a higher ratio. These vegetation-types are relatively well distributed in San Diego County, although both CSS and CLOW are sensitive and have been greatly reduced from their historical ranges. Therefore, the relatively minor impacts to these vegetation-types (from a regional perspective), although adverse and significant, are not ‘cumulatively considerable’ when viewed in connection with the substantial acreages of scrub, pasture, and oak woodland vegetation remaining in the San Diego County region. Also, due to the extent of these habitats onsite and the fact that all impacts to riparian habitats and sensitive natural communities will be mitigated to a level that is below significance, approval of the project will not have cumulatively considerable impacts when viewed in connection with the effects of past projects, the effects of other current project, and the effects of probable future projects affecting the same resources. Other proposed projects

affecting some of the same riparian habitats or other sensitive natural communities found on the project site include TM 5338, VTM 5254, TM 5263 (wetlands), TM 5354, TM 5499, TM 5508, TM 5540 (wetlands and coast live oak), TPM 21004, and MUP 05-014 (wetlands). All of these projects have either minimal impacts, or have incorporated mitigation to reduce the impact to below a level of significance (e.g., preservation of habitat in open space easements, use of an RPO buffer, and implementation of a revegetation plan). Thus, cumulative impacts related to riparian habitats and sensitive natural communities are determined to be less than significant.

2.4.3.3 Jurisdictional Wetlands and Waterways

The Proposed Project will result in an impact to Jurisdictional Wetlands and Waterways. Required road and drainage improvements associated with the project will result in impacts to approximately 0.015 acre (258 lineal feet) of state wetland and state and federal “waters.” However, due to the extent of these habitats onsite, the disturbed nature of the jurisdictional wetlands and waters being impacted, and the fact that all impacts to Wetlands and Waterways will be mitigated to a level that is below significance, approval of the project will not have a cumulatively considerable impact when viewed in connection with the effects of cumulative projects affecting the same resource.

Other proposed projects affecting some or similar Wetlands and Waterways as are found on the TM 5223RPL³ project site include TM 5338, TM 5499, TM 5540, TM 5263, TPM 21004, and MUP 05-014. All of these projects have either minimal impacts or have significant impacts and will incorporate mitigation to reduce the impact to below a level of significance to result in no net loss of wetlands. Such mitigation includes preservation of habitat in open space easements, use of an RPO buffer, and implementation of a revegetation plan. Thus, cumulative impacts related to jurisdictional wetlands and waterways are determined to be less than significant.

2.4.3.4 Wildlife Movement and Nursery Sites

The Proposed Project results in less than significant impacts to wildlife movement and nursery sites, since the project will preserve the Frey Creek corridor on the site within a Biological Open Space Easement. Further, mitigation measures have been incorporated into the project to ensure that nesting birds are protected during project construction. Of the 23 cumulative projects considered in this analysis, none were identified as having impacts to wildlife movement or nursery sites. Thus, no cumulative impact related to wildlife movement or nursery sites is identified. Impacts would be less than significant. No mitigation is necessary.

2.4.3.5 Local Policies, Ordinances and Adopted Plans

Project level impacts related to RPO and MBTA were identified for the project; however, these impacts were reduced to below a level of significance. Other proposed projects affected by some of the same Local Policies, Ordinances, or Adopted Plans include TM 5338, TM 5354, VTM 5424, TM 5499, TM 5508, TM 5540, TM 5545, TM 5263, TPM 21004, and MUP 05-014. All of these projects have incorporated mitigation to reduce the impact to below a level of significance (e.g., no construction during nesting season, preservation of habitat in open space easements). Thus, cumulative impacts related due to consistency with local policies, ordinances and adopted plans are determined to be less than significant.

2.4.4 Significance of Impacts Prior to Mitigation

A brief summary of all direct and indirect impacts which were determined to be significant by the analysis provided by the biological resources survey report (Appendix C) is included below. Table 2-4-1, “Habitat Impacts and Mitigation Analysis,” details project impacts.

2.4.4.1 Impacts to Special Status Species

- BI-1 The site is considered potentially occupied by Least Bell’s Vireo, a state and federally-listed Endangered Species, and Southwestern Willow Flycatcher, which is listed as federally endangered. Least Bell’s Vireo and Southwestern Willow Flycatcher are not expected in any of the areas proposed for development, but they could potentially be indirectly impacted by the noise associated with construction in the absence of seasonal restrictions on noise-generating activities.
- BI-2 The project could increase human access or predation or competition from domestic animals, pests or exotic species to levels that would adversely affect sensitive species.
- BI-3 The project could impact nesting success of sensitive animals through grading, clearing, modification, and/or noise generating activities such as construction.

2.4.4.2 Impacts to Riparian Habitat or Sensitive Natural Communities

- BI-54 Project-related construction, grading, clearing, or other activities will permanently remove sensitive native or naturalized habitat on the project site. That is, the project will directly impact 0.7 acre of F/P, 1.2 acres of CSS and 4.1 acres of CLOW. Unauthorized clearing that resulted in an additional loss of 2.3 acres of CSS and 0.14 of CLOW is also considered a project impact.

- BI-45 Project-related future construction, grading, clearing, or other activities will result in impacts to Riparian Habitat and jurisdictional wetlands as defined by ACOE and CDFW. These impacts will consist of the construction of three drainage crossings associated with the required road improvements. These improvements will impact approximately 0.015 ~~0.02~~ acre (258 ~~344~~-lineal feet) of state wetland and state and federal “waters”.
- BI-6 The project could increase human access or competition from domestic animals, pests, or exotic species to levels proven to adversely affect sensitive habitats. Increased human use of the site could result in access, predation and/or competition impacts to sensitive habitats.

2.4.4.3 Impacts to Federal Jurisdictional Wetland and Waterways

- BI-54 Project-related future construction, grading, clearing, or other activities will result in impacts to federal jurisdictional wetlands as defined by ACOE and CDFW. These impacts will consist of the construction of three ~~four~~ drainage crossings associated with the required road improvements. These improvements will impact approximately 0.015 acre (258 lineal feet) of state wetland and state and federal “waters”.

2.4.4.4 Impacts to Local Policies, Ordinances, Adopted Plans

- BI-7 The project will impact habitats that are identified as SHL, as defined by the RPO. The project will directly impact 1.2 acres of CSS and 3.0 acres of CLOW. Unauthorized clearing that resulted in an additional loss of 2.3 acres of CSS and 0.14 of CLOW is also considered a project impact.
- BI-1 The project could result in potential indirect impacts to the state and federally-listed Least Bell’s Vireo and the federally-listed Southwestern Willow Flycatcher.
- BI-8 The project could result in the killing of migratory birds or destruction of active migratory bird nests and/or eggs (Migratory Bird Treaty Act) due to grading on or near nesting habitats.

2.4.5 Mitigation

2.4.5.1 M-BI-1 LBV, SWWF, Nesting/Breeding Migratory Birds and Raptors -- Seasonal Mitigation

(Impacts BI-1, BI-3, BI-8) Because the project site is considered potentially occupied by Least Bell’s Vireo (LBV), Southwestern Willow Flycatcher (SWWF), and other nesting migratory birds or nesting raptors could occur on the site, breeding season avoidance shall be implemented through Project plans. Brushing, grading or construction generating noise levels in excess of 60 decibels shall not be permitted

within 300 feet of LBV, SWWF, or other nesting migratory birds during the breeding season of these species (March 15th to September 15th), in order to avoid impacts to potentially nesting vireos, flycatchers, and/or other riparian obligate songbirds. There shall be no brushing, clearing, and/or grading within 500 feet of any active raptor nests during the breeding season of these species (February 1 through September 1st). The restrictions may be waived by the director of Planning and Development Services, with written concurrence from the U.S. Fish and Wildlife Service and the California Department of Fish and Wildlife, if surveys indicate nesting or breeding bird activity is not occurring in the vicinity of the brushing, clearing, and/or grading as specified above. Surveys will be carried out by a County-approved biologist within one week prior to the start of disturbance. It will include all areas within 300 feet of the proposed activity for the LBV, SWWF, or other nesting riparian obligate songbirds, or within 500 feet of the proposed activity of nesting raptors. The results of these surveys should be provided in a report to the Director of Planning & Development Services for concurrence with the conclusions and recommendations. The biologist shall coordinate with the on-site acoustician in determining noise levels on the site, unless it is determined by directed surveys that the nesting birds are not present. These restrictions will pertain for the duration of brushing, clearing, grading, or construction. , grading or construction noise in excess of 60 decibels shall not be permitted during the breeding season of these species (mid March to mid September), in order to avoid impacts to potentially nesting vireos, flycatchers, and/or other riparian obligate songbirds. This restriction may be waived if directed surveys for these two species are conducted on all areas within 300 feet of the proposed activity. The results of these surveys should be provided in a report to the Director of Planning & Development Services for concurrence with the conclusions and recommendations. The biologist shall coordinate with the on-site acoustician in determining noise levels on the site, unless it is determined by directed surveys that the birds are not present.

2.4.5.2 M-BI-2 Increased Access Mitigation

(Impacts BI-2, BI-4 and BI-6 and BI-7) In order to protect sensitive habitats and species, a 91.3-acre biological open space easement shall be granted over the areas shown on Figure 2-4-3, “Open Space and Fencing Plan,” and on TM 5223RPL³. The onsite biological open space easement shall preclude the removal of vegetation or placement of accessory structures. A RMP shall be implemented and approved by the Director of Planning & Development Services for the biological open space easement.

The RMP shall:

- Contain provisions to ensure long-term viability of the onsite habitat and the site’s resident sensitive species;

- Specify remediation as necessary, in perpetuity, to maintain habitat viability within the onsite Biological Open Space Easement.
- Include provisions to erect permanent fencing, vehicular and human access barriers, and other measures to minimize edge effects. The onsite biological open space easement is intended to preclude the removal or addition of structures and vegetation. The management of the biological open space easement shall conform to the guidelines set out in the approved RMP. In order to prevent fire clearing impacts to the biological open space easement, suitable LBZs are required. These easements shall extend outward towards development from the biological open space easement boundaries and shall prohibit the construction of houses, barns, or other habitable structures that would require fire clearing into the biological open space easement.
- Signage shall be included along the open space easement with the following language:

Sensitive Environmental Resources Area Restricted by Easement

Entry without express written permission from the County of San Diego is prohibited. To report a violation or for more information about easement restrictions and exceptions contact the County of San Diego Planning & Development Services Reference: (TM 5223)

Clearing etc. Impacts to Bird Nesting/Breeding Areas Mitigation

~~(Impacts BI-3 and BI-8) Clearing, grading, grubbing or tree removal shall be prohibited between January 15 and August 31 to avoid potential impact to nesting species covered under the MBTA. In lieu of avoidance, a preconstruction survey prior to clearing, grubbing or tree removal can be conducted to confirm the presence or absence of nesting birds. The survey results shall be provided to the County of San Diego, Planning & Development Services for review and approval of any proposed activity during the breeding season. Any habitat supporting nests shall be avoided, along with a suitable buffer, until a subsequent survey reveals all young have fledged~~

2.4.5.3 M-BI-3-State Wetlands, Federal ‘Waters’ Impact Mitigation

(Impact BI-4) The County requires mitigation for impacts to “non-wetland waters of the U.S” at a 1-to-1 ratio. According the *County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements – Biological Resources* (September 2010), mitigation for impacts to non-wetland waters may include onsite or offsite improvements or enhancement of water resources. The project proposes that mitigation for impacts to non-wetland water of the U.S. take place onsite, via restoration and enhancement of wetland functions and values associated with Frey Creek, which will be protected by a conservation easement.

Wetland mitigation activities will require the preparation and implementation of an approved Wetland Mitigation Plan. Native riparian species will be emphasized and no invasives will be employed anywhere on the site.

Because the project will impact state wetlands and state and federal ‘waters,’ it will likely be necessary to obtain certain Regulatory Agency permits. To that end, it is recommended that the applicant provide to the Director of Planning & Development Services proof of notification of the ACOE and the California Regional Water Quality Control Board (CRWQCB) regarding Clean Water Act Section 404/401 Permits, or evidence that such notification is not required. Also recommended prior to recordation of the Final Map shall be proof provided to the Director that the applicant has obtained a 1600-series Streambed Alteration Agreement with the CDFW, or proof that such an agreement is not required. The details of any additional mitigation for impacts to jurisdictional wetlands and waterways will be established through the permitting process required to obtain 404, 401 and 1600-series documents from the regulatory agencies.

2.4.5.4 M-BI-5 4

(Impacts BI-5 ~~4~~, BI-7) Impacts to 0.5 acre of F/P shall be mitigated at a 0.5-to-1 ratio. The F/P mitigation shall be preserved offsite in a County-approved location, unless out of kind mitigation is accepted for impacts to this habitat type, in which case the mitigation can be achieved within the proposed biological open space easement on the project site. The onsite F/P provides value only insofar as it provides some limited potential raptor foraging habitat, and therefore habitats that provide similar functions and values as the F/P would be suitable for such mitigation. For example, CSS or NNG will provide similar open-land raptor foraging habitat and could therefore be considered for mitigation to F/P. Offsite mitigation will take place at the Daley Ranch Conservation Bank, the Red Mountain Conservation Bank, or other County-approved location.

Impacts to 1.2 acre of CSS shall be mitigated at a 2-to-1 ratio. The unauthorized clearing of 2.3 acres of CSS shall be mitigated at a 3-to-1 ratio. Thus, total mitigation requirement for CSS is 9.3 acres. The onsite biological open space easement includes 25 acres of CSS that are available for use as mitigation for project impacts. The project will therefore be able to accomplish all mitigation for impacts to CSS onsite as these acreages are in excess of the County’s minimal requirements.

Impacts to 3.0 acre of CLOW shall be mitigated at a 3-to-1 ratio. The unauthorized clearing of 0.14 acres of CLOW shall be mitigated at a 4-to-1 ratio. Thus, total mitigation requirement for CLOW is 9.6 acres. The onsite biological open space easement includes 7.5 acres of CLOW that are available for use as mitigation for

project impacts. An additional 2.1 acres of CLOW shall be secured off site in a County-approved location.

2.4.6 Conclusion

Biological resources were analyzed by a County-approved biological consultant. The analysis included review of prior records and reports, field visits, and review of current mapping. Future development of the project site, as presently proposed, could result in significant direct and indirect impacts to species of special status (BI-1, 2, and 3), riparian habitat or sensitive natural communities (BI-4, 5, and 6), jurisdictional wetlands and waterways (BI-4), and local policies, ordinances, and adopted plans (BI-7 and 8).

The project design proposes a 91.3-acre biological open space preserve to protect sensitive species, riparian and jurisdictional wetlands and wildlife corridors (M-BI-1 and M-BI-2). Mitigation is required to strengthen open space protections, and will require implementation of an RMP that will provide for long-term management of the open space.

Direct impacts to sensitive habitats and jurisdictional wetlands and waterways will be mitigated by a program of on- and off-site preservation. Mitigation is provided according to established mitigation ratios, ranging from 0.5-to-1 to 4-to-1 for each acre of project impact (M-BI-3 and M-BI-4). Through a program of avoidance and open space protection, controls on grading and construction activity, and habitat mitigation, the project mitigates its significant impacts to below a level of significance. This mitigation will be effective because it will preserve sensitive biological resources in a biological open space easement and will protect them in perpetuity.

The possibility for cumulative impacts within a 65-mile area surrounding the project site was investigated. The analysis concluded that cumulative impacts would be less than significant.

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OPENSOURCE LEGEND

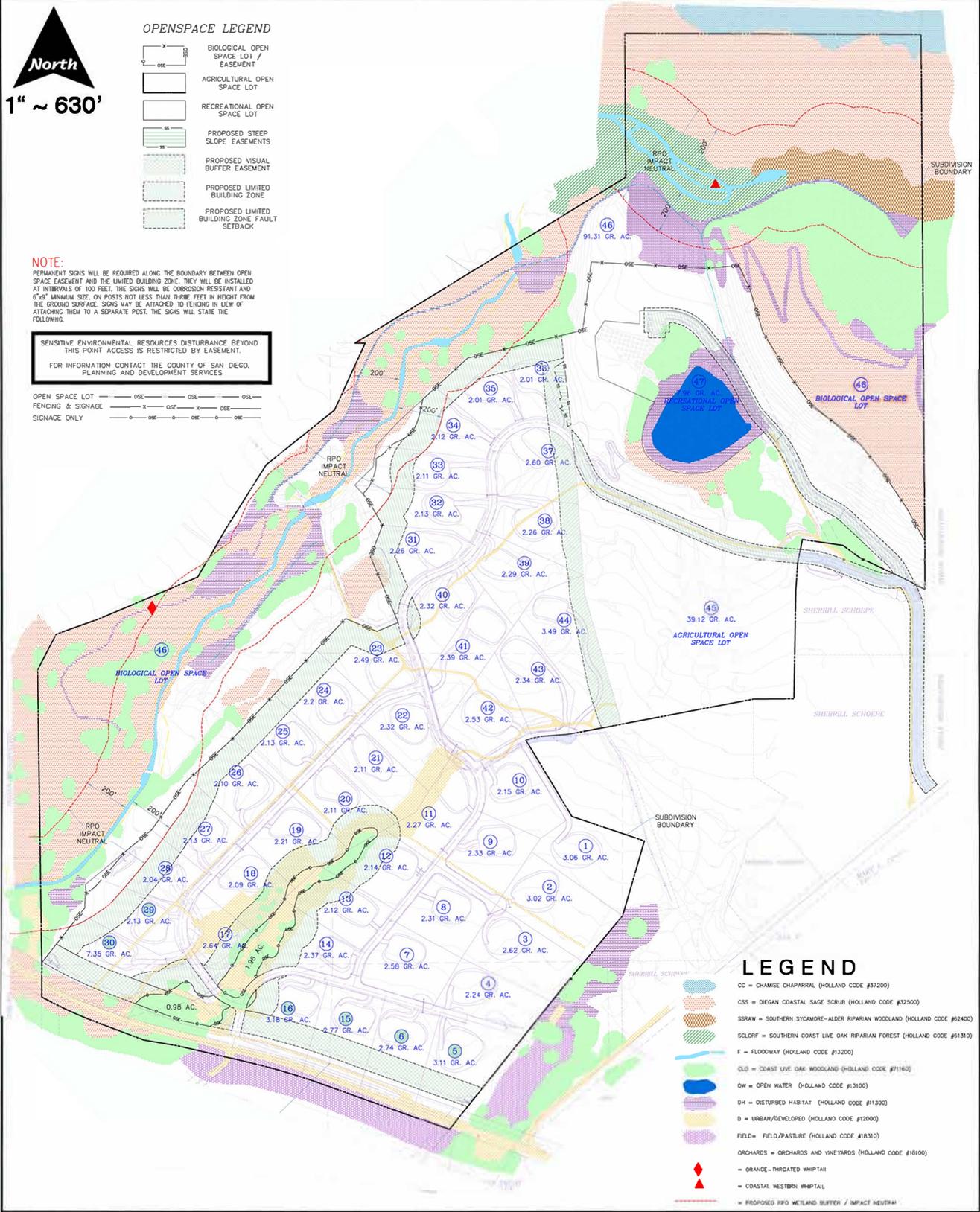
- BIOLOGICAL OPEN SPACE LOT / EASEMENT
- AGRICULTURAL OPEN SPACE LOT
- RECREATIONAL OPEN SPACE LOT
- PROPOSED STEEP SLOPE EASEMENTS
- PROPOSED VISUAL BUFFER EASEMENT
- PROPOSED LIMITED BUILDING ZONE
- PROPOSED LIMITED BUILDING ZONE FAULT SETBACK

NOTE:

PERMANENT SIGNS WILL BE REQUIRED ALONG THE BOUNDARY BETWEEN OPEN SPACE EASEMENT AND THE LIMITED BUILDING ZONE. THEY WILL BE INSTALLED AT INTERVALS OF 100 FEET. THE SIGNS WILL BE CORROSION RESISTANT AND 6"X9" MINIMUM SIZE. GR POSTS NOT LESS THAN THREE FEET IN HEIGHT FROM THE GROUND SURFACE SIGNS MAY BE ATTACHED TO FENCING IN LIEU OF ATTACHING THEM TO A SEPARATE POST. THE SIGNS WILL STATE THE FOLLOWING:

SENSITIVE ENVIRONMENTAL RESOURCES DISTURBANCE BEYOND THIS POINT ACCESS IS RESTRICTED BY EASEMENT.
FOR INFORMATION CONTACT THE COUNTY OF SAN DIEGO, PLANNING AND DEVELOPMENT SERVICES

- OPEN SPACE LOT
- FENCING & SIGNAGE
- SIGNAGE ONLY



LEGEND

- CC = CHAMISE CHAPARRAL (HOLLAND CODE #37200)
- CSS = DIEGAN COASTAL SAGE SCRUB (HOLLAND CODE #32500)
- SSRW = SOUTHERN SYCAMORE-ALDER RIPARIAN WOODLAND (HOLLAND CODE #2400)
- SCLORF = SOUTHERN COAST LIVE OAK RIPARIAN FOREST (HOLLAND CODE #61310)
- F = FLOODWAY (HOLLAND CODE #13200)
- CLO = COAST LIVE OAK WOODLAND (HOLLAND CODE #1160)
- OW = OPEN WATER (HOLLAND CODE #13100)
- DH = DISTURBED HABITAT (HOLLAND CODE #1300)
- D = URBAN/DEVELOPED (HOLLAND CODE #1200)
- FIELD = FIELD/PASTURE (HOLLAND CODE #18310)
- ORCHARDS = ORCHARDS AND VINEYARDS (HOLLAND CODE #18100)
- = ORANGE-THROATED WHIPTAIL
- = COASTAL WESTERN WHIPTAIL
- = PROPOSED RPO WETLAND BUFFER / IMPACT NEUTRAL



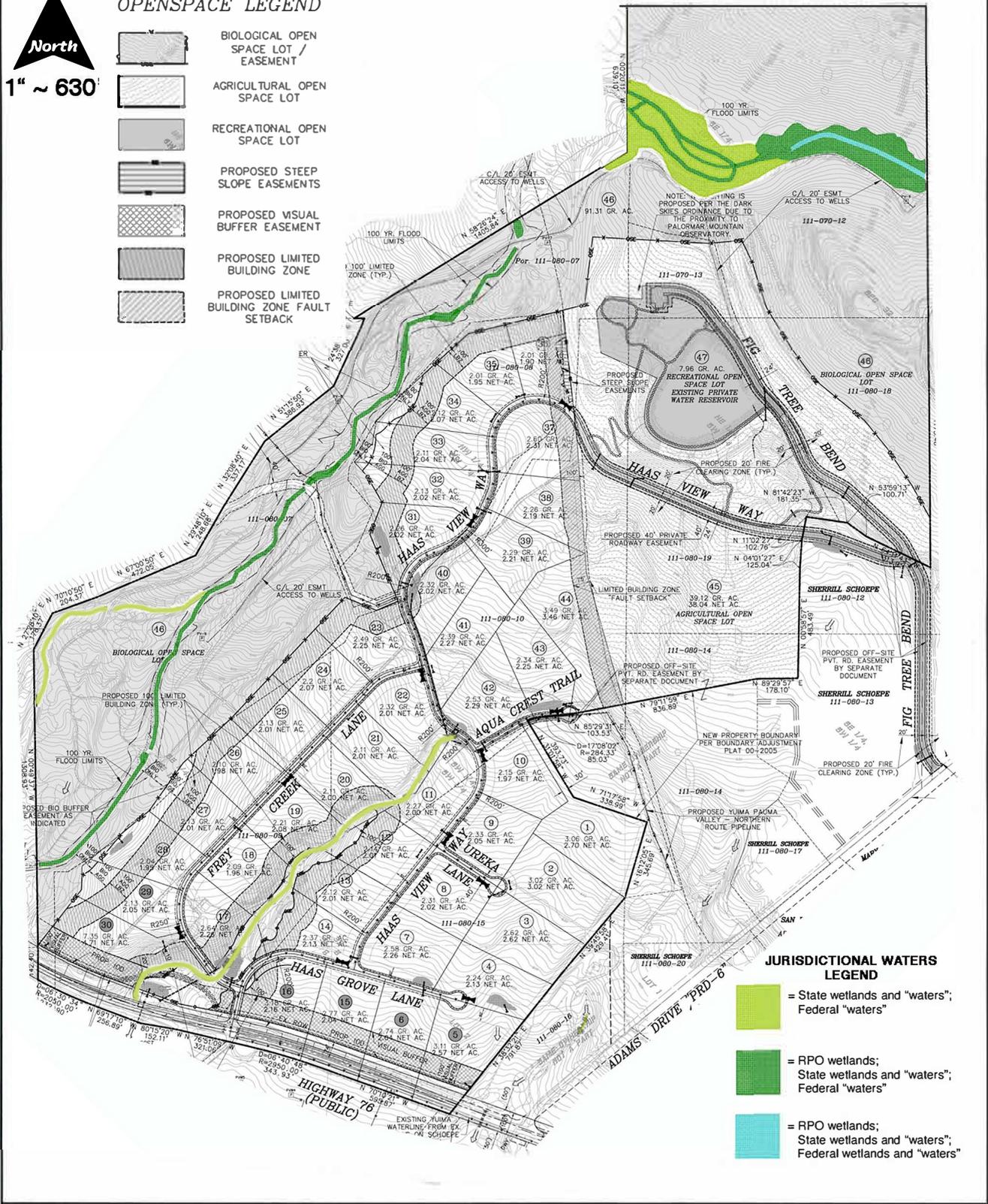
Biological Resources

Figure 2-4-1

OPENSOURCE LEGEND



-  BIOLOGICAL OPEN SPACE LOT / EASEMENT
-  AGRICULTURAL OPEN SPACE LOT
-  RECREATIONAL OPEN SPACE LOT
-  PROPOSED STEEP SLOPE EASEMENTS
-  PROPOSED VISUAL BUFFER EASEMENT
-  PROPOSED LIMITED BUILDING ZONE
-  PROPOSED LIMITED BUILDING ZONE FAULT SETBACK



JURISDICTIONAL WETLANDS LEGEND

-  = State wetlands and "waters"; Federal "waters"
-  = RPO wetlands; State wetlands and "waters"; Federal "waters"
-  = RPO wetlands; State wetlands and "waters"; Federal wetlands and "waters"



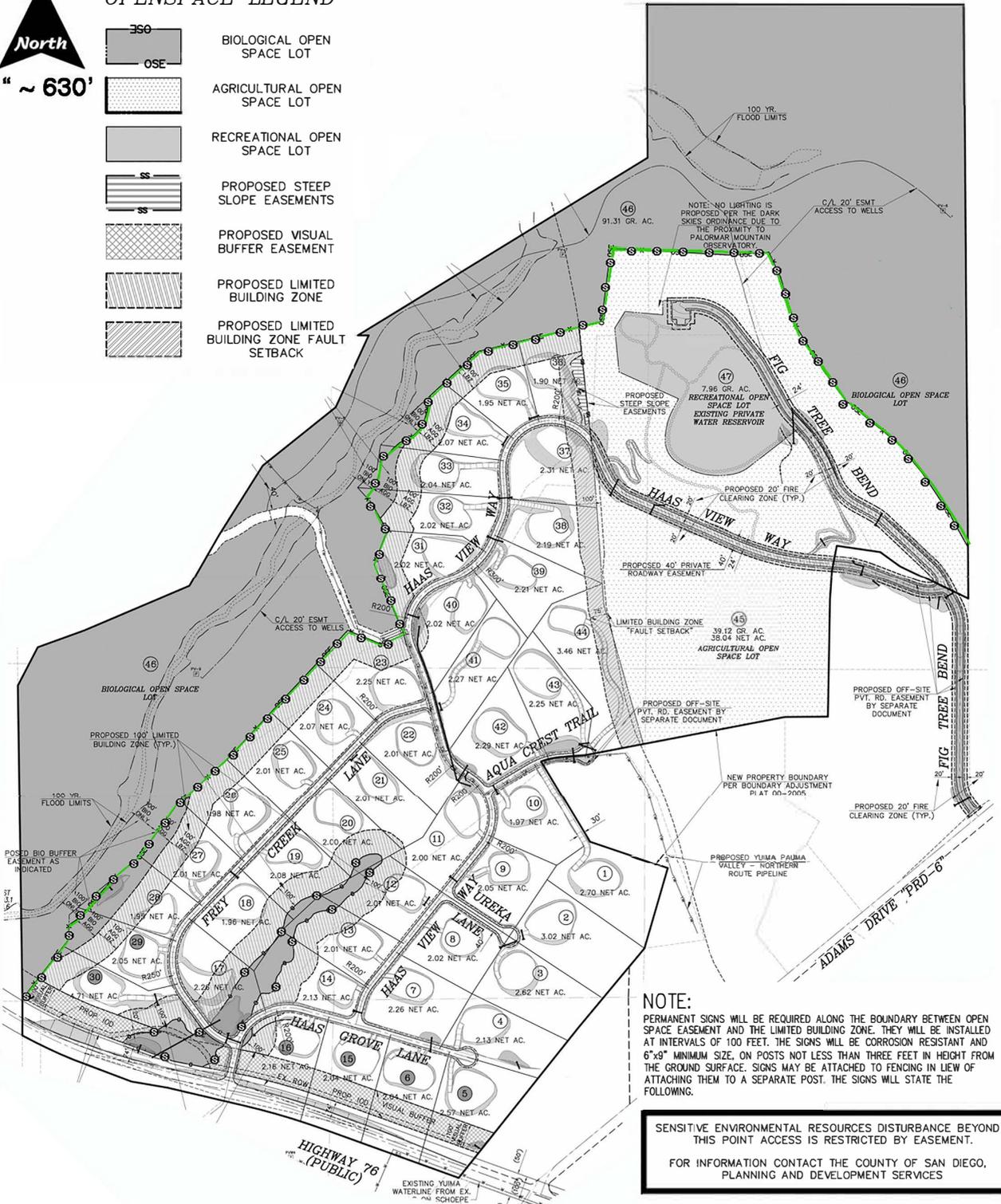
Jurisdictional Wetlands and "Waters"

Figure 2-4-2

OPENSOURCE LEGEND

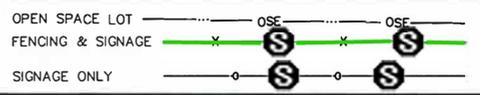


- BIOLOGICAL OPEN SPACE LOT
- AGRICULTURAL OPEN SPACE LOT
- RECREATIONAL OPEN SPACE LOT
- PROPOSED STEEP SLOPE EASEMENTS
- PROPOSED VISUAL BUFFER EASEMENT
- PROPOSED LIMITED BUILDING ZONE
- PROPOSED LIMITED BUILDING ZONE FAULT SETBACK



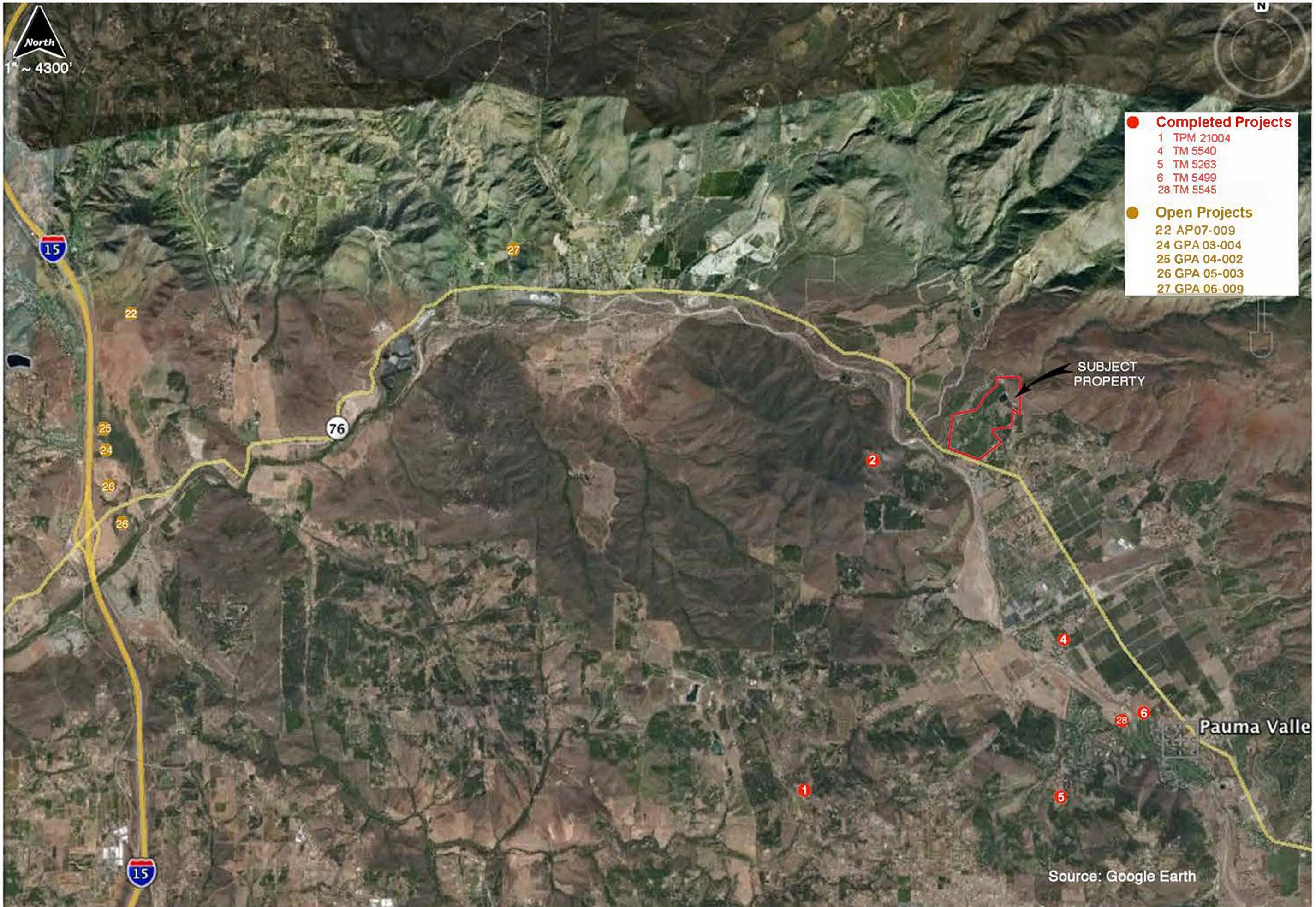
NOTE:
 PERMANENT SIGNS WILL BE REQUIRED ALONG THE BOUNDARY BETWEEN OPEN SPACE EASEMENT AND THE LIMITED BUILDING ZONE. THEY WILL BE INSTALLED AT INTERVALS OF 100 FEET. THE SIGNS WILL BE CORROSION RESISTANT AND 6"x9" MINIMUM SIZE, ON POSTS NOT LESS THAN THREE FEET IN HEIGHT FROM THE GROUND SURFACE. SIGNS MAY BE ATTACHED TO FENCING IN LIEU OF ATTACHING THEM TO A SEPARATE POST. THE SIGNS WILL STATE THE FOLLOWING.

SENSITIVE ENVIRONMENTAL RESOURCES DISTURBANCE BEYOND THIS POINT ACCESS IS RESTRICTED BY EASEMENT.
 FOR INFORMATION CONTACT THE COUNTY OF SAN DIEGO, PLANNING AND DEVELOPMENT SERVICES



Open Space, Fencing and Signage Plan

Figure 2-4-3



Habitat	Existing Acres	Impact Acres	Mitigation Ratio	Mitigation Required	Preserved Onsite	Impact Neutral	Mitigation Provided
Orchards and Vineyards ¹	142.9	96.6	n/a	none	6.4	5.5	n/a
Chamise Chaparral	0.5	none	n/a	none	0.5	none	avoidance
Diegan Coastal Sage Scrub ²	50.0	3.5	2:1/3:1	9.3	25.0	20.2	9.3 onsite
Southern Sycamore-Alder Riparian Woodland	2.46	none	n/a	none	none	2.46	avoidance
Southern Coast Live Oak Riparian Forest	3.32	none	n/a	none	trace	3.29	avoidance
Floodway	2.05	none	n/a	none	none	2.05	avoidance
Coast Live Oak Woodland ³	23.8	3.1	3:1/4:1	9.6	7.5	9.6	7.5 onsite 2.1 offsite
Open Water	2.67	none	n/a	none	none	none	n/a
Disturbed Habitat	11.0	none	none	none	2.7	6.1	n/a
Urban/Developed	9.8	9.3	none	none	0.1	0.1	n/a
Field/Pasture	0.5	0.5	0.5:1	0.3	none	none	0.3 offsite ³
TOTAL	249.0	113.0	--	19.2	42.2	49.3	19.2⁴

¹ Includes 0.8-acre of impacts due to offsite fire clearing

² Includes an additional 2.3 acres of CSS as well as 0.14 acres of CLOW impacts that will be mitigated at a 3-to-1 and 4-to-1 ratio due to unauthorized clearing.

³ Mitigation shall take place offsite for this habitat-type unless "out of kind" mitigation is approved by the County and the Wildlife Agencies. It is strongly recommended that excess CSS be used as mitigation for impacts to the horse pasture.

⁴ Includes RPO wetlands, buffers, and all habitats within the easement. The BOSE not only mitigates habitat and species impacts, but also preserves the functioning wildlife corridor through the property.

2.5 Cultural Resources

An archaeological survey of the 248.26-acre Shadow Run Ranch project site was conducted by Philip de Barros with Professional Archeology Associates. The resulting report, entitled, "Cultural Resources Survey and Evaluation of a 248.26-Acre Parcel in Pauma Valley," dated December 16, 2013, is included as Appendix D of the technical appendices to this DEIR. The current archaeological assessment is based upon the work of Professional Archaeology Associates that was done in 2001. The records search was done at the South Coastal Information Center on April 6th and the Museum of Man on April 9th, 2001. Field work was done between April 7th and July 22nd 2001, by Dr. Philip de Barros and Joel Paulson, M.A. Records identified are listed in Table 2-5-1, "Cultural Resources Identified by the Records Search."

The 2001 survey was conducted on a 286-acre parcel; however, the current Proposed Project as now designed covers 248.26 of the original 286 acres. In 2005, Professional Archaeological Services reviewed the findings of the 2001 archaeological survey and records search, with a main focus on the significance evaluation of sites SDI-9537/H and SDI-17501 through -17503, as well as boundary testing conducted on site SDI-714 to allow for project redesign that places the site within open space. The fieldwork was conducted between April 17th and May 8th, 2005 with some additional work done at one site on June 5th. No new records search was conducted in 2005 because no other work had taken place on the property since 2001.

Native Ground Monitoring and Research served as Native American monitors from the Pauma Indian Reservation. No human remains or gravesite items were encountered. Additionally, an attempt was made to see if there were any connections between Hugh Magee, the pioneer who homesteaded part of the subject property in 1899 and Magee family members at Pechanga and Pala Indian Reservations. However, attempted communications with both John Magee at Pechanga Indian Reservation and Leroy Miranda at Pala Indian Reservation regarding the family lineages were unsuccessful. The County of San Diego also initiated consultation with the Indian Reservations within the vicinity of Pauma Valley. In addition, a sacred lands file records check with the Native American Heritage Commission resulted in a negative finding.

2.5.1 Existing Conditions

A total of 15 sites were researched during the 2009 cultural resources survey, including six previously recorded sites (SDI-246, -266, -714, -731, -9537/H and -9906), three new sites recorded during the 2001 survey characterized as small bedrock milling sites (SDI-17501, -17502 and -17503), and one additional site with small bedrock milling features (SDI-18368) was discovered during a 2008 survey for a pipeline project. Five recorded sites, SDI-715, -722 and -723, SDI-5675 and -5676 could not be relocated, as it is likely that they were destroyed during the orchard expansion. These site locations fall within

proposed open space. The presence and significance of existing cultural resources associated with the Proposed Project were determined in accordance with the regulations and research methods outlined below.

2.5.1.1 Existing Regulations

The California Register of Historic Resources (CRHR) establishes the evaluative criteria used by CEQA in defining an historic resource. An historic resource is significant if it meets one or more of the criteria for listing in the CRHR. Resources are eligible for listing on the CRHR if they:

1. Are associated with events that have made a significant contribution to the broad patterns of local or regional history and cultural heritage of California or the United States.
2. Are associated with the lives of persons important to the nation or to California's past.
3. Embody the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
4. Have yielded, or may be likely to yield, information important in prehistory or history of the state or nation.

The County of San Diego also has a series of criteria to determine the significance of historical resources for inclusion on the San Diego County Local Register of Historic Resources. These guidelines closely follow those for CEQA, but are focused on resources of County significance. Historic resources are eligible for this register if they:

1. Are associated with events that have made a significant contribution to the broad patterns of San Diego County's history and cultural heritage;
2. Are associated with the lives of persons important to the history of San Diego County or its communities;
3. Embody the distinctive characteristics of a type, period, San Diego County region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4. Have yielded, or may be likely to yield, information important in prehistory or history.

The County of San Diego RPO has a set of criteria that must be addressed for any cultural resources encountered during a survey. A significant prehistoric or historic site is defined under the RPO Section 86.602 (o) as sites that provide information

regarding important scientific research questions about prehistoric or historic activities that have scientific, religious, or other ethnic value of local, regional, State, or Federal importance. Such locations shall include, but are not limited to:

1. Any prehistoric or historic district, site, interrelated collection of features or artifacts, building, structure, or object either:
 - a. Formally determined eligible or listed in the National Register of Historic Places by the Keeper of the National Register; or
 - b. To which the Historic Resource (“H” Designator) Special Area Regulations have been applied; or
2. One-of-a-kind, locally unique, or regionally unique cultural resources which contain a significant volume and range of data and materials; and
3. Any location of past or current sacred religious or ceremonial observances which is either:
 - a. Protected under Public Law 95-341, the American Indian Religious Freedom Act or Public Resources Code 5097.9, such as burial(s), pictographs, petroglyphs, solstice observatory sites, sacred shrines, religious ground figures; or
 - b. Other formally designated and recognized sites which are of ritual, ceremonial, or sacred value to any prehistoric or historic ethnic group.

2.5.1.2 Methods

Research included a review of institutional records and reports concerning the project area and immediate vicinity, a field survey, surface mapping, artifact collection, photographic documentation and subsurface testing to determine the extent, integrity, and constituents of site deposits. Site record forms, including updates, were prepared for submitted to the SCIC of the California Historic Resources Information System, Department of Parks and Recreation.

The evaluation of cultural resources is in conformance with the County of San Diego RPO, Section 21083.2 of the Public Resources Code, and CEQA. Statutory requirements of CEQA (Section 15064.5) were followed in the evaluation of the significance of the cultural resources.

2.5.1.3 Record Search Results

Records searches within a one-mile radius of the project area were conducted at the South Coastal Information Center (SCIC) on April 6, 2001, and at the Museum of Man on April 9 of that year. Eleven cultural resources had been previously recorded within the project area and 16 outside of the boundary. Four cultural resources studies

covered areas within a one-mile radius of the project. Results are provided in Table 2, “Cultural Resources Identified by the Records Search,” page 13 of Appendix D.

2.5.2 Guidelines for the Determination of Impact Significance

For the purpose of this EIR, the basis for the determination of significance is the County’s Guidelines for Determination of Significance, Cultural Resources, adopted December 5, 2007.

The project will have a significant impact on resources if it:

1. Causes a substantial adverse change in the significance of an historical resource as defined in §15064.5 of the State CEQA Guidelines. This shall include the destruction, disturbance or any alteration of characteristics or elements of a resource that cause it to be significant in a manner not consistent with the Secretary of Interior Standards.
2. Causes a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5 of the State CEQA Guidelines. This shall include the destruction or disturbance of an important archaeological site or any portion of an important archaeological site that contains or has the potential to contain information important to history or prehistory.
3. Disturbs any human remains, including those interred outside of formal cemeteries.
4. Proposes activities or uses damaging to significant cultural resources as defined by the Resource Protection Ordinance and fails to preserve those resources

2.5.2.1 Analysis of Project Effects and Determination as to significance

According to CEQA Guidelines (Section 15126.4(b)(3), “public agencies should, whenever feasible, seek to avoid damaging effects on any historical resource of an archaeological nature and requires the consideration of preservation in place as the preferred manner of mitigation and data recovery, only if preservation is not feasible.”

An analysis of each site is provided below along with a determination as to the significance of the site, pursuant to Section 15064.5 of the CEQA Guidelines and the County RPO.

Historic Resources - Guideline 1: Causes a substantial adverse change in the significance of an historical resource as defined in §15064.5 of the State CEQA Guidelines. This shall include the destruction, disturbance or any alteration of characteristics or elements of a resource that cause it to be significant in a manner not consistent with the Secretary of Interior Standards.

The records search, survey and testing results indicated that the historic component of one site is not a significant historical resource on the project site.

SDI-9537/H	<p>This site was recorded in 1982 with artifacts collected and curated. It was re-recorded in 2001 when some artifacts were collected and later curated. Based on earlier research and due to the potential impacts to the site, the County required a research design and testing program. Test excavations were conducted in 2005. These consisted of twelve 1x1 meter units ranging in depth from 20 to 80 cm and 24 Shovel Test Pits (STPs), dug to depths of 20-60 cm. (Some of each type were also related to the archaeological component of this site, discussed in the next section). A moderate scatter of historic artifacts was noted, and fifty artifacts related to the history of the site were recovered. The artifact types found on the site include largely undecorated whiteware, bottle and window glass, square nails, shovel fragments, burned wood and other materials. Tizon Brownware ceramics that may be historic were also found on the site. It was determined the site is a turn of the 20th century homestead belonging to Hugh Magee.</p>
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This resource is located in an area that is proposed for development. However, it is not a significant historical resource under Criterion 4i of the California Register of Historical Resources because there are no historic structural remains associated with the resource. It has considerable potential to contribute to our knowledge of prehistory, especially during the later Archaic Period. It is not a significant resource under the County RPO for the following reasons: 1) it has not been formally determined eligible or listed on the National Register of Historic Places by the Keeper of the National Register; 2) the Historic Resource (“H” Designator) has not been applied by Historic Resources Special Area Regulations; 3) it is not the location of past or current sacred religious or ceremonial observances; and 4) while it contains a significant volume and range of data and materials, it is not a one-of-a-kind, locally unique, or regionally unique cultural resource. It is one of 21 Pauma Complex sites noted by D.L. True (1980) recorded between the area east of the Pala Indian Reservation (as originally constitute) and west to the Rincon Indian Reservation. This is an area that has seen relatively little development in the last 30 years and most of these sites have not been disturbed by such development. In addition, this site has already been subjected to several surface collections in the past and has been partially disturbed by former olive and citrus groves. Guideline 4 is not exceeded and impacts are less than significant for the historic component. However, mitigation of the site will be required because the archaeological component has been determined to be significant (see Impact CR-2 below).

These following two historic sites were not relocated in the recent survey.

SDI-5675	SDI-5675 (Gomez Trail) was “a traditional trail route from Pauma Valley and SDI-715 to Morgan Hill (SDI-543). It was recorded in 1978 by S. Fulmer. The site form suggests that the old route is not visible and is a “new trail route” or “new road.” This trail would have crossed the peak in the northeast corner of the subject property. A careful study of this area, which has been highly disturbed, as well as an examination of adjacent areas, did not reveal the presence of the Gomez Trail.
SDI-5676	SDI-5676 (Mission Trail) was a “trail from Morgan Hill (SDI-543) to Pauma (SDI-721 and SDI-715)” according to the site form which cites local informants. It was also recorded by S. Fulmer in 1978. The trail would have skirted the northeast corner of the subject property. No portion of this trail was located during the course of the survey.

If there were portions of these two historic trails, SDI-5675 (Gomez Trail) and -5675 (Mission Trail), on the property, there are no indications of them now. They may exist outside of the subject property, but they cannot be evaluated for this project because they are not present.

Human Remains - Guideline 3: Disturbs any human remains, including those interred outside of formal cemeteries.

No human remains were found in relation to the site. Therefore long-term and short-term direct and indirect impacts are not significant. Guideline 3 is not exceeded for human remains and impacts are not significant. No mitigation is required

RPO - Guideline 4: Proposes activities or uses damaging to significant cultural resources as defined by the Resource Protection Ordinance and fails to preserve those resources.

The site is not a significant resource under the County’s RPO because no further important information related to scientific research questions can be provided by the site and because no historic activities or events are associated with the site. Therefore long-term and short-term direct and indirect impacts are not significant. Guideline 4 is not exceeded for historical resources and impacts are less than significant. No mitigation is required.

Archaeological Resources - Guideline 2: Causes a substantial adverse change in the significance of an archaeological resource as defined in §15064.5 of the State CEQA Guidelines. This shall include the destruction or disturbance of an important archaeological site or any portion of an important archaeological site that contains or has the potential to contain information important to history or prehistory.

The following five sites were assessed as part of the 2009 study:

SDI-246	<p>This site was recorded in 1954 as a “small camp or temporary village” with shallow bedrock mortars and small quartz projectile points. The site was resurveyed in 2001. No obvious midden was noted. The site is within a grove of trees and construction of the grove may have removed or covered both the midden and/or surface deposits. An existing dirt road passes through the north portion of the site, but there are no plans to improve this road.</p>
SDI-266	<p>This site was recorded in 1947 and 1954 as a “village site with bedrock stones and evidence of fire [that] was bulldozed in 1951 for a house site.” And was re-surveyed for the current report, artifacts were collected and curated. Surface collection over time produced 71 artifacts which include metavolcanic and quartz pieces, fire-altered rock, mortars, fragments of a stone bowl, and a fragment of a scallop shell, and other stone fragments.</p>
SDI-714	<p>This site was excavated in 1953, when it was used to define the San Luis Rey I and 160 artifacts were curated at that time, including 61 points, 30 manos, 6 portable mutates, 5 pestles, among other artifacts. This site was recorded in 1960 as a small village [with] heavy mound or deposit containing shells, animal bones, and other refuse that indicates the site of a human settlement. It also contained pieces of bedrock, shells and other rock fragments. Quartz and metavolcanic materials, fire-altered rock, and other stone fragments were present. Due to potential impacts from a proposed pad, twenty-five STPs ranging from 20 to 40 cm were excavated, five of which were positive. As a result, the pas was moved out of the area and a 10 to 15 meter buffer zone was included.</p>
SDI-731	<p>The site was recorded in 1960 and excavations were conducted in 1968. The site was recorded as a “camp or village [of the] San Luis Rey Type I” in 1986. A collection of 412 artifacts were curated. The 2001 survey found 15 bedrock milling outcrops and two discrete areas of mound or deposit containing flakes and milling features, and other refuse that indicates the site of a human settlement.</p>
SDI-9906	<p>This site was initially recorded in 1984 and consists of two bedrock milling outcrops with six “cup” rock fragments, one slick, and 4-5 pestles.</p>

These sites are all located in areas that are proposed for open space protection. Because these sites will be avoided and protected by easement, significance testing was not required. As a result, the sites are assumed to be CEQA and RPO significant. Guideline 1 is exceeded and mitigation is required (**Impact CR-1**).

The following archaeological component of SDI-9537/H was assessed:

SDI-9537/H	<p>This site was first noted in 1948 and mapped and recorded in 1982 with artifacts collected and curated, although the collection seems to have been lost. It is a large habitation site with a moderate to dense scatter of archaeological and historic artifacts. The site was recorded in 2001 and extensively studied in 2005. The artifact types found on the site include quartz and metavolcanic flakes, core fragments, and fire-altered rock, and some Brownware shards suggesting a Late Prehistoric presence. Research concluded that the site was an important habitation site dating to the later Archaic period (about 1250-700 BC), which may have been reoccupied during the Later Prehistoric period (after 1659 AD). It was perhaps a seasonal residential base with a major focus on the procurement and processing of deer.</p>
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This site is located in an area that is proposed for development. The archaeological component of this site is a significant resource under Criteria 1, 2 or 3 of the California Register of Historical Resources, and therefore, under CEQA. Guideline 2 is exceeded and impacts are significant. Mitigation that includes a Data Recovery program is required. **(Impact CR-2)**.

The following sites were previously recorded and were not relocated in the recent survey:

SDI-715	<p>This site was recorded by D.L. True in 1960 and is described as “remains of a small village or camp. San Luis Rey II. Some midden, chipping waste, etc.” It consisted of bedrock mortars with “pottery, manos and metates left on site [probably] picked up by previous owners.” True stated that the “area had been leveled for a building site and for all practical purposes has been destroyed.”</p>
SDI-722	<p>This site was also recorded by D.L. True in 1960. It was described as “storage shelter in boulders...pottery cache site.” He noted the presence of “pottery fragments...may represent parts of several jars.” The site is a kind of cache cave in a large boulder pile; burned deer antler, several charred but unmodified sticks, and a number of potsherds were collected. It may have been a part of nearby SDI-751 site. No trace of this site was found during the present survey.</p>
SDI-723	<p>This site was recorded by True in 1960 as well. He describes the site as a “camp or...scattered chipping waste...no apparent midden...” A bedrock metate is present but no artifacts are noted. This site is viewed as Pauma Complex site. It could not be relocated; however, the metate may have been outside the project area, an area to which the survey crew did not have access.</p>

These sites have apparently been destroyed by the expansion of orchards on the property back in the late 1960s. Since these sites were not relocated in the recent survey, these sites are not significant because they have been destroyed. If buried remnants of these sites remain, they will not be impacted by the project as the site locations are within proposed open space.

The following four new sites are characterized as small bedrock milling sites:

SDI-17501	The site was first recorded in 2001 and remapped with some alterations to the boundary in 2005. Four STPs were excavated to a depth of 20 cm, all of which were negative. SDI-17501 consists of two bedrock milling outcrops with five milling features. No deposit or surface artifacts are associated with the features. Due to a project redesign, the site is just outside the project area.
SDI-17502	This site consists of two bedrock outcrops 2.5 meters apart in an orange grove. Three STPs were excavated in 2005, all of which were negative. One outcrop contains a 6-cm deep mortar with an adjacent slick and the other contains only one slick. No midden deposit or surface artifacts are present.
SDI-17503	Two STPs were excavated in 2005. This site is located south of SDI-17501 and consists of a single bedrock milling outcrop with two saucer mortars. No subsurface deposit or surface artifacts are present.
SDI-18368	This small bedrock milling site is an isolated find situated away from the known sites on the property and no artifacts are present. This site has been disturbed by vehicular traffic and the site's useful information has already been recorded (such as location, milling outcrop size, milling feature dimensions, etc.), this site is not a significant historical resource under CEQA or the County's RPO.

The significance of these sites was investigated using a series of two to four shovel test pits (STPs) at each of these small bedrock milling sites to confirm that no subsurface cultural deposit was present. All of the STPs were negative confirming the absence of subsurface cultural material.

Therefore, sites SDI-17501, SDI 17502, SDI-17503 and SDI-18368 are not significant archaeological resources impacted under Criterion 4 of the California Register of Historical Resources, and therefore under CEQA. In addition they are also not important resources under the County's RPO or under Significance Guideline 2, and no mitigation is required.

Human Remains - Guideline 3: Disturbs any human remains, including those interred outside of formal cemeteries.

No human remains were found during the survey and testing of the sites discussed above. Often archaeological resources (artifacts, features or human remains) are

buried, covered by extensive alluvial deposition, and not found during the survey and subsurface testing. Finding these resources could result in a significant impact; therefore a professional archaeologist shall monitor grading during all earth disturbing activities required by the project (**Impact CR-3**).

RPO - Guideline 4: Proposes activities or uses damaging to significant cultural resources as defined by the Resource Protection Ordinance and fails to preserve those resources.

The sites discussed above do not contain evidence of significant habitation, human remains, grave goods, obvious ceremonial areas, sacred objects, or other unique resources that might make it significant under the County's RPO definition of "significant prehistoric or historic sites." Guideline 4 is not exceeded and impacts are less than significant.

2.5.3 Cumulative Impact Analysis

According to CEQA, the importance of cultural resources comes from the research value and the information that they contain. Therefore the issue that must be explored in a cumulative analysis is the cumulative loss of that information. For sites considered less than significant, the information is preserved through recordation, test excavations and preservation of artifacts. Significant sites that are placed in protected open space easements avoid direct impacts to these cultural resources as well as preservation of their potential research data. Significant sites that are not placed within open space easements and directly impacted by the project preserve the information through recordation, test excavations, and data recovery programs that would be presented in reports and filed with the County and SCIC. The artifact collections from any potentially significant site would be curated at a federally approved curation facility such as the San Diego Archaeological Center and would be available to researchers for further study. Because cultural resources are non-renewable in nature, it is critical that information obtained through excavation is appropriately retained and utilized.

A cultural resources cumulative study area is identified based on potential future research questions that could be developed within the context of subsistence and settlement models for the project area. Major east-west drainages were the travel corridors utilized by prehistoric occupants in their seasonal rounds. The confluences of drainages are often major habitation site locations, with associated temporary camps and resource procurement stations established on surrounding tributaries and on adjacent uplands.

For this project the cumulative study area was defined over a segment of the San Luis Rey River Valley that encompasses areas from the Palomar Mountain foothills to the San Luis Rey River, and takes in the major population centers in the area, Pala and Pauma. This area was selected to capture developmentally active areas near population centers. It also encompasses a range of topographical and biological environments, including

foothills, alluvial areas, oak woodland, and water courses, where settlement patterns may have been established in the past.

Based on SCIC records, Heritage Resources archives, and PDS records, eleven cultural resources had been previously recorded within the project area, and 16 outside the boundary. Four cultural resources studies covered areas within a one-mile radius of the project. The results of the records search are provided in Table 2 of Appendix D. A total of 23 development projects are known to have been processed or are currently being processed in the County PDS. Figure 1-6, “Cumulative Projects in Study Area,” shows the locations of the cumulative projects, and Table 1-1, “Cumulative Projects,” presents information on these projects gathered from PDS records. Five projects were projected to have a significant impact to cultural resources. These are:

Project	Impact	Mitigation
TM 5499, Club Estates 48.31 acres, 32 residential lots	Cultural, potential to disturb resources during grading	Cultural , Monitoring during grading
GPA 03-044, Campus Park 420 acres, mixed uses	Human remains discovered	Avoidance and monitoring
GPA 05-003, Campus Park West, 118.5 acres, residential, office, and commercial uses	No resources present but potential for buried resources	Avoid resources, record and monitor during grading
GPA 04-002, Meadowood, 389.5 acres, residential uses, school and park	Human remains and resources present	Avoid resources and monitoring
GPA 06-009, Warner Ranch, residential uses	Resources present on site	<u>Cultural Resources</u> : Record, test, archive impacted resources. Monitoring and fencing during construction and open space protection. Curation of any resources found

This project has incorporated grading monitoring and/or data recovery programs to ensure that if buried resources are present, they would be identified, assessed for significance and proper recordation, avoidance, and data-recovery measures would be undertaken. The Proposed Project’s potentially significant impacts to cultural resources would be reduced below a level of significance by recordation, mapping, data recovery and archaeological monitoring by a County-approved archaeologist and a monitor representing the local Tribes during grading of both on- and off-site grading activities. Similarly, impacts to any undiscovered or buried potentially significant cultural resources located within the cumulative projects’ boundaries would be reduced below a level of significance by using similar measures. Thus, all archaeological impacts associated with

the related cumulative projects are expected to be less than significant and/or fully mitigated.

Future development within the cumulative study area would be subject to similar analysis and mitigation requirements pursuant to CEQA and RPO. Based on the compliance of the Proposed Project and related projects within the cultural resources cumulative study area with CEQA and RPO, and implementation of the project monitoring measures presented in Section 2.5.2, the Proposed Project would not result in a significant contribution to cumulative impacts for the issue of cultural resources and impacts would be less than significant.

2.5.4 Significance of Impact Prior to Mitigation

- CR-1 Five archaeological sites (SDI-246, -266, -714, -731, and -9906) were identified, and because significance testing was not conducted, these five sites are assumed to be significant.
- CR-2 The archaeological component of SDI-9537/H was evaluated and determined to be significant pursuant to CEQA criteria. The resource is located within the development footprint and will be directly impacted by the project.
- CR-3 The project has the potential to create direct impacts to buried archaeological resources (including human remains) during all grading/excavation activities..

2.5.5 Mitigation Measures Proposed to Minimize the Significant Effects

- M-CR- 1a Open Space Easements:
Sites SDI-246, -266, -714, -731, and -9906 shall be placed in protected open space.
- M-CR-1b Temporary Fencing for Archaeological Sites:
A temporary fencing plan for the protection of archaeological sites CA-SDI-246, CA-SDI-266, CA-SDI-714, CA-SDI-731, and CA-SDI-9906, will be prepared and implemented during any grading activities within one hundred feet (100') of any archaeological site within open space as shown on the site plan exhibit of the archaeological study dated December 16, 2013. The fencing plan shall be prepared in consultation with a County approved archaeologist, to the satisfaction of the Director of PDS. The fenced area should include a buffer sufficient to protect the archaeological sites. The fence shall be installed under the supervision of the approved archaeologist prior to commencement of grading or brushing and be

removed only after grading operations have been completed. A Native American monitor shall be present during the installation of the fencing.

M-CR-2

Data Recovery:

Direct impacts to the archaeological component of SDI-9537/H will be mitigated through data recovery excavations that implement a written research design (Refer to the Data Recovery Program, Attachment B to this DEIR and mitigation measure below). Any site destruction grading will be monitored by both a County certified archaeologist and a Native American Observer to check for the presence of unusual features and/or human remains. All artifacts recovered from the site will be analyzed and reported on, then curated at the San Diego Archaeological Center.

Data Recovery Excavations as Mitigation

Implement, to the satisfaction of the Director of PDS, the research design detailed in the archaeological extended study, Cultural Resources Survey and Evaluation of a 286-Acre Parcel in Pauma Valley, The Shadow Run Ranch, North of State Route 76, San Diego County, California prepared by Professional Archaeological Services dated June 15, 2009. The implementation of the research design constitutes mitigation for the proposed destruction of archaeological site CA-SDI-9537H. The research design includes, but is not limited to the following performance standards:

1. A County-approved archaeologist will be contracted with to implement the research design. Verification of the contract shall be presented in a letter from the Project Archaeologist to the Director of PDS and shall include the requirement of a Native American Observer.
2. Phase 1 of the fieldwork program will include mechanical trenching and a 2.5 percent hand excavated sample of the two subsurface artifact concentrations.
3. At the completion of Phase 1, a letter report will be submitted to the Director of PDS. The letter report will evaluate the issues of site integrity, data redundancy, spatial and temporal patterning, features, and other relevant topics in order to assess the adequacy of the initial 2.5 percent sample. Based on this assessment, the letter report shall recommend the need for and scope of a second phase of field investigations, not to exceed a total site hand excavated sample of 5 percent of the two subsurface artifact concentrations.
4. Implement Phase 2 of fieldwork, as necessary.

5. Artifact analysis, including lithics analysis, ceramics analysis, faunal analysis, floral analysis assemblage analysis, and radiocarbon dating will be conducted, as detailed in the archaeological extended study, “Data Recovery Research Design for Mitigation of Prehistoric Archaeological Site SDI-9537/H” prepared by Philip de Barros, dated June 15, 2009.
6. Evidence will be provided to the satisfaction of the Director PDS that all archaeological materials recovered during both the significance testing and data recovery phases have been curated according to current professional repository standards. The collections and associated records shall be transferred, including title, to an appropriate curation facility within San Diego County, to be accompanied by payment of the fees necessary for permanent curation.
7. Final Technical Report will be completed and submitted to the satisfaction of the Director of PDS.

M-CR-3 Grading Monitoring Program for Archaeological Resources During Construction:

INTENT: In order to comply with the County of San Diego *Guidelines for Determining Significance and Report Format and Content Requirements for Cultural Resources* a Cultural Resource Grading Monitoring Program shall be implemented.

DESCRIPTION OF REQUIREMENT: The Project Archaeologist and Luiseno Native American Monitor shall monitor the original cutting of previously undisturbed deposits in all areas identified for development including off-site improvements. The archaeological monitoring program shall comply with the following requirements during earth-disturbing activities:

- a. During the original cutting of previously undisturbed deposits, the Project Archaeologist and Luiseno Native American Monitor shall be onsite as determined necessary by the Project Archaeologist. Inspections will vary based on the rate of excavation, the materials excavated, and the presence and abundance of artifacts and features. The frequency and location of inspections will be determined by the Project Archaeologist in consultation with the Luiseno Native American Monitor. Monitoring of the cutting of previously disturbed deposits will be determined by the Project Archaeologist in consultation with the Luiseno Native American Monitor.

- b. In the event that previously unidentified potentially significant cultural resources are discovered, the Project Archaeologist or the Luiseno Native American Monitor, shall have the authority to divert or temporarily halt ground disturbance operations in the area of discovery to allow evaluation of potentially significant cultural resources. At the time of discovery, the Project Archaeologist shall contact the PDS Staff Archaeologist. The Project Archaeologist, in consultation with the PDS Staff Archaeologist and the Luiseno Native American Monitor, shall determine the significance of the discovered resources. Construction activities will be allowed to resume in the affected area only after the PDS Staff Archaeologist has concurred with the evaluation. Isolates and clearly non-significant deposits shall be minimally documented in the field. Should the isolates and/or non-significant deposits not be collected by the Project Archaeologist, then the Luiseno Native American monitor may collect the cultural material for transfer to a Tribal Curation facility or repatriation program. A Research Design and Data Recovery Program (Program) is required to mitigate impacts to identified significant cultural resources. The Research Design and Data Recovery Program shall be prepared by the Project Archaeologist in coordination with the Luiseno Native American Monitor. The County Archaeologist shall review and approve the Program, which shall be carried out using professional archaeological methods. The Program shall include (1) reasonable efforts to preserve (avoidance) “unique” cultural resources or Sacred Sites; (2) the capping of identified Sacred Sites or unique cultural resources and placement of development over the cap, if avoidance is infeasible; and (3) data recovery for non-unique cultural resources. The preferred option is preservation (avoidance).
- c. If any human remains are discovered, the Property Owner or their representative shall contact the County Coroner and the PDS Staff Archaeologist. Upon identification of human remains, no further disturbance shall occur in the area of the find until the County Coroner has made the necessary findings as to origin. If the remains are determined to be of Native American origin, the Most Likely Descendant (MLD), as identified by the Native American Heritage Commission (NAHC), shall be contacted by the Property Owner or their representative in order to determine proper treatment and disposition of the remains. The immediate vicinity where the Native American human remains are located is not to be damaged or disturbed by further development activity until consultation with the MLD regarding their recommendations as required by Public Resources Code Section 5097.98 has been conducted. Public Resources Code §5097.98, CEQA §15064.5 and

Health & Safety Code §7050.5 shall be followed in the event that human remains are discovered.

- d. The Project Archaeologist shall submit monthly status reports to the Director of PDS starting from the date of the Notice to Proceed to termination of implementation of the grading monitoring program. The reports shall briefly summarize the activities during the period and the status of progress on overall plan implementation. Upon completion of the implementation phase, a final report shall be submitted describing the plan compliance procedures and site conditions before and after construction.

DOCUMENTATION: The applicant shall implement the Archaeological Monitoring Program pursuant to this condition.

TIMING: The following actions shall occur throughout the duration of the earth disturbing activities.

MONITORING: The [DPW, PDCI] shall make sure that the Project Archeologist is on-site performing the monitoring duties of this condition. The [DPW, PDCI] shall contact PDS if the Project Archeologist or applicant fails to comply with this condition.

~~A professional archaeologist shall be contracted to implement a grading monitor program to monitor all grading and subsurface excavation activities related to the development of the Shadow Run Ranch project. The below mitigation measure details the steps to be taken in the event subsurface archaeological deposits are uncovered, including human remain and significant features. All phases of the monitoring program shall include a Native American representative.~~

~~A County approved archaeologist shall be contracted with to implement a grading monitoring and data recovery program to the satisfaction of the Director of PDS. Verification of the contract shall be presented in a letter from the Project Archaeologist to the Director of PDS. This program shall include, but not be limited to, the following actions:~~

- ~~1. The County approved archaeologist/historian and Native American Observer shall attend the pre-grading meeting with the contractors to explain and coordinate the requirements of the monitoring program. The Department of PDS shall approve all persons involved in the monitoring program prior to any pre-construction meetings. The consulting archaeologist shall contract with a Native American Observer to be involved with the grading monitoring program.~~

2. ~~During the original cutting of previously undisturbed deposits, the archaeological monitor(s) and Native American Observer shall be onsite full-time to perform periodic inspections of the excavations. The frequency of inspections will depend on the rate of excavation, the materials excavated, and the presence and abundance of artifacts and features.~~
3. ~~Isolates and clearly non-significant deposits will be minimally documented in the field and the monitored grading can proceed.~~
4. ~~In the event that previously unidentified potentially significant cultural resources are discovered, the archaeologist shall have the authority to divert or temporarily halt ground disturbance operation in the area of discovery to allow evaluation of potentially significant cultural resources. The archaeologist shall contact the County Archaeologist at the time of discovery. The archaeologist, in consultation with County staff archaeologist, shall determine the significance of the discovered resources. The County Archaeologist must concur with the evaluation before construction activities will be allowed to resume in the affected area. For significant cultural resources, a Research Design and Data Recovery Program to mitigate impacts shall be prepared by the consulting archaeologist and approved by the County Archaeologist, then carried out using professional methods. If any human bones are discovered, the County Coroner shall be contacted. In the event that the remains are determined to be of Native American origin, the Most Likely Descendant, as identified by the Native American Heritage Commission, shall be contacted in order to determine proper treatment and disposition of the remains.~~
5. ~~Before construction activities are allowed to resume in the affected area, the artifacts shall be recovered and features recorded using professional archaeological methods. The archaeological monitor(s) and Native American Observer shall determine the amount of material to be recovered for an adequate artifact sample for analysis.~~
6. ~~In the event that previously unidentified cultural resources are discovered, all cultural material collected during the grading monitoring program shall be processed and curated according to current professional repository standards. The collections and associated records shall be transferred, including title, to an appropriate curation facility within San Diego County, to be~~

~~accompanied by payment of the fees necessary for permanent curating.~~

- ~~7. In the event that previously unidentified cultural resources are discovered, a report documenting the field and analysis results and interpreting the artifact and research data within the research context shall be completed and submitted to the satisfaction of the Director of PDS prior to the issuance of any building permits. The report will include Department of Parks and Recreation Primary and Archaeological Site forms.~~
- ~~8. In the event that no cultural resources are discovered, a brief letter to that effect shall be sent to the Director of PDS by the consulting archaeologist that the grading monitoring activities have been completed.~~
- ~~9. Prior to rough grading inspection sign-off, the archaeological monitor shall provide evidence that the grading monitoring activities have been completed to the satisfaction of the Director of PDS.~~

M-CR-4 Archaeological Monitoring – Final Grading [PDS, FEE]

INTENT: In order to comply with the County of San Diego *Guidelines for Determining Significance and Report Format and Content Requirements for Cultural Resources*, an Archaeological Monitoring Program shall be implemented.

DESCRIPTION OF REQUIREMENT: The Project Archaeologist shall prepare a final report that documents the results, analysis, and conclusions of all phases of the Archaeological Monitoring Program if cultural resources were encountered during earth-disturbing activities. The report shall include the following, if applicable:

- a. County of San Diego Department of Parks and Recreation Primary and Archaeological Site forms.
- b. Daily Monitoring Logs
- c. Evidence that all cultural materials have been curated and/or repatriated as follows:
 - (1) Evidence that all prehistoric materials collected during the archaeological monitoring program have been submitted to a San Diego curation facility or a culturally affiliated Native American Tribal curation facility that meets federal

standards per 36 CFR Part 79, and, therefore, would be professionally curated and made available to other archaeologists/researchers for further study. The collections and associated records, including title, shall be transferred to the San Diego curation facility or culturally affiliated Native American Tribal curation facility and shall be accompanied by payment of the fees necessary for permanent curation. Evidence shall be in the form of a letter from the curation facility stating that the prehistoric archaeological materials have been received and that all fees have been paid.

or

Evidence that all prehistoric materials collected during the grading monitoring program have been repatriated to a Native American group of appropriate tribal affinity. Evidence shall be in the form of a letter from the Native American tribe to whom the cultural resources have been repatriated identifying that the archaeological materials have been received.

- (2) Historic materials shall be curated at a San Diego curation facility and shall not be curated at a Tribal curation facility or repatriated. The collections and associated records, including title, shall be transferred to the San Diego curation facility and shall be accompanied by payment of the fees necessary for permanent curation. Evidence shall be in the form of a letter from the curation facility stating that the historic materials have been received and that all fees have been paid.

- d. If no cultural resources are discovered, a Negative Monitoring Report must be submitted stating that the archaeological monitoring activities have been completed. Grading Monitoring Logs must be submitted with the negative monitoring report.

DOCUMENTATION: The applicant's archaeologist shall prepare the final report and submit it to PDS for approval. Once approved, a final copy of the report shall be submitted to the South Coastal Information Center (SCIC) and the culturally-affiliated Tribe.

TIMING: Prior to any occupancy, final grading release, or use of the premises in reliance of this permit the final report shall be prepared.

MONITORING: PDS shall review the final report for compliance with this condition and the report format guidelines. Upon acceptance of the report, PDS shall inform [PDS, LDR] and [DPW, PDCI], that the requirement is complete and the bond amount

can be relinquished. If the monitoring was bonded separately, then PDS shall inform [PDS or DPW FISCAL] to release the bond back to the applicant.

M-CR-4-5 Curating of Archaeological Collections:

Evidence will be provided to the satisfaction of the County of San Diego, Director of PDS that all archaeological materials recovered during the Professional Archaeological Services archaeological investigations of the property, including all significance testing, data recovery, and grading monitoring activities, have been curated according to current professional repository standards. The collections and associated records shall be transferred, including title, to an appropriate curating facility within San Diego County, to be accompanied by payment of the fees necessary for permanent curating.

2.5.6 Conclusion

An update of the 2001/2005 historical and archaeological surveys of the site was conducted in 2009. Native American representatives with the Native Ground Monitoring and Research served as Native American monitors from the Pauma Indian Reservation.

A total of 15 sites and eight isolates were evaluated and recorded, re-recorded or not relocated as a result of the 2009 survey. Five sites previously identified could not be relocated during the 2001-2009 work. Four archaeological sites were determined to be not significant.

Five archaeological sites were assumed to be significant and will be protected in open space. Because the sites could extend beyond currently defined boundaries into areas proposed for grading, monitoring of all grading activity is required. Appropriate support funding will be required.

The historical component of SDI-9537/H was extensively tested, mapped, recorded and artifacts recovered; no additional research potential for this aspect of the site appears to remain. Impacts are not considered significant. The archaeological component of SDI-9537/H was determined to be CEQA significant through extensive testing; project impacts were found to be significant because research potential remains. Mitigation entails a data recovery research program that includes curation of any artifacts found, and monitoring during site grading. This will be effective because it preserves the research value of the site and allows a fuller understanding of the resource to be developed under controlled circumstances. Cumulative impacts were evaluated using a study area that takes in major population centers and varied topographic and biological areas. The Proposed Project and the one project in the area both fully mitigate impacts with monitoring, recovery of any important data, and curation of all resources. Cumulative impacts are not significant because all research and cultural heritage value in these two sites will be preserved for future study.

Site No.	Site Description	Date Recorded
Sites Located Within Or Partially Within Project Boundaries		
SDI-246	Small camp or temporary village: shallow mortars, proj. points	1954
SDI-266	Village site: bedrock mortars, points, manos, shell	1947
SDI-714	Small Village, heavy midden: Stone ball, proj. points, shell ornaments, etc.	1960
SDI-715	Small Village or Camp: midden, chipping waste, pottery manos & metates	1960
SDI-722	Pottery cache in boulders: pottery fragments	1960
SDI-723	Camp: scattered chipping waste, bedrock metate or small mortar	1960
SDI-731	Camp or Village area, SLR I: light midden, metates, mortars, points scrapers, chipping waste	1960
SDI-5675	Gomez Trail: Trail from Pauma Valley to Morgan Hill	1978
SDI-5676	Mission Trail: Trail from Morgan Hill to Pala Assistencia	1978
SDI-9537/H	Artifact Scatter, Pauma Complex: manos, metates, hammerstones	1982
SDI-9906	Bedrock Mortars	1984
Sites Outside Project Boundaries But Within a One-Mile Radius		
SDI-243	Bedrock Mortar Site: 14 Mortars, 1 slick	1984
SDI-247	Camp site or temporary village: bedrock mortars, some quartz chips	1954
SDI-267	Milling site: metates, manos	1953
SDI-505	Type Site for the Pauma Complex: manos, metate, scraper planes	1958
SDI-510	Campsite: points, scraper, metates, manos	1954
SDI-624	Bedrock milling features	1952
SDI-720	Village or Camp site, SLR I: midden, points, knives, burnt bone,	1960
SDI-721	Village Site, SLR II: heavy midden, projectile points, pottery, arrow straightener, metates.	1960
SDI-726	Camp or Chipping station: scattered chipping waste.	1960
SDI-727	Bedrock mortars	1960
SDI-734	Bedrock metate	1960
SDI-739	Bedrock mortars	1960
SDI-740	Bedrock mortars	1960
SDI-5675	Gomez Trail: Trail from Pauma Valley to Morgan Hill	1978
SDI-5676	Mission Trail: Trail from Morgan Hill to Pala Assistencia	1978
SDI-9905	Bedrock mortars	1984

2.6 Hazards/Hazardous Materials

The Proposed Project was reviewed for potential hazards related to fire safety and hazardous materials that may be present on the property.

A Fire Protection Plan for the Shadow Run Ranch TM 5223RPL2 project was prepared by David C. Bacon of FIREWISE2000, Inc., a consultant listed on the County's CEQA Consultant List approved to prepare fire protection plans. The report is entitled, "Fire Protection Plan Shadow Run Ranch TM 5223 RPL Environmental Log # 00-02-035," dated June 10, 2013, and is provided as Appendix E of the technical appendices of this DEIR.

Phase I and Phase II Environmental Assessments (ESA) were conducted for the subject property by Jonathan Cain of Petra Geotechnical, who is on the County of San Diego's list of approved consultants for this area of expertise. The reports, "Phase I Environmental Site Assessment, Shadow Run Ranch," date April 30, 2012, and "Limited Phase II Environmental Site Assessment, Shadow Run Ranch," dated March 18, 2013, are provided as Appendices F and U of the technical Appendices of this DEIR.

A Vector Management Plan was prepared for the project by Jayhawk Consulting. The plan "Vector Management Plan, Shadow Run Ranch, Pauma Valley," dated November 18, 2009 is provided as Appendix G of the technical appendices of this DEIR.

2.6.1 Existing Conditions

2.6.1.1 Fire Hazards

The Shadow Run Ranch project is located in a rural area of San Diego County in the unincorporated area of Pauma Valley on the north side of State Route 76/Pala Road (SR76).

The project site is undeveloped and consists of hilly terrain in a very high fire-hazard zone approximately 27 miles inland from the Pacific Ocean. The slopes on and adjacent to the site range between 10 and 25 percent as viewed from the SR76 looking north. The average slope within the area to be developed is 10 percent with a slope of 38 percent at the northern end of the property. Onsite elevations range from 729 feet above mean sea level (MSL) to 1415 feet MSL.

Climate

The project area's Mediterranean climate is mild in the winter (an average of 13.5 inches of rain per year), with the bulk of the annual precipitation falling between January and March. Long, hot and very dry summer seasons frequently occur with occasional multi-year droughts.

The wind-pattern most critical to the project area is an off-shore wind from the north and northeast, typically referred to as the Santa Ana wind. Santa Ana wind conditions are usually associated with strong (more than 60-mile-per-hour) hot, dry winds with very low (five to nine percent) relative humidity. These winds generally occur in the late fall, from approximately September through November, when non-irrigated vegetation is at its lowest moisture content.

The typical prevailing summertime wind pattern is from the south or southwest, is at a much lower velocity (5 to 19 MPH with occasion 30 MPH gusts), and is associated with higher humidity due to the moist on-shore air flow.

All other wind directions (northwest, south, west) may be occasionally strong and gusty, but are generally associated with cooler moist air and often have high relative humidity (upwards of 40 percent). They are considered a serious wildland fire weather condition when wind speeds reach above 20 MPH.

Vegetation

The majority of the central portion of the site is used for active agricultural operations, with several distinct native plant communities to the west within the Frey Creek drainage and to the east in the designated Open Space easement. This 'blue-line' stream runs through the property in a north-to-south direction parallel to the western boundary. It has several biological classifications: South Coast Live Oak Riparian Forest intermixed with Coastal Sage Scrub and areas of South Sycamore and Riparian Woodland. A distinct lack of ground vegetation is noted in this channel, as it is mostly rock with oak trees located on approaches. An existing Coast Live Oak Woodland is located in the lower central portion of the site that is considered disturbed habitat as little or no ground vegetation remains in these areas.

The onsite groves are maintained using best practices such as no ground litter or trimming and good separation between rows. A distinct lack of ground-fuel is noted within these areas as well.

Land uses in the vicinity consist of the Pauma Indian Reservation to the north and east, Pala Indian Reservation to the south and west, and scattered estate residential development and agricultural operations to the northwest and southeast.

Fire History

The available data suggests that small fires increased in frequency in the second half of the 20th Century in Southern California while their average size decreased. In San Diego County, this has resulted in an increased rate of burning in low-elevation coastal scrub land, especially coastal sage scrub near urban development areas. Over 600 fires occurred in the foothills and mountains between 1910 and 1999. However,

several recent years of drought have contributed to major fires in San Diego County, resulting in property loss and damage to watersheds.

2.6.1.2 Hazardous Materials

Historically, the property has been predominantly vacant undeveloped land, with groves in the southwest portion of the site dating back to at least 1939. From approximately 1946 through the 1970s, different portions of the land were brought into cultivation and planted with groves. Visible structures were not present prior to the late 1970s.

The Phase I analysis included an inventory of existing items and conditions on the property which might present potential environmental concerns:

- **Regulatory Action:** no known current regulatory action against the subject property is known to be pending.
- **Adjacent/Nearby Property:** no information was obtained which would indicate the presence of environmental concerns on adjacent or nearby properties which could impact the project site
- **Polychlorinated Bipheynyls (PCBs):** PCBs are dielectric and coolant fluids used in some equipment. Several pole-mounted transformers, which are known to use PCBs, were located onsite, and it was noted that fluorescent light-fixture ballasts present throughout the workshop building could also contain PCBs. It was further noted that the fluorescent lights themselves contain trace amounts of mercury.
- **Underground Storage Tanks (USTs):** No USTs were detected or known to exist on the subject site, nor was any indication present of any having existed in the past.
- **Above Ground Storage Tanks (ASTs):** Several ASTs were observed onsite. Two steel fuel storage tanks are located in the main operation center, and five red diesel tanks are located northeast of the operation center. One water storage tank is located within a concrete structure at the upper pump station north of the reservoir, and one plastic water tank is located at a well station along the eastern side of the creek within the open biological area.
- **Storm Water/Waste Water Discharge:** storm water and waste water discharge from the site includes storm water runoff and water from onsite water wells and irrigation pipes. No septic tanks or leach fields are known to be present.
- **Pesticide Residues:** Site specific information regarding pesticide use could not be obtained during the investigation.

- Asbestos-containing Materials (ACM): no asbestos-containing materials are known to be present on the site.
- Lead-based Paints: no lead-based paints are known to be present in the structures on the site.
- Landfills: no known landfills are located within the search radius used for the Phase I analysis.
- Water Supplies: Several water wells were observed within the subject site.
- Waste Generation and Storage: debris was observed on the site, including: scrap metal; containers of gas, oil, solvent and chemicals; paint cans; old tires; and smudge pots.

Phase II Environmental Site Assessment soil sampling was conducted to determine whether past activities at the site have resulted in the release or threatened release of hazardous substances which pose a threat to public health or the environment. The overall objective of the investigation was to evaluate potential impacts from pesticides used in past agricultural use of the site; potential burn ash in the soil; possible impact of hydrocarbons from on-site fuel storage areas, smudge pots, and diesel-powered wind machines; and Polychlorinated Biphenyls (PCBs) from pole-mounted transformers.

2.6.1.3 Vectors

An irrigation reservoir with a surface area of approximately three acres is located northeast of the proposed residential lots. The reservoir has steep interior sloping sides. Water levels are regularly raised and lowered by a routine irrigation schedule. Constant water elevation changes and prevailing winds result in disturbances to the water surface.

The area adjacent to the project site is rural with mixed avocado, citrus groves, and horticultural activities. The area also features native trees, shrubs, chaparral and sage. Non-native trees exist in random areas such as the residential portions of properties. A twenty lot mobile home park and a 100-lot recreational vehicle park are located south of the subdivision, across State Route 76.

2.6.2 Analysis of Project Effects and Determination as to Significance

2.6.2.1 Guidelines for the Determination of Significance – Fire Hazards

The following guidelines for the determination of significance are from the *County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements Wildland Fire and Fire Protection* (August 2010). An affirmative response to or confirmation of any one of the following guidelines will generally be

considered a significant impact related to Wildland Fire and Fire Protection as a result of the project, in the absence of evidence to the contrary:

1. The project cannot demonstrate compliance with all applicable fire codes.
2. A comprehensive Fire Protection Plan has been accepted, and the project is inconsistent with its recommendations.
3. The project does not meet the emergency response objectives identified in the Public Facilities Element of the County General Plan or offer feasible alternatives that achieve comparable emergency response objectives.

2.6.2.2 Analysis – Fire Hazards

The purpose of the FPP is to assess the potential impacts resulting from wildland fire hazards and identify the measures necessary to adequately mitigate those impacts, if any. As part of the assessment, the plan considers the property location, topography, geology, combustible vegetation (fuel types), climatic conditions, and fire history. The plan also addresses water supply, access, structural ignitability and fire resistive building features, fire protection systems and equipment, impacts to existing emergency services, defensible space, and vegetation management. The FPP identifies and prioritizes areas for hazardous fuel reduction treatments, and also recommends measures that property owners will take to reduce the probability of ignitions of structures throughout the area addressed by the plan.

Guideline 1: The project cannot demonstrate compliance with all applicable fire codes.

Determining the risks for wildfires requires analysis of the adequacy, pursuant the requirements of the San Diego Consolidated Fire Code and the Public Facilities Element of the County General Plan, for the project’s proposed emergency services, access roads and gates, water supply, ignition-resistant construction and fire-protection systems, and defensible space and vegetation management.

Emergency Services

The project meets the emergency response objectives identified in the Public Facilities Element of the County General Plan.

The project site is located within the CAL FIRE Rincon Station’s jurisdiction (CSA 135), which is staffed year-round by agreement with the ~~Yuima Municipal Water District, Mootamai Municipal Water District, and the Pauma Municipal Water District, with arrangements for a higher level of service made through contract with~~ the County of San Diego. CAL FIRE Rincon Station is approximately 4.8 miles from the project site, and meets the 10-minute Estate Response requirements.

Access Roads and Gates

The proposed access and egress to the project site is from two locations. One is from Haas Grove Lane to SR-76 and the other is ~~from~~ Haas View Way to Adams Drive. All access points will be improved to meet County fire safety design requirements and will require 20 feet of roadside fuel treatment. Access points will not be gated.

All interior roadways shall comply with San Diego County Private Road standards. The private subdivision interior access roads on the tentative map shall be a minimum of 24 feet of unobstructed improved width with an unobstructed vertical clearance of not less than 13 feet and 6 inches. Single family residential driveways shall have a minimum of 16 feet of improved width. Unobstructed radius width for cul-de-sacs and turn around locations shall be a minimum of 36 feet.

All roads within the development as well as the access roads shall have all-weather, paved surfaces capable of supporting fire apparatus weighing up to 50,000 pounds. All dead-end roadways exceeding 150 feet in length shall be provided with approved means for the turning around of emergency apparatuses. All roads and streets shall meet the minimum 28-foot-minimum turning radius as measured from the inside edge of the improvement width. The minimum radius width for all cul-de-sacs shall be 36 feet.

Water Supply

The proposed project will be annexed to the ~~MWD, CWA, and YMWD Yuima Municipal Water District.~~ YMWD will provide the physical facilities to allow water to reach the site. The proposed project will install appropriate pipelines and hydrants to serve the area. The required flow for the project is 2,500 gallons per minute (gpm) which will come from the YMWD potable water supply system. In addition to this standard, the required flow and pressure must meet the demands required for residential sprinkler systems.

Hydrants shall be located at intersections, at the beginning-radius of cul-de-sacs, and at intervals identified in the Code and approved by the Fire Marshal. Hydrants located across heavily traveled roadways shall not be considered as serving the property.

Ignition Resistant Construction and Fire Protection Systems

All structures will be required to meet the standards set in the San Diego County Building Code. Specific requirements include, but are not limited to:

1. •All structures will be built with a Class A Roof Assembly, including a Class A roof covering, and attic or foundation ventilation louvers or ventilation openings in vertical walls shall not exceed 144 square inches per opening and shall be covered with 1/8th-inch mesh corrosion-resistant metal screening or

other approved material that offers equivalent protection. Attic ventilation shall also comply with the requirements of the Uniform Building Code (U.B.C.). Ventilation louvers and openings may be incorporated as part of access assemblies.

2. Where the roof profile allows a space between the roof covering and roof decking, the spaces shall be constructed to prevent the intrusion of flames and embers, be firestopped with approved materials or have one layer of No. 72 American Society of Testing and Materials (ASTM) cap sheet installed over the combustible decking.
3. When provided, exposed valley flashings shall be not less than 0.019-inch (No. 26 galvanized sheet gage) corrosion-resistant metal installed over a minimum 36-inch-wide underlayment consisting of one layer of No. 72 ASTM cap sheet running the full length of the valley.
4. Paper-faced insulation shall be prohibited in attics or ventilated spaces.
5. All glass or other transparent, translucent or opaque glazing materials including skylights shall be constructed multi-layered glazed panels one layer of which must be tempered glass. No skylights will be allowed on the roof assembly facing hazardous vegetation.
6. Exterior windows, window walls, glazed doors, and glazed openings within exterior doors shall be insulating-glass units with a minimum of one tempered pane, or glass block units, or have a fire resistance rating of not less than 20 minutes, when tested according to ASTM E 2010, or conform to the performance requirements of State Fire Marshalls (SFM) listing 12-7A-2.
7. All windows shall be provided with 1/8 inch mesh metal or similar non-combustible screens to prevent embers from entering the structure during high wind conditions.
8. The exterior walls surface materials shall be non-combustible or an approve alternate. In all construction, exterior walls are required to be protected with 2-inch nominal solid blocking between rafters at all roof overhangs.
9. Combustible eaves, fascias and soffits shall be enclosed. Eaves of heavy timber construction are not required to be enclosed as long as attic venting is not installed in the eaves. For the purposes of this section heavy timber construction shall consist of a minimum of 4x6 rafter ties and 2x decking.
10. No attic ventilation openings or ventilation louvers shall be permitted in soffits, in eave overhangs, between rafters at eaves, or in other overhanging areas.

11. All projections (exterior balconies, decks, patio covers, unenclosed roofs and floors, and similar architectural appendages and projections) or structures less than five feet from a building shall be of non-combustible material, one-hour fire resistive construction on the underside, heavy timber construction or pressure-treated exterior fire-retardant wood. When such appendages and projections are attached to exterior fire-resistive walls, they shall be constructed to maintain same fire-resistant standards as the exterior walls of the structure.
12. Exterior doors shall be approved non-combustible construction, solid core wood and shall conform to the performance requirements of standard SFM 12-7A-1 or shall be of approved noncombustible construction, or solid core wood having stiles and rails not less than 1³/₈ inches thick with interior field panel thickness no less than 1¹/₄ inches thick, or shall have a fire-resistance rating of not less than 20 minutes when tested according to ASTM E2074.
13. Roof vents, dormer vents, gable vents, foundation ventilation openings, ventilation openings in vertical walls, or other similar ventilation openings shall be louvered and covered with 1/8-inch, noncombustible, corrosion-resistant metal mesh or other approved material that offers equivalent protection. Turbine attic vents shall be equipped to allow, one-way direction rotation only; they shall not free spin in both directions.
14. All chimney, flue or stovepipe openings will have an approved spark arrester. An approved spark arrester is defined as a device constructed of nonflammable materials, 12 gauge minimum thicknesses or other material found satisfactory by the Fire Protection District, having 1/2-inch perforations for arresting burning carbon or sparks. It shall be installed to be visible for the purposes of inspection and maintenance.
15. All rain gutters, down spouts and gutter hardware shall be constructed from metal or other noncombustible material to prevent wildfire ignition along eave assemblies.
16. Gutters shall be provided with the means to prevent the accumulation of leaf litter and debris that contribute to roof edge ignition.
17. All side yard fence and gate assemblies (fences, gate and gate posts) when attached to the home shall be of non-combustible material. The first five feet of fences and other items attached to a structure shall be of non-combustible material.

18. All homes shall be sprinklered. The Interior Sprinkler System shall meet National Fire Protection Standard NFPA13 *Installation of Sprinkler Systems in Residential Occupancies*.

Defensible Space and Vegetation Management

The proposed development area is located in a very high fire hazard severity zone. Off-site fire hazards and risk are based upon adjacent uses and vegetation. The project is bordered to the north by undeveloped private land, to the east by scattered estate residential, by the SR76 to the south, and open space to the west where Frey Creek is located. The Frey Creek drainage is proposed to be placed in open space along the western perimeter of the project site. The native and non-native vegetation to the north and the northeast of the proposed development presents a notable wildland fire threat, most notably from firebrands carried long distances by fire drafts or strong winds. An additional wildfire threat is possible from the west under typical or extreme prevailing southwest wind conditions.

Onsite vegetation consists chiefly of the agricultural groves. An oak woodland in the southern portion of the project offers minimal risk due to the absence of ground fuel. The analysis found no evidence of any fires having taken place onsite historically. The Frey Creek Fire of 1984 came close to the southwest boundary of the project site.

The existing mixed chaparral is of the most concern for the project area during a worst-case, Santa Ana wind condition scenario. These conditions would be similar to those experienced in recent extreme fire events. This vegetation type provides an abundance of dead, combustible material. Normally these plant communities are adapted to the intense wildfires that they need for species regeneration. However, when fires occur at too frequent intervals, the composition of the plant communities transforms to less-desirable short-lived and more flammable annual grasses with little wildlife value and poor ability to protect the soil. The on-site wildland fire threat from this vegetation can be mitigated with required fuel modification and the use of fire-wise landscaping criteria.

The BehavePlus Fire Modeling System was used to predict rate of spread, fireline intensity, and flame length for the onsite vegetation. This fire model describes a wildfire spreading through surface fuels, which are burnable materials within six feet of the ground. The FPP’s Appendix C contains the calculations from that study. The projections are based on four separate ‘worst case’ scenarios for San Diego County fire assumptions, and one fire scenario which assume ‘typical’ fire weather projections for comparison. Results of the fire modeling produced flame lengths from 6.5 feet to up to 60.2 feet depending on the location of the project area.

Projects located in Hazardous Fire Areas shall include Fuel Management Zones (FMZ) surrounding all structures. San Diego County Code stipulates that the FMZ is

a minimum of 100-foot area surrounding and extending in all directions from all structures, in which flammable vegetation or other combustible growth is cleared away or modified, except for:

- Single specimens of trees or other vegetation which are well-pruned and maintained.
- Grass and other vegetation located more than 50 feet from the structure and less than 18 inches in height above the ground.
- All ornamental landscaping that is consistent with County Wildland Interface plant list (See Appendix A of the Fire Protection Plan (Appendix E)).
- The proposed intention is to treat the entire parcel. It will remain irrigated and maintained as a producing grove. Figure 2-6-1 “Fire Safety Design” presents the fuel management approach for the project.

Three FMZs are proposed as part of the project design. Zone 1 is the defensible space zone and encompasses the pads and surrounding grove on each lot, as well as the recreation area. Zone 1 will be irrigated. Setback for vegetation will be 25 feet from the building pad. The area will be cleared of existing vegetation. When replanted, drought tolerant and irrigated lawn, ground covers, and shrubs will be used. Plantings will be maintained to a maximum of 18 inches, although isolated fire resistant trees and single fire-resistant shrubs maybe used. The recreation area, which currently supports a grass lawn, oaks, and a reservoir, will be reviewed for conformance with the FPP and existing vegetation consistent with the FPP will be retained. The existing grove will be allowed within Zone 1 provided it remains irrigated, is kept free of all combustible materials, and is well maintained free of trimmings and dead wood with leaf litter kept to a minimum. Detailed requirements for Zone 1 are provided in the FPP. The parcel owner is responsible for maintaining Zone 1.

Zone 2 begins at the outer edge of Zone 1 is the area between 50 and 100 feet from the edge of the buildable pad. Within this zone, all flammable native plants will be removed. It may be replanted with low growing (maximum 18 inches in height) and low fuel volume ”ground cover” vegetation or native grasses and occasional well-spaced low growing fire resistant shrubs. Low growing plants and ground covers are to be maintained to a height of 18 inches or less. Retained native shrubs will be trimmed and maintained to 48 inches, with occasional interior thinning. It is most important that plantings are thinned and maintained in a mosaic. Maintenance will be on-going throughout the year as needed. Native annual and perennial grasses will be allowed to grow and produce seed during the winter and spring. As grasses begin to cure (dry out), they will be cut to four (4) inches or less in height. This usually occurs prior to June 1st of each year. The parcel owner is responsible for maintaining Zone 2.

Zone 3 will require a 30 foot thinning zone along project roadways. Site access roads will receive Fuel Modification to a total of 20 feet. Interior roadways treatment will be 20 ft. off the edge of the road bed. Access areas may be irrigated, and planted to Zone 1 criteria. Within Zone 3, all flammable native plants shall be removed and may be replanted with low growing (maximum 18 inches in height) and low fuel volume ‘ground cover’ vegetation or native grasses and occasional well-spaced, low-growing, fire resistant shrubs. Low growing plants and ‘ground covers’ are to be maintained to a height of 18 inches or less. Retained native shrubs will be trimmed and maintained to 48 inches, with occasional interior thinning. It is most important that plantings are thinned and maintained in a mosaic. Maintenance will be on-going throughout the year as needed. Native annual and perennial grasses will be allowed to grow and produce seed during the winter and spring. As grasses begin to cure (dry out), they will be cut to four (4) inches or less in height. This usually occurs prior to June 1st of each year. The HOA is responsible for maintaining Zone 3.

Guideline 2: A comprehensive Fire Protection Plan has been accepted, and the project is inconsistent with its recommendations.

The Proposed Project has been designed in consultation with fire experts on the list of approved consultants with the County of San Diego, as well as in consultation with County Fire officials and the local Fire authority. The FPP for the project adequately analyses potential for fire hazards and provides the design requirements for different aspects of fire safety planned for the project, including adequacy of emergency services, response times, defensible space zones, access and fire clearing along roadways, and water supply. The Proposed Project will comply and be consistent with the FPP.

Guideline 2 is not exceeded, and impacts are less than significant. No mitigation is necessary.

Guideline 3: The project does not meet the emergency response objectives identified in the Public Facilities Element of the County General Plan or offer feasible alternatives that achieve comparable emergency response objectives.

As described in response to Guideline 1, above, the project site is located within the CAL FIRE Rincon Station’s jurisdiction (CSA 135), which is staffed year-round by agreement with the ~~Yuima Municipal Water District, Mootamai Municipal Water District, and the Pauma Municipal Water District, with arrangements for a higher level of service made through contract with the County of San Diego.~~ CAL FIRE Rincon Station is approximately 4.8 miles from the project site, and meets the 10-minute Estate Response requirements. Guideline 3 is not exceeded, impacts are less than significant, and no mitigation is required.

2.6.2.3 Guidelines for the Determination of Significance – Hazardous Materials

Guidelines for the project were determined using the *County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements Hazardous Materials and Existing Contamination* (July 30, 2007). The project will have a significant impact related to hazards if:

- a. The project is a business, operation, or facility that proposes to handle hazardous substances in excess of the threshold quantities listed in Chapter 6.95 of the [California Health and Safety Code] (H&SC), generate hazardous waste regulated under Chapter 6.5 of the H&SC, and/or store hazardous substances in underground storage tanks regulated under Chapter 7 of the H&SC and the project will not be able to comply with applicable hazardous substance regulations.
- b. The project is a business, operation, or facility that would handle regulated substances subject to CalARP RMP requirements that in the event of a release could adversely affect children's health due to the presence of a school or day care within one-quarter mile of the facility.
- c. The project is located on or within one-quarter mile from a site identified in one of the regulatory databases compiled pursuant to Government Code Section 65962.5¹⁹-or is otherwise known to have been the subject of a release of hazardous substances, and as a result the project may result in a significant hazard to the public or the environment.
- d. The project proposes structure(s) for human occupancy and/or significant linear excavation within 1,000 feet of an open, abandoned, or closed landfill (excluding burnsites) and as a result, the project would create a significant hazard to the public or environment.
- e. The project is proposed on or within 250 feet of the boundary of a parcel identified as containing burn ash (from the historic burning of trash); and as a result, the project would create a significant hazards to the public or the environment.
- f. The project is proposed on or within 1,000 feet of a Formerly Used Defence Site (FUDS) and it has been determined that it is probable that munitions or other hazards are located onsite that could represent a significant hazard to the public or the environment.
- g. The project would result in human or environmental exposure to soils or groundwater that exceeded EPA Region 9 PRG's, Cal/EPA California Human Health Screening Levels (CHHSL's), or Primary State or Federal Maximum

Contaminant Levels (MCLs) for applicable contaminants and the exposure would represent a hazard to the public or environment.

- h. The project will involve the demolition of commercial, industrial or residential structures that may have asbestos containing material (ACM), lead based paint (LBP) and/or other hazardous materials and as a result, the project would represent a significant hazard to the public or environment.

2.6.2.4 Analysis – Hazardous Materials

Recognized environmental conditions are defined by the American Society of Testing and Materials (ASTM) as any hazardous substance or petroleum product under conditions that indicate an existing, past, or material future threat of release into the structures, ground, groundwater, or surface water at the subject site. If the presence of recognized environmental conditions are identified on a subject site, it may warrant additional research, site investigation, and/or action.

The Phase I ESA ([Appendix F](#)) identified several areas which represent potential recognized environmental conditions with regard to the subject site:

- Workshop: staining of the concrete and the contents within and surrounding area.
- Fuel tank building and pump station: for hydrocarbon spills.
- Two smudge-pot storage areas: for hydrocarbon spills.
- Chemical storage building and washout area: for pesticides.
- Covered storage area: for pesticides and oil spills.
- Area with four diesel tanks and pump station: for hydrocarbon spills.
- All well pump locations: for pesticides, due to potential mixing area.
- Burn site area along Frey Creek: for metals and pesticides.
- Diesel windmill sites: for hydrocarbons due to soil staining.
- Grove areas and drainage channels: for pesticides.

Further, the following observations, while not considered recognized environmental conditions in accordance with ASTM, may warrant consideration in conjunction with any planned development activities:

- In the event that existing onsite wells are not intended for future use, it is recommended that they be abandoned in accordance with the California Well Standards as published by the California Department of Water Resources

(Bulletin 74-81 and 74-90), with oversight provided by the appropriate agencies.

- If the transformers are to be removed, it is recommended that the removal be completed by a licensed contractor or the utility company responsible for the transformers.
- It is unknown if there are any septic tanks or leach fields on the site. If any are encountered during site development, it is recommended that they be removed in accordance with current regulations.
- It is unknown if asbestos-containing materials or lead-based paints are present in the residences located on the site. If the residences are to be demolished, it is recommended that they be assessed for asbestos-containing materials and lead-based paints. If present, these materials should be abated prior to demolition in accordance with current regulations.
- It is recommended that all trash and debris observed on the site be removed and disposed in accordance with current regulations.

The Phase II analysis (Appendix U) called for soil testing in the locations with the highest likelihood of pesticide, herbicide, plant toxins such as PAHs, and metals/Dioxin contamination (such as around pesticide storage mixing, general use areas, and drainage courses). One burn site was identified on the property. In addition, soil testing was completed in the locations with the highest likelihood of hydrocarbon and polychlorinated biphenyl (PCB) contamination (such as around petroleum storage, dispensing areas, and pole-mounted transformers). Figure 2-6-2, “Boring and Hand-Auger Location Map”, shows the locations of the samples onsite.

Guideline 1: The project is a business, operation, or facility that proposes to handle hazardous substances in excess of the threshold quantities listed in Chapter 6.95 of the H&SC, generate hazardous waste regulated under Chapter 6.5 of the H&SC, and/or store hazardous substances in underground storage tanks regulated under Chapter 7 of the H&SC and the project will not be able to comply with applicable hazardous substance regulations.

The project complies with Chapter 6.95 of the H&SC because it has a Health and Safety Plan in place as presented in Appendix A of the Phase II study. The project does not store hazardous materials in underground storage tanks (per Chapter 7 of the H&SC), as discussed in Appendix A of the Phase II study. Chapter 6.5 therefore does not apply. The project does comply and will continue to comply with all applicable hazardous substance regulations. Guideline 1 is not exceeded, impacts are less than significant, and no mitigation is required.

Guideline 2: The project is a business, operation, or facility that would handle regulated substances subject to CalARP RMP requirements that in the event of a release could adversely affect children's health due to the presence of a school or day care within one-quarter mile of the facility.

No schools or daycare centers are located within one-quarter mile of the facility. The nearest school and licensed daycare center are both located on the same campus approximately 1.93 miles from the project site. Guideline 2 is not exceeded, impacts are not significant, and no mitigation is required.

Guideline 3: The project is located on or within one-quarter mile from a site identified in one of the regulatory databases compiled pursuant to Government Code Section 65962.5 or is otherwise known to have been the subject of a release of hazardous substances, and as a result the project may result in a significant hazard to the public or the environment.

The Phase I analysis, Section 7.3, examined properties in the Federal, State, and local government databases related to toxic substance releases. Ten properties, including the project, were identified within the required search radius. None of the properties have reported releases or violations related to toxic substances. No known current regulatory action against the subject property is known to be pending. Guideline 3 is not exceeded, and impacts are less than significant. No mitigation is required.

Guideline 4: The project proposes structure(s) for human occupancy and/or significant linear excavation within 1,000 feet of an open, abandoned, or closed landfill (excluding burnsites) and as a result, the project would create a significant hazard to the public or environment.

The site is not located on or within 1,000 feet of any existing, closed, or abandoned landfills according to a Phase I search of the Environmental Data Resources data bank and a search of State and tribal landfill and/or solid waste disposal site lists. Guideline 4 is not exceeded, and impacts are less than significant. No mitigation is required.

Guideline 5: The project is proposed on or within 250 feet of the boundary of a parcel identified as containing burn ash (from the historic burning of trash); and as a result, the project would create a significant hazard to the public or the environment.

A burn site was observed along the western side of the main branch of Frey Creek, on the Proposed Project's northwestern boundary. The burn site is approximately 110 feet by 125 feet in size. According to the Phase I ESA, the burnsite was strictly used for burning of vegetation from groves only. As part of the Phase II analysis, soil samples collected within the area of possible impact by burn ash residue were analyzed for dioxins, Polynuclear Aromatic Hydrocarbons (PAHs), and metals in

general accordance with modified EPA methods 8290, 8310, and 6010B/7471A respectively. One sample contained concentrations of Total Chromium.

The location of the identified burn ash residue area is within a proposed biological open space easement which is outside the area of proposed grading and development. Based on the laboratory results shown above and the depth of the one sample with a high chromium result which is outside the proposed area of development there should be no adverse effect to the proposed residential improvements. Impacts are not significant and no mitigation is required.

No other burnsites are reported. Guideline 5 is not exceeded and impacts are less than significant. No mitigation is required.

Guideline 6: The project is proposed on or within 1,000 feet of a FUDS and it has been determined that it is probable that munitions or other hazards are located onsite that could represent a significant hazard to the public or the environment.

The Proposed Project is not within 1,000 feet of a Formerly Used Defence Site (FUDS), as noted in the technical report for the project. Guideline 6 is not exceeded and impacts are less than significant. No mitigation is required.

Guideline 7: The project would result in human or environmental exposure to soils or groundwater that exceeded EPA Region 9 PRG's, Cal/EPA CHHSL's, or Primary State or Federal Maximum Contaminant Levels (MCLs) for applicable contaminants and the exposure would represent a hazard to the public or environment.

Based upon the Phase I ESA prepared for the project site, there is no evidence of documented or undocumented site contamination that would present a potentially significant impact to the public or the environment. The Phase II ESA included the collection and testing of soil samples from points where exposure to hazardous substances was suspected. No detectable level of toxic chemicals was found in any samples, as described in the Phase II study, pages 14-15. Guideline 7 is not exceeded and impacts are less than significant. No mitigation is required.

Guideline 8: The project will involve the demolition of commercial, industrial or residential structures that may contain ACM, LBP and/or other hazardous materials and as a result, the project would represent a significant hazard to the public or environment.

The Phase I study was not able to determine the presence or absence of asbestos or lead based paint. It is unknown if asbestos-containing materials or lead paint are present in the structures located on the site. One existing residence and several outbuildings are expected to be demolished as part of the project. Prior to structures being renovated or demolished, it is recommended that they be assessed for asbestos-

containing materials and lead paint. If present, asbestos-containing materials or lead paint should be abated prior to demolition in accordance with current regulations.

This represents a potentially significant impact (**Impact HAZ-1**). Mitigation is required.

2.6.2.5 Guidelines for the Determination of Significance – Vector Control

Guidelines for the project were determined using the *County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements, Vectors* (January 15, 2009). The project will have significant impacts if:

1. The project proposes a Best Management Practice (BMP) for stormwater that could create sources of standing water for more than 72 hours, and as a result, could substantially increase human exposure to vectors, such as mosquitoes, that are capable of transmitting significant public health diseases or creating nuisances.
2. The project proposes a use that involves the production, use and/or storage of manure or proposes a composting operation or facility and as a result, could substantially increase human exposure to vectors that are capable of transmitting significant public health diseases or creating nuisances.
3. The project would result in a substantial increase in the number of residents located within one-quarter mile of a significant offsite vector breeding source; including but not limited to, standing water (e.g. agricultural ponds, reservoirs) and sources of manure generation or management activities (e.g. confined animal facilities, horse keeping operations, composting operations).

2.6.2.6 Analysis – Vector Control

Guideline 1: The project proposes a Best Management Practice (BMP) for stormwater that could create sources of standing water for more than 72 hours, and as a result, could substantially increase human exposure to vectors, such as mosquitoes, that are capable of transmitting significant public health diseases or creating nuisances.

The project uses an Integrated Management Practice (IMP) approach to meet hydromodification and water quality requirements for stormwater for the project. The IMPs include 18 bioretention areas which will temporarily collect stormwater. Based upon the technical memorandum prepared by Tory R. Walker Engineering, titled “Design of IMPs for Hydromodification and Water Quality Purposes for the Shadow Ranch Development,” dated ~~December 9, 2013~~ ~~May 1, 2012~~ (Appendix R), drain times for the 18 water quality features range are all less than 72 hours.

Guideline 1 is not exceeded, impacts are less than significant, and no mitigation is required.

Guideline 2: The project proposes a use that involves the production, use and/or storage of manure or proposes a composting operation or facility and as a result, could substantially increase human exposure to vectors that are capable of transmitting significant public health diseases or creating nuisances.

The Proposed Project does not propose a use that involves the production, use and/or storage of manure, nor does it propose a composting operation facility. Guideline 2 is not exceeded and impacts are less than significant. No mitigation is required.

Guideline 3: The project would result in a substantial increase in the number of residents located within one-quarter mile of a significant offsite vector breeding source; including but not limited to, standing water (e.g. agricultural ponds, reservoirs) and sources of manure generation or management activities (e.g. confined animal facilities, horse keeping operations, composting operations).

The project proposes 44 residences in proximity to the existing onsite reservoir. Standing water can be a source for human exposure to vectors.

A Vector Control Plan ([Appendix G](#)) has been prepared for the project which includes BMPs related to vector control. Many vector control measures are already in place. The owner of the property regularly raises and lowers the reservoir surface water level during routine irrigation schedules. The sides are steeply sloped, and the water was reported to have ‘good wave action’, which is important in inhibiting egg-laying and the survival of larvae. Regular maintenance inhibits the establishment of emergent vegetation. The owner is informed about the San Diego County vector control website and is aware of resources and information, including the dangers of mosquito breeding relative to West Nile virus infection and *Equine Encephalomyelitis*. In addition to these existing measures, the vector control plan recommends the following design considerations:

- A daily reconnaissance of the site so as to confirm the operation of the water level flux.
- Continued removal of invasive vegetation growth that provides protection and quiescent conditions for mosquito larvae.
- Reporting any discovery of dead birds (especially crows, magpies, ravens, and blue-jays) to the San Diego County Vector Control Program.
- Chemical controls are not a part of the vector control plan unless recommended by the Department of Environmental Health (DEH) due to an unusual event during which species have been identified with a potential risk

of disease. It is expected that the day to day controls against vectors would eliminate the potential for any such event.

- Use of mosquito fish (*Gambusia affinis*) where habitat is sustainable for survival. This would be in consultation with DEH. The purpose of the reservoir is for storage and use of large amounts of water for agricultural irrigation cycles. The fill and withdrawal cycle of the irrigation water does not provide a predictable natural food source for mosquito fish.

With the existing mosquito control measures in place, along with the design considerations provided in the vector control plan, the Proposed Project will not increase human exposure to vectors that are capable of transmitting significant public health diseases or nuisances. Guideline 3 is not exceeded and impacts are less than significant. No mitigation is required.

2.6.3 Cumulative Impact Analysis

2.6.3.1 Fire Hazards

The cumulative impact study for fire hazards includes an area from the eastern boundary of the Yuima Municipal Water District (YMWD) to the I-15 freeway on the west. This area includes the service boundary of the YMWD. This area was chosen because the project will annex into the YMWD for fire protection purposes. It also includes areas on the north side of the San Luis Rey River from the project to I-15 approximately 10 miles away because of the potential for uncontrolled fires to encompass substantial areas. All 27 of the cumulative projects identified in Table 1-1 and on Figure 1-6 are located within the study area. The Warner Ranch project (GPA 06-009, map location #27) was the only project specifically identified as having potential fire safety impacts. Mitigation included a fire protection plan and construction of a fire station. This project has been withdrawn. Strict fire regulations have been adopted by the County of San Diego in the wake of major fires that have swept through the County in recent years. As a result, all projects are reviewed for potential fire safety impacts. Fire safety regulations have been adopted that require “fire safe” design for project that includes features such as fire clearing, irrigation zones, fire resistant building materials, and fire safe building designs. Effective travel times from fire stations to new projects are routinely evaluated. Additionally all areas of the study area are within a fire protection district or jurisdiction that provides fire safety service. In the study area these are YMWD, the North County Fire Protection District, Tribal reservation fire service departments, and CALFIRE.

The project will annex to the Yuima Municipal Water District for ~~fire protection purposes~~ potable water service from which required water service infrastructure will provide the required fire protection flow rate. The project design addresses fire

hazards for residential lots by placing them on the lower portions of the site, incorporating fuel management zones and calling for the use of fire-resistant building material. Cumulative impacts related to fire hazards are less than significant because all of the cumulative projects will be designed to meet the County's fire regulations. Fire protection plans are required where fire safety is a concern. And all new projects are required to be located within a reasonable travel time of an established service provider. All areas of the study area are served by fire districts or jurisdictions. No mitigation is required.

2.6.3.2 Hazardous Materials

Cumulative research was conducted at the San Diego County Department of Planning and Development Services (PDS) to discover any potential past, current, or future projects that may contribute to cumulatively significant impacts. A map and listing of cumulative projects are provided in Figure 1-6 and Table 1-1, respectively. All projects in the cumulative study area have been subject to review for potential impact related to hazards and hazardous materials. Of the 27 projects considered in the cumulative analysis, three projects were identified as having a potential impact related to hazardous materials. During the Phase 1 ESA for the McNally Road project (TPM 21004, cumulative map location # 1), smudge pots and above ground storage tanks were identified. As mitigation, the site was enrolled in the County of San Diego DEH Voluntary Assistance Program to obtain oversight of the site remediation activities. Potential impacts were reduced to below a level of significance. For the Peterman Cell Site (MUP 08-045, map location #20) ~~it was noted~~ sulfuric acid contained in sealed batteries was noted. Negative findings of no impacts were made for the project. The Warner Ranch project (GPA 06-009, map location #27) was studied for possible contamination from agricultural chemicals. A Phase II study identified the areas of potential contamination and addresses them with avoidance, and recovery/removal as needed. This project has since been withdrawn. The Proposed Project was assessed with a Phase II and the site with the exception of a burn site was determined to be free of dangerous chemical substances. Projects are reviewed by the County DEH and PDS for potential hazardous chemical impacts. In cases where a possible hazard exists, detailed analyses that included ground sampling and lab testing are required. This was the case for two of the 27 cumulative projects. The studies determined the precise locations of potentially harmful chemicals, and recommended actions to avoid, contain, or remove them. Recommendations were reviewed by County staff and specific performance criteria are incorporated into project conditions to ensure compliance. Due to the comprehensive review process, the quality of the science involved in collecting and testing, evaluation and remediation, as needed, cumulative impacts are not significant and no mitigation is required. Cumulative projects would not result in a significant contribution to

cumulative impacts for the issue of hazardous materials and impacts would be less than significant.

2.6.3.3 Vector Control

Cumulative research was conducted at the San Diego County Planning & Development Services to discover any potential past, current, or future projects that may contribute to cumulatively significant impacts. A map and listing of cumulative projects are provided in Figure 1-6 and Table 1-1 respectively. All projects in the cumulative study area have been subject to review for potential impact related to vectors and vector management. Of the 27 projects considered in the cumulative analysis, none were identified as having potential impacts related to vectors. Additionally, the San Diego County DEH has specific regulations relating to vector control, which would be applicable to all projects in the County. Therefore, the proposed project would not result in a significant contribution to cumulative impacts for the issue of vectors and impacts would be less than significant.

2.6.4 Significance of Impacts Prior to Mitigation

HAZ-1 Potential for hazardous materials impacts if mobile homes, residences or pole-mounted transformers are demolished and they contain ACM or LBP.

2.6.5 Mitigation

M-HAZ-1 Should mobile homes, residences or pole-mounted transformers be demolished as part of the project, testing for ACM and LBP shall be conducted prior to demolition. If the testing confirms the presence of ACM and LBP, the materials shall be properly abated and disposed of by a state-licensed abatement contractor prior to disturbance or demolition in accordance with all federal and state requirements.

2.6.6 Conclusion

2.6.6.1 Fire Hazards

A fire analysis was carried out by a consultant on the County's CEQA Consultant List approved to prepare fire protection plans. The project was analyzed in relation to three guidelines established for the project. The analysis concluded that the project, as designed, would have a less than significant impact related to fire safety. Design measures include a fire protection plan that specifies three fuel management zones that include irrigation and a restricted vegetation palette. Fire clearing along roads is also required. The potential for cumulative impacts was analyzed and impacts were determined to be less than significant because projects are reviewed for fire safety

impacts, fire protection plans are required as needed, and all areas within the study area have fire protection services available, and the project mitigates its impacts.

2.6.6.2 Hazardous Materials

A hazardous materials study was carried out by a consultant on the County's CEQA Consultant List approved to prepare Phase I and Phase II ESA studies. The site was analyzed for possible contamination risks related to hazardous materials onsite. The eight County guidelines were subsequently analyzed in this DSEIR. The analysis concluded that there is a potential for ACM and LBP within the existing motor homes, residences and pole-mounted transformers on the project site. A burn site was also located, but will remain undisturbed within a biological open space area. Mitigation measure M-HAZ-1, which requires testing prior to demolition and subsequent abatement if ACM and LBP are present, will reduce the impacts to below a level of significance. Cumulative impacts were determined to be less than significant. Although hazardous materials were determined to be present at two of the 27 cumulative projects, mitigation measures will be required to avoid, contain, or remove the hazard.

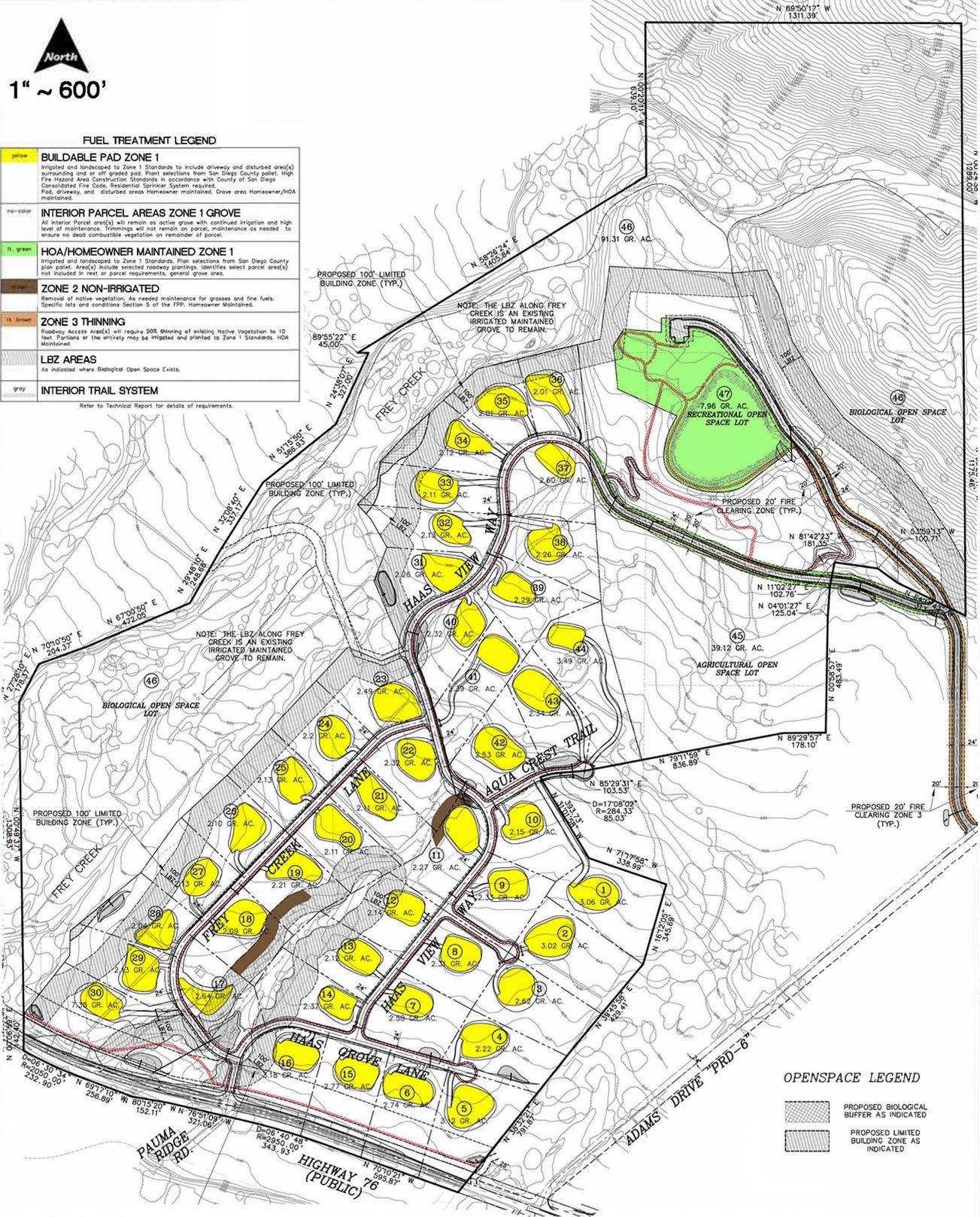
2.6.6.3 Vector Control

A vector control plan was prepared by a County-approved consultant. The plan focused on the existing reservoir in the northeastern corner of the property and its potential as a source for vector (mosquito) breeding. The design of the reservoir combined with existing maintenance practices have minimized the potential for mosquito breeding. The project will implement the Vector Control Plan, which identifies design considerations related to reservoir management. With implementation of the Vector Control Plan, impacts would be less than significant. Cumulative impacts were also determined to be less than significant as none of the 27 cumulative projects were determined to have potential impacts related to vectors. No mitigation is required.



FUEL TREATMENT LEGEND

	BUILDABLE PAD ZONE 1 Irrigated and landscaped to Zone 1 Standards to include driveway and disturbed area(s) surrounding and/or off graded pad. Plant selections from San Diego County pallet. High Fire Hazard Area Construction Standards in accordance with County of San Diego Consolidated Fire Code, Residential Sprinkler System required. Pad, driveway and disturbed areas Homeowner maintained. Grove area Homeowner/PHA maintained.
	INTERIOR PARCEL AREAS ZONE 1 GROVE All Interior Parcel area(s) will remain as active grove with continued irrigation and high level of maintenance. Trimmings will not remain on parcel, maintenance as needed to ensure no dead combustible vegetation on remainder of parcel.
	HOA/HOMEOWNER MAINTAINED ZONE 1 Irrigated and landscaped to Zone 1 Standards. Plant selections from San Diego County plan pallet. Area(s) include selected roadway plantings. Identifies select parcel area(s) not included in fire or parcel requirements, general grove area.
	ZONE 2 NON-IRRIGATED Removal of native vegetation. As needed maintenance for grasses and fire fuels. Specific lots and conditions Section 5 of the FPP. Homeowner Maintained.
	ZONE 3 THINNING Roadway Access Area(s) will require 50% thinning of existing Native Vegetation to 10 feet. Portions or the entirety may be irrigated and planted to Zone 1 Standards. HOA Maintained.
	LBZ AREAS As indicated where Biological Open Space Exists.
	INTERIOR TRAIL SYSTEM Refer to Technical Report for details of requirements.



OPENSOURCE LEGEND

	PROPOSED BIOLOGICAL BUFFER AS INDICATED
	PROPOSED LIMITED BUILDING ZONE AS INDICATED



Fire Safety Design

Figure 2-6-1

2.7 Geologic Resources

Geologic surveys and analyses of the Shadow Run Ranch TM 5223RPL³ project site were conducted by URS Corporation. Their report, “Geotechnical Evaluations, Existing Water Storage Reservoir,” Proposed Shadow Run Ranch Residential Development, Pauma Valley, North San Diego County, California,” dated November 25, 2013, is included as Appendix H. “The Update Geologic Hazards Study Shadow Run Ranch Pauma Valley, California,” dated September 29, 2009, and the letter report titled, “Addendum to Geologic Hazards Study Shadow Run Ranch,” dated June 4, 2012, by URS Corporation, are bound together and included as Appendix I in the technical appendices to this DEIR.

2.7.1 Existing Conditions

2.7.1.1 Regional Geologic Setting

The 248.26-acre site is located along State Route 76/Pala Road (SR76), about ten miles east of Interstate 15 (I15). The property occupies broad, gently-sloping terraces that slope in a southerly direction toward the San Luis Rey River, the steeper terrain in the north sloping toward Agua Tibia Mountain. The proposed development area onsite is located down slope of the mountain front. The natural drainage course of Frey Creek and several other shallow, unnamed drainages extend through the property in into the San Luis Rey River to the south. Onsite agricultural groves are interconnected by paved and unpaved access roads, with mature oak trees interspersed throughout.

Windrows of large boulders are scattered throughout the property, some of which were stockpiled during previous site-clearing and grading. Development of the fruit groves involved some grading, but general elevation differences appear small and the natural landforms appear to be relatively unchanged within most of the site.

An existing earthen water supply reservoir occupies a mesa at the foot of the hillside in the area northeast of the proposed development (see Figure 1-1, “Tentative Map”). The reservoir encompasses approximately three acres and is surrounded by orchards and oak groves. The storage capacity of the reservoir is approximately 41 acre feet. With the new spillway, the reservoir storage would be approximately 34.5 acre-feet. The reservoir is not subject to the jurisdiction of the Department of Water Resources California Division of Dam Safety because its embankment height is less than 25 feet. The reservoir stores water pumped from on-site wells and catch-basins in Frey Creek. The reservoir was constructed in the early 1960’s by making a shallow, bowl-shaped cut into the mesa top and creating a low earth-fill embankment around the margins of the reservoir. A layer of bentonite along the bottom of the reservoir was put in place to improve water retention.

The site is located within the Peninsular Ranges Physiographic province, which is characterized by a series of northwesterly-oriented mountain ranges that extend from Baja California to the Transverse Ranges north of the Los Angeles Basin. Westerly-trending river systems drain the province and include the San Luis Rey River (SLRR) in the project area.

The property encompasses portions of broad alluvial fans emanating from Morgan Hill within Agua Tibia Mountain, which extends up to approximately 3,700 above mean sea level (MSL). Pala Mountain is located to the southwest of the subject property, rising to approximately 2,100 MSL. The oldest rock outcroppings in the site vicinity are crystalline basement rocks. Erosion of the high relief Agua Tibia Mountain has generated broad, coalescing alluvial fans along the margins of the San Luis Rey River Valley. The site is underlain by alluvial fan deposits that include cobble to large boulder classes of predominantly granitic rock. The alluvial fan deposits range in age from Pleistocene to Holocene age.

The tectonic setting of the San Diego region is complex and includes the remnants of an ancient subduction (the geological process in which one plate is forced below another plate) zone characterized by a volcanic arc system, regional uplift, and the subsequent formation of a broadly defined transform plate boundary along the North America and Pacific Plates. Approximately 20 million years ago, the subduction zone tectonics were replaced by transform movements along strike slip faults. These faults began to cut, slide and rotate the mountainous chain into a series of blocks. Uplift and erosion have stripped away the volcanic elements of this system, leaving only the deep magma bodies. The remnant blocks of these deep magma bodies include the Sierra Nevada, Transverse Ranges, and the Peninsular Ranges. The transform boundary tectonics still dominate the region today in the form of the San Andreas Fault System.

The regional geologic structure of southern California is dominated by right-slip faulting associated with the boundary between the Pacific and North America plates. This slip is distributed by the principal, predominately northwesterly-trending, right-slip faults across California and the continental borderland.

The most significant regional fault for the project is the Elsinore Fault zone which passes through the project site. This fault has been zoned as an active earthquake fault under the State of California Alquist-Priolo Earthquake Fault Zone Act. See Figure 2-7-1, "Setback from Fault."

Historically, the Elsinore fault has not produced a major earthquake near Agua Tibia Mountain. An earthquake in 1885 may be the nearest large event (estimated range of magnitude is 5.8) the event is placed southeast of the project area in Pauma Valley, but none of these small events has produced local damage.

2.7.1.2 Local Geologic Setting

The proposed development area is underlain by a thick sequence of Quaternary alluvial fan deposits. The alluvium exposed within natural slopes, road cuts, and trenches is composed of fine to coarse sand with gravels, cobbles, and boulders. The alluvial fan deposits in the project area are estimated to be between 300 and 700 feet thick, based on available driller's logs of on-site water well.

When traced southeast toward the site, the Elsinore fault zone makes an easterly bend where Pauma Valley narrows immediately south of the site area. The fault bend produces local uplift, or upward movement. It was concluded that the project area lies within a transition from predominantly right-lateral (or horizontal) fault movement, to oblique faulting (or a combination of horizontal and vertical movement). Future fault movement in this setting could result in combinations of horizontal and vertical displacements.

The previous fault hazard investigation of the area (URS 2001) mapped a through-going 'Main Fault' that represents the main surface trace of the Elsinore fault that occurs onsite with a pronounced, westerly-facing fault scarp. Two branch faults were also discovered, the 'North Branch Fault' and the 'South Branch Fault.' This earlier study concluded that both branch faults potentially continue further north than their trench locations, possibly underlying the reservoir. Additional trenches for the current analysis discovered no faults, finding that no faults underlie the reservoir.

A suspected fault was mapped previously between the reservoir and the base of the mountain front (URS 2001). The fault was interpreted to form a break in slope at the toe of an onsite hillside and was investigated for potential hazards. The analysis concluded that the hillside topographic slope break is not related to a fault; no fault is present.

A reservoir is situated on site at an approximate elevation of 1085 feet MSL. Current capacity is 41 acre feet of water. The reservoir is situated near the base of a northwest trending ridge and is not within any stream channel or natural drainage. Runoff from the ridge is diverted via ditches from entering the reservoir. Figure 2-7-2, "Topographic Maps of Existing Reservoir," shows the reservoir on an aerial photograph with topographic lines. There are no grading plans or construction reports available for the reservoir embankments. Using historic maps and interviews, it is estimated the reservoir was constructed in the late 1950s or early 1960s. By 1964 the reservoir in its current configuration had been filled with water. It was lined with bentonite, a clay-like substance that improves water retention. Boulders were placed around the downstream margin of the reservoir probably for erosion control purposes.

2.7.2 Analysis of Project Effects and Determination as to Significance

2.7.2.1 Guidelines for the Determination of Significance

The *San Diego County Guidelines for Determining Significance – Geologic Hazards* (July 30, 2007) were used to assess the potential for the project to have a significant impact related to geologic hazards. The project would have a significant effect if it would:

1. Propose any building or structure to be used for human occupancy over or within 50 feet of the trace of an Alquist-Priolo (AP) faults or County Special Study Zone fault.
2. Propose any of the following uses within an AP Zone which are prohibited by the County: a) uses containing structures with a capacity of 300 people or more; b) uses with the potential to severely damage the environment or cause major loss of life; c) specific civic uses.
3. Be located within a County Near-Source Shaking Zone within Seismic Zone 4 and the project does not conform to the UBC.
4. Have the potential to expose people or structure to substantial adverse effects because the project has potentially liquefiable soils, potentially liquefiable soils are saturated or have the potential to become saturated, or in-situ densities are not sufficiently high to preclude liquefaction.
5. Expose people or structure to substantial adverse effects including risk of loss, injury or death involving landslides.
6. Be located on a geologic unit or soil that is unstable, or would become unstable as a result of the project, potentially resulting in an on- or off-site landslide
7. Lie directly below or on a known area subject to rock fall which could result in collapse of structures.

Additional geological analysis regarding the site's unique reservoir feature is provided to determine any possible effects due to seiche or overtopping.

8. Be located on expansive soil, as defined in Table 18-1-B of the uniform Building Code (1994), creating substantial risks to life or property.

2.7.2.2 Analysis

Guideline 1: Proposes any building or structure to be used for human occupancy over or within 50 feet of the trace of an Alquist-Priolo faults or County Special Study Zone fault.

The active Elsinore fault zone traverses the site and fault rupture is a significant hazard onsite. This fault has been categorized as an active earthquake fault under the State of California Alquist-Priolo Earthquake Fault Zone Act. If a major earthquake were to occur on the onsite portion of the Elsinore fault, the land surface along the east side of the fault could experience sudden uplift. If thrust-faulting were to occur,

ground deformations would be expected. Surface faulting is likely to be constrained to locations of past fault ruptures; however, the branching fault pattern within the property suggests that future fault rupture could also branch or step within the area between nearby traces.

Trenches were dug to ascertain the presence or absence of faults in the area of the reservoir onsite. The trenches were dug into pre-Holocene alluvial fan deposits that did not appear to be displaced by a fault. Therefore the potential for fault rupture beneath the reservoir is low.

The presence of the fault-zone onsite causes Guideline 1 to be exceeded (**Impact GE-1**) and mitigation requiring appropriate 50- and 100-foot setbacks is required.

Guideline 2: Proposes any of the following uses within an AP Zone which are prohibited by the County: a) uses containing structures with a capacity of 300 people or more; b) uses with the potential to severely damage the environment or cause major loss of life; c) specific civic uses.

Guidelines 5 and 6: Expose people or structures to substantial adverse effects including risk of loss, injury or death involving landslides or be located on a geologic unit or soil that is unstable, or would become unstable as a result of the project, potentially resulting in an on- or off-site landslide.

The Proposed Project does not propose any of the uses outlined in Guideline 2. No mitigation is required.

The project proposes residential uses and continued agricultural use. The reservoir will be a component of the agricultural plan for the site and as such will continue to function. While the reservoir was evaluated as being stable, as discussed below, it is located above a proposed residential area. To account for future unforeseen circumstances, it ~~and~~ is analyzed as having the potential to cause loss of life or property (**Impact GE-2**).

No evidence of landslides was noted during the geomorphic analysis and air photo interpretations for the previous fault investigation (URS 2001). The current analysis concludes that minor, surface slope failures are possible during periods of significant ground shaking, but large scale landslides are not considered a significant hazard at the site given the geologic and geomorphic setting. Guideline 5 is not exceeded and impacts would be less than significant.

The stability of the existing onsite reservoir embankment was investigated for potential hazards. A fill slope bounds the reservoir to the west and south, as shown in Figure 2-7-2, "Topographic Maps of Existing Reservoir." The embankment fill slope is approximately 25 feet in height and has downstream slopes between approximately 2.5:1 and 3:1. The fill slope toe is along the top of stockpiled boulders in some areas.

Figure 2-7-3, “Cross-sections of Reservoir,” show the maximum water level relative to limits of fill.

Extensive testing of soils around the reservoir were undertaken and five borings along the top of the embankment were made. All of them penetrated fill soil, which ranges in thickness from 18.5 to 31 feet below ground surface (bgs). Beneath the embankment fill the borings penetrated weathered and decomposed granitic rock. Embankment fill was also observed and logged using test pits excavated along the crest of the embankment. Inspection of the test pits indicated the earth had been compacted at least to the depth of the pits, approximately 14.5 feet bgs. As a result the embankment can be described as a homogeneous earth dam constructed of a relatively uniform embankment fill material.

Granitic rock was found beneath the fill, as noted above. The borings penetrated the weathered rock to a depth of approximately 15 feet. Test pits were also dug 2 to 3 feet into the granitic rock.

Minor groundwater seepage was observed at the bottom of two test pits. Groundwater levels in two borings appear to be stable. No indications of groundwater seepage were observed along the slopes below the reservoir.

The slope stability was analyzed using published laboratory testing data for similar materials to those found. Computer analyses used these and other data, as well as conservative estimates about liquefaction potential and a worst case assumption as related to the nature of the ground disturbance that might occur. The analyses indicate that the earthen embankment for the reservoir will be stable for all cases tested.

The analysis further concluded that the onsite soil type, being coarse-grained and dense, is not susceptible to collapse.

Geologic conditions change over time. Changing conditions at and around the reservoir could create additional hazards. (**Impact GE-2**). As a precaution a spillway is proposed to lower the capacity of the reservoir from 41 to approximately 34.5 acre feet, a 15 percent reduction. In addition an operations and maintenance plan will be implemented to ensure the reservoir remains in good condition and any structural defects will be detected as soon as possible. An operations and maintenance plan will include provisions for regular inspections, criteria for inspection, and specific measures for on-going maintenance. The plan will be made a part of the Major Use Permit for the project. A copy of the plan is provided in the geologic study for the reservoir, Appendix H.

Guideline 3: Be located within a County Near-Source Shaking Zone within Seismic Zone 4 and the project does not confirm to the UBC.

The onsite presence of the Elsinore fault creates the potential for seismic ground shaking. Based on regional evaluations of probabilistic seismic shaking by the California Geological Survey, the site area has an estimated peak ground acceleration of 0.61g associated with a ten percent probability of exceeding this rate in a 50-year period.

Potential adverse impacts resulting from seismic ground shaking will be avoided by implementing appropriate building design measures which are standard in Southern California. Use of 2007 Uniform Building Code (UBC) design measures will address structural design requirements for residential buildings and other structures that will safeguard against major structural damage and loss of life. Use of the appropriate design and construction methods will allow for ground shaking hazards to be avoided. Guideline 3 is not exceeded, and impacts are less than significant. No mitigation is required.

Guideline 4: Have the potential to expose people or structure to substantial adverse effects because the project has potentially liquefiable soils, potentially liquefiable soils are saturated or have the potential to become saturated, or in-situ densities are not sufficiently high to preclude liquefaction. Seismically-induced ground settlements in loose alluvial materials have been observed during recent earthquakes (e.g., Northridge, California, and Kobe, Japan earthquakes). The analysis concluded that the presence of dry, sandy alluvial fan deposits and the potential for strong ground shaking presents a risk for seismically induced ground-settlement or failure at the site. However, the analysis also concluded that the age (tens to hundreds of thousands of years old) and anticipated density of the alluvial fan deposits, any seismically-induced settlements would be small. If settlements were to occur they would likely be limited to the upper 20 to 30 feet of alluvial soil at the site and are expected to occur relatively uniformly throughout the site. Therefore, the potential for ground settlement is negligible.

To maintain a conservative analysis of soils beneath and around the on-site reservoir, extensive testing and analysis of the reservoir construction was undertaken. This included borings, trenching, and testing of core samples from around the reservoir. The results of the analysis show that soils have been correctly compacted beneath and around the reservoir, and that the reservoir is stable. Therefore the potential for exposure of people to risk due to reservoir embankment failure is negligible. However, to ensure the reservoir embankment is well maintained, ongoing monitoring, maintenance and operational guidelines will be implemented through ongoing conditions of the Major Use Permit **(Impact GE-2)**.

The analysis also identifies the alluvial fans underlying the site as being very coarse-grained, relatively dense, with the presence of groundwater occurring more than 300

feet below the site. Therefore, the potential for liquefaction is negligible. Guideline 4 is not exceeded, and impacts are less than significant. No mitigation is required.

Guideline 7: Lie directly below or on a known area subject to rock fall which could result in collapse of structures.

The site is underlain by alluvial fan deposits that include cobble to large boulder classes of predominantly granitic rock. The project site is not located directly below or in an area known to be subject to rock fall. Therefore, the project does not exceed Guideline 7 and impacts are less than significant. No mitigation is required.

Guideline 8: Be located on expansive soil, as defined in Table 18-1-B of the uniform Building Code (1994), creating substantial risks to life or property.

Expansive soils are those which contain significant amounts of clays that expand when wet and can cause damage to foundations if moisture collects beneath structures. Expansive soils are not present in the subsurface at the site and are not likely to exist in the alluvial fan deposits. Therefore expansive soils are not a significant hazard consideration on the project site. Guideline 8 is not exceeded, and impacts are less than significant. No mitigation is required.

2.7.3 Cumulative Impact Analysis

A cumulative study area encompassing approximately 65 square miles was analyzed for past, current, or proposed projects (see Table 1-1, “Cumulative Projects”). Oak Tree Ranch TM 5540 was studied for geological impacts, but no significant impacts were found. Significant project level impacts are mitigated with setback from fault lines. TM 5338, Campus Park, was evaluated for geological effects associated with potential fossils in geologic strata. TM 5508 (Warner Ranch) was evaluated for geologic resources related to mineral resources on the site. Projects in Southern California are required to conform to 2007 UBC requirements which address structural design requirements for residential buildings and other structures that will safeguard against major structural damage and loss of life from ground shaking. Setbacks from faults are also required. These effects, in conjunction with the project, do not constitute a challenge to a rational and comprehensive approach to geologic resources in the region because they have triggered analyses that have enhanced geologic understanding and safety in the region. Cumulative effects are not significant.

2.7.4 Significance of Impacts Prior to Mitigation

GE-1 The Elsinore fault zone has been categorized as an active earthquake fault under the State of California Alquist-Priolo Earthquake Fault Zone Act. If a major earthquake were to occur on the onsite portion of the Elsinore fault, the land surface along the east side of the fault could experience sudden uplift. The branching fault pattern within the property suggests that

future fault rupture could also branch or step within the area between nearby traces.

- GE-2 Although extensive testing found the reservoir to be stable, ongoing monitoring, maintenance and operational guidelines should be implemented to ensure continued safe operation of the reservoir.

2.7.5 Mitigation

- M-GE-1 Potential adverse impacts resulting from fault rupture will be avoided with the incorporation of appropriate setbacks from active faults consistent with the Alquist-Priolo Earthquake Fault Zoning Act. The proposed residential structures will be set back at least 75 feet from active fault traces located during trenching for the fault hazard investigation (URS, 2001). Setbacks of 100 feet will be applied in areas where the fault location is approximated based on air photo interpretation, geomorphology and published geologic maps. See Figure 2-7-1, "Setback from Fault."
- M-GE-2 The Operations and Maintenance Plan, Appendix I of the DEIR, should be implemented through the Major Use Permit for the project to require the effective operation and maintenance of the reservoir, as well as early detection and remediation of any changes in the structure, capacity, or retention characteristics of the reservoir.

2.7.6 Conclusion

The project was evaluated for geologic hazards by a certified engineering geologist and registered professional engineer. A comprehensive range of effects were evaluated which includes landslides, ground shaking, and expansive soils. It was determined that the project will not have significant effects in any of these areas due to the general stability of the alluvial substrate. The fill banks and underlying structure of the existing reservoir were tested and the reservoir was found to be stable. Seismic ground shaking is addressed by conformance with UBC structural design requirements.

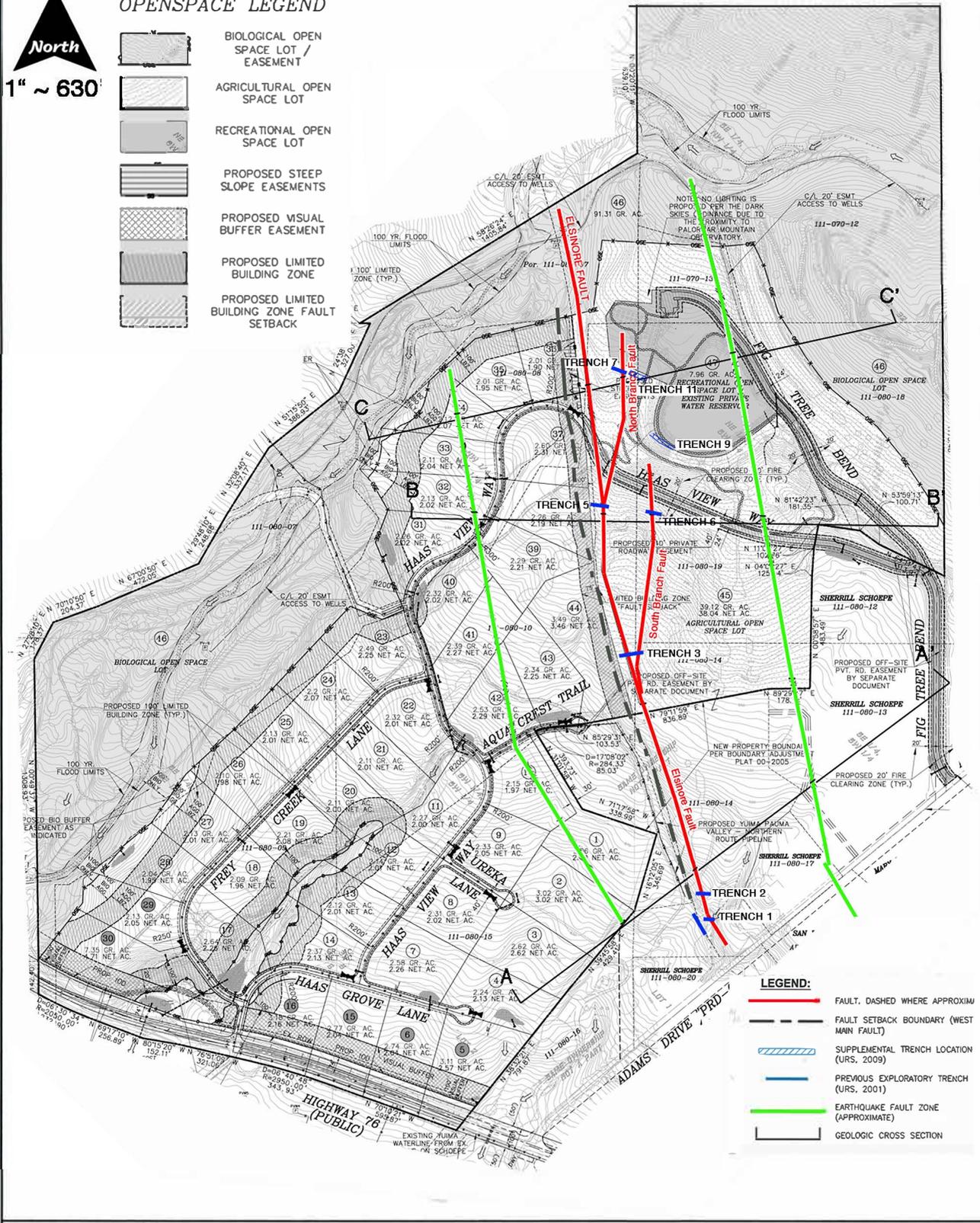
Potential adverse impacts from fault rupture as the result of proximity to the Elsinore fault require the incorporation of appropriate setbacks from active faults consistent with the Alquist-Priolo Earthquake Fault Zoning Act. The proposed residential structures will be set back at least 75 feet from active fault traces located during trenching for the fault hazard investigation. Additionally, setbacks of 100 feet will be applied in areas where the fault is approximately located. These setbacks have been incorporated into the design of the Tentative Map and are shown on the Preliminary Grading Plan. An operations and maintenance plan will be implemented for the reservoir to ensure it is inspected regularly and that the reservoir is maintained.

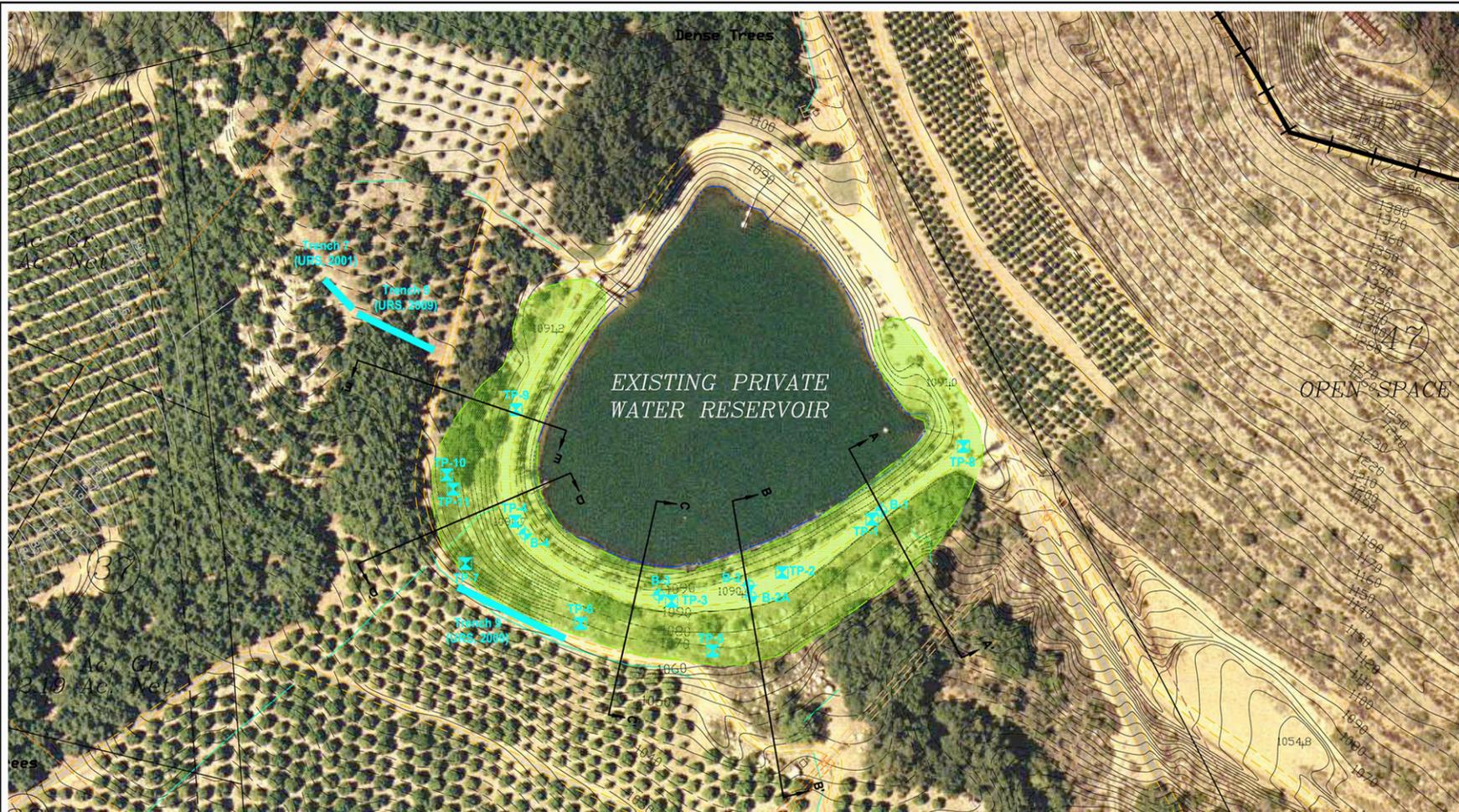
Implementation of this mitigation measure effectively mitigates impacts by preventing construction on the fault, thereby reducing risk of loss or injuring in the event of fault activity. Cumulative impacts were found to be not significant due to the lack of significant impacts among cumulative study area projects, mitigation of project effects, and conformance with regulatory safety requirements such as the UBC.

OPENSOURCE LEGEND



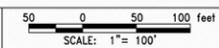
-  BIOLOGICAL OPEN SPACE LOT / EASEMENT
-  AGRICULTURAL OPEN SPACE LOT
-  RECREATIONAL OPEN SPACE LOT
-  PROPOSED STEEP SLOPE EASEMENTS
-  PROPOSED VISUAL BUFFER EASEMENT
-  PROPOSED LIMITED BUILDING ZONE
-  PROPOSED LIMITED BUILDING ZONE SETBACK





LEGEND

-  INDICATES APPROXIMATE LOCATION OF TEST BORING
-  INDICATES APPROXIMATE LOCATION OF TEST PIT
-  INDICATES APPROXIMATE LOCATION OF CROSS SECTION
-  INDICATES APPROXIMATE LOCATION OF PREVIOUS TRENCH (URS, 2001, 2009)
-  APPROXIMATE LIMITS OF EMBANKMENT FILL



**SITE PLAN
SHADOW RUN RANCH
PAUMA VALLEY, CALIFORNIA**

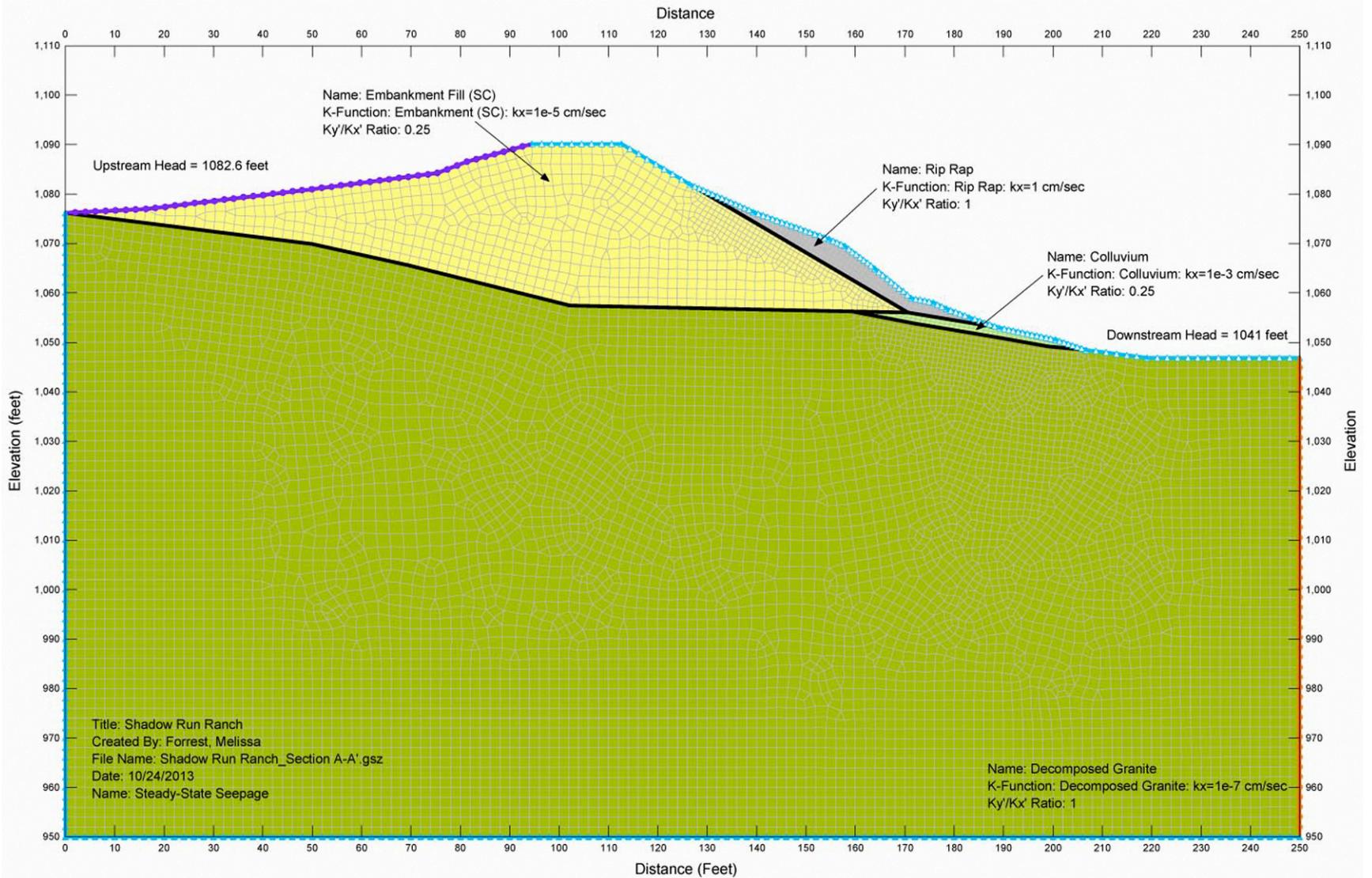
CHECKED BY: DLS	DATE: 11-25-13	FIG. NO: 3
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J:\27661027 Shadow Run Ranch EIR Update\11.0 Maps and Figures\Cad Files\Schoepe-14\Schoepe_Reservoir Site.dwg Nov 25, 2013 - 7:48am

**Figure
2-7-2**

Topographic Map of Existing Reservoir





**Figure
2-7-3**

Cross-section A-A' of Reservoir



2.8 Noise

A noise study of the Shadow Run Ranch TM 5223RPL³ project site was conducted by Jeremy Loudon, who is on the County’s CEQA Consultant List approved for the preparation of acoustical studies. The resulting report, “Noise Assessment Shadow Run Ranch Residential Development TM 5223 RPL, ER 00-02-035, P00-030” dated June 20, 2014, is provided as Appendix J to this DEIR.

2.8.1 Existing Conditions

Existing conditions relative to the project’s potential noise impacts are governed primarily by the environmental setting. The proposed project is located in the foothills of Palomar Mountain on the north side of the San Luis Rey River valley. The area is served by State Route 76/Pala Road (SR76) which forms the site’s southern boundary. The site is bounded on the north by Indian reservations and on the east by estate residential development and agricultural uses.

Existing noise is generated from traffic on SR76 and adjacent agricultural activities. SR76 and Adams Drive provide access to the site. Traffic is generally light in this rural setting; however, some increase in traffic has occurred with the development of Indian gaming facilities located in the river valley. Agricultural activities typically consist of grove maintenance and picking operations.

Noise measurements of existing sound levels were taken at two locations on the project site on September 29, 2011 from approximately 4:30 pm to 5:30 pm. Location M1 was located approximately 200 feet from SR76 near future Lot 6. Location M2 was located approximately 400 feet from SR76, at proposed Lot 15. Figure 2-8-1, “Noise Monitoring Locations,” shows the monitoring locations overlain on the project’s Grading Plan. The ambient Leq noise level measures on the project site range from 47 to 51 dBA Leq, as shown below.

Location	Time	Noise Levels (dBA)					
		Leq	Lmin	Lmax	L10	L50	L90
M1	4:30–5:30 p.m.	50.7	46.0	61.4	52.2	49.6	47.9
M2		47.1	39.8	63.2	48.5	44.5	42.0

Sensitive riparian habitats are associated with onsite drainages, and native habitats such as Coastal Sage Scrub and Oak Woodland occur in the area. Noise-sensitive species expected in the area include raptors, heron and several reptile species. Least Bell’s Vireo (*Vireo bellii pusillus*), a state-listed and federally-listed Endangered migratory songbird,

occurs in dense willow-dominated riparian habitats similar to that which is found patches along Frey Creek. Least Bell's Vireo is also known to nest in nearby upland areas, such as orange groves. The nearest known reproducing populations of this rare species are in the SLRR, which is located a short distance to the south of the property (although specimens are not reported in proximity to the site). All of the riparian habitats on this site are considered potentially 'occupied' by Least Bell's Vireo and other riparian nesting species during the breeding season.

2.8.2 Analysis of Project Effects and Determination as to Significance

The expected roadway noise impact from SR76 was projected using Sound32, Caltrans' version of the Federal Highway Administration (FHWA) traffic noise model. The results of this analysis are based on the Caltrans Highway Design Manual California Vehicle Noise Emission Levels (CALVENO).

Modeling points in noise sensitive land use areas were placed five feet above the pad elevation and approximately ten feet from the top of the slope. All first floor modeling points were placed five feet above the proposed finished floor elevation at the building façade. Second floor modeling points were located fifteen feet above the proposed finished floor elevation.

The key factors which determine the projected impact of vehicular traffic noise include the lane travel speed, the mix of cars and trucks in the roadway volume, surrounding site conditions, and the peak hour traffic volumes. Input data was taken using the site plans to identify the relationship between the roadway centerline elevation, the pad elevation and the centerline distance to the noise barrier, the back yard modeling point and at the building façade to predict the future noise environment. For the purpose of this analysis, the roadway segments extend a minimum of 500 feet beyond any modeling point location.

Noise is measured in sound pressure levels known as decibels (dB). 'A-weighted' decibels (dBA) reflect only those frequencies which are audible to the human ear. The Community Noise Equivalent Level (CNEL) is the weighted average of the intensity of a sound with corrections for time of day and averaged over 24 hours. The County of San Diego relies on the CNEL noise standard to assess transportation related impacts on noise sensitive land uses. Guidelines discussed below use the dBA CNEL measurements to determine impact significance. Noise contours are lines that are drawn around a noise source indicating a constant or equal level of noise exposure. The use of noise contours allows graphic representation of the areas where significant noise impacts occur.

Noise-sensitive land uses (NSLU) are residential developments, seasonal residential developments, and facilities such as hospitals, nursing homes/retirement homes, schools, and daycare centers. The onsite noise-sensitive land uses include the 44 single-family homes and the recreation area.

2.8.2.1 Guidelines for the Determination of Significance – Noise Sensitive Land Uses Affected by Airborne Noise

According to the *County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements for Noise* (January 2009) the project would have a significant noise impact to exterior or interior locations if it would:

- 1) Result in the exposure of any on- or off-site, existing or reasonably foreseeable future NSLU to exterior or interior noise (including noise generated from the project, together with noise from roads [existing and planned Mobility Element roadways], railroads, airports, heliports and all other noise sources) in excess of any of the following:

Exterior Locations

- A. 60 dB (CNEL) or
- B. An increase of 10 dB (CNEL) over pre-existing noise

For single-family detached units, exterior noise is measured at an outdoor living area, adjoining and on the same lot as the dwelling which contains the following minimum area:

Net Lot Area	Minimum Area of Outdoor Space
Up to 4,000 sq. ft	400 sq. ft.
4,000 sq. ft. to 10 acres	10% of net lot area
Over 10 acres	1 acre

For all other projects, exterior noise will be measured at all exterior areas provided for group or private usable open space.

Interior Locations

- C. A level of 45 dBA (CNEL) except for the following cases:

Exception	Not to Exceed
Rooms that are occupied only a part of the day, i.e. schools, libraries or similar facilities	Interior one-hour average due to outside noise should not exceed 50dB
Corridors, hallways, stairwells, closets, bathrooms, or any room with a volume less than 490 cu. Ft.	No criteria.

2.8.2.2 Analysis - Noise Sensitive Land Uses Affected by Airborne Noise

Guideline 1A

The primary source of noise near the project area will be from the traffic along SR76. The project's internal roads will also generate some background traffic noise. However, due to the distance, topography, and low traffic volumes and speeds that are anticipated, traffic noise from these internal roads will not make a significant contribution to the noise environment.

Future noise contours for SR 76 for 75dBA CNEL and 60 dBA CNEL were modeled based upon roadway traffic noise for unmitigated future buildout conditions (Figure 2-8-2, "Future Noise Contours").

The worst-case first floor 60 dBA CNEL contour, due to the changes in elevations and top-of-slopes, extends approximately 295 feet from SR76. The second floor unshielded 60 dBA CNEL contour extends roughly 575 feet from SR76. The contours suggest that NSLU areas may exceed the County of San Diego 60 dBA CNEL exterior noise standard. Based on these findings, additional detailed exterior noise analysis was conducted to determine the noise impacts and needed mitigation measures.

The results of the specific noise modeling for 17 receptor locations on the project site are provided in Table 2-8-1, "Future Exterior Noise Levels." Modeled observer locations of the potentially affected NSLU's as represented in Figure 2-8-3, "Modeled NSLU Receptor Locations."

The project has established a home owners association (HOA) easement along SR-76 to maintain the citrus grove to provide additional noise attenuation to the results shown on Table 2-8-1. The easement is a minimum 100 feet wide. According to Caltrans Technical Noise Supplement (TeNS) section N-5515, shielding is one of the most effective ways of reducing traffic noise. Shielding occurs when the observer's view of the roadway is obstructed or partially obstructed by natural or manmade features interfering with the propagation of the sound waves. The attenuation credit given by the FHWA model to plantings, woods and vegetation is 5 dBA for the first 30 meters (100 feet), with an additional 5 dBA for the second 30 meters with a maximum of 10 dBA.

The Buildout analysis was modeled assuming future year traffic parameters assuming 13,000 Average Daily Traffic (ADT), 1,300 vehicles at Peak-Hour Volume, modeled speeds of 55 miles per hour (MPH), and a conservative vehicle mix of 87.0 percent auto, 5.9 percent medium trucks, and 7.1 percent heavy trucks.

As shown in Table 2-8-1, the project's design results in exterior noise levels that would meet the County of San Diego 60 dBA CNEL standard at all proposed lots

without incorporating the additional screening from the citrus grove. Noise mitigation is not necessary for the outdoor living areas for the proposed single-family lots as the project demonstrates Noise Element exterior noise level conformance. Thus exterior noise impacts are less than significant and no mitigation is required.

Although one lot, Lot 16, is within the 60 dBA line for first floor. ~~However~~, due to topographic variations and screening, this effect is not significant. Second floor building façade noise levels were found to be above the standard of 60 dBA CNEL for six lots (5, 6, 15, 16, 29 and 30) as shown in Table 2-8-1. This finding is further discussed under Guideline 1C of this section.

Guideline 1B

To determine if direct off-site noise level increases associated with the development of the proposed project would result in an increase of 10 dBA CNEL, the traffic volumes for the existing conditions were compared with the traffic volume increase of existing plus the proposed project. The project will generate 528 daily trips, with a worst case peak hour volume of 53 trips (KOA, 2012). The existing average daily traffic (ADT) volumes are 8,320 along the nearest segment of SR76. Typically it requires a project to double (or add 100%) to the traffic volumes to have a direct impact of 3 dBA CNEL. The project will add less than a 10% increase to the existing roadway volumes and no direct impacts are anticipated. Therefore, Guideline 1B is not exceeded and impacts would be less than significant. No mitigation is required.

Guideline 1C

As discussed above, the noise analysis found that the second floor facades of Lots 5, 6, 15, 16, 29 and 30 are likely to have noise levels above the County standard of 60 dBA CNEL. Therefore the interior noise levels of structures proposed for these lots could exceed a level of 45 dBA CNEL. This represents a significant impact and mitigation is required (**Impact N-1**).

2.8.2.3 Guidelines for the Determination of Significance – Project-Generated Airborne Noise

According to the *County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements for Noise* (January 2009) the project would have a significant project-generated airborne noise impact if it would generate airborne noise which, together with noise from all sources, will be in excess of the following:

Construction Noise

1. Noise generated by construction activities related to the project will exceed the standards listed in the San Diego County Code Section 36.409, Sound Level Limitations on Construction Equipment

Impulsive Noise

2. Noise generated by the project will exceed the standards listed in San Diego Code Section 36.410, Sound Level Limitations on Impulsive Noise

Sensitive Avian Species

3. Noise levels in excess of 60 dBA or ambient conditions, whichever is greater, may impact nesting sensitive bird species, including Coastal California Gnatcatcher, Least Bell's Vireo, and migratory birds.

2.8.2.4 Analysis – Project-Generated Airborne Noise

Guideline 1

Sections 36.408 and 36.409 states that, except for emergency work, it shall be unlawful for any person to operate construction equipment or cause construction equipment to be operated, that exceeds an average sound level of 75 decibels for an eight-hour period, between 7 a.m. and 7 p.m., when measured at the boundary line of the property where the noise source is located or on any occupied property where the noise is being received.

Construction noise represents a short-term impact on the ambient noise levels. Noise generated by construction equipment including haul trucks, water trucks, graders, dozers, loaders and scrapers, can reach relatively high levels. Grading activities typically represent one of the highest potential sources for noise impacts. The most effective method of controlling construction noise is through local control of construction hours and by limiting the hours of construction to normal weekday working hours.

The U.S. Environmental Protection Agency (U.S. EPA) and the FHWA have compiled data regarding the noise generating characteristics of specific types of construction equipment. Noise levels generated by heavy construction equipment can range from 60 dBA to in excess of 100 dBA when measured at 50 feet. However, these noise levels diminish rapidly with distance from the construction site at a rate of approximately 6 dBA per doubling of distance.

The single family units may be developed on a lot-by-lot basis, which may result in some lots undergoing building construction simultaneously but all grading activities and internal roadways, will be graded prior to the occupancy of any proposed lots. A total of three loader/tractors, a water truck, a dozer, three scrapers and an excavator will be required during grading activities to complete the proposed grading operations. The anticipated equipment will be spread out over the site. For example, a single water truck and a single dozer may be utilized near the project boundary while the other equipment is working on the opposite side of the site.

The list of equipment and the associated noise levels utilized in this analysis are shown in Table 2-8-2, "Grading Operation Noise Levels".

Existing residential and agricultural uses surround the site. As can be seen in Table 2-8-2, if all the equipment was operating in the same location for eight hours, which is not physically possible, at a distance as close as 135 feet from the nearest property line the point source noise attenuation from these construction activities is -8.6 dBA. This would result in an anticipated worst case eight-hour average combined noise level of less than 75 dBA at the property line. Given this data and the typical spatial and temporal separation of the equipment, the noise levels will comply with the County of San Diego's 75 dBA standard at all property lines for the project. Guideline 2 is not exceeded, impacts are less than significant, and no mitigation is required.

Guideline 2

Section 36.410 generally restricts impulsive noise activities. Impulsive noise is defined as any single noise event or a series of single noise events, which causes a high peak noise level of short duration (one second or less), measured at a specific location. Examples include, but are not limited to, a gunshot, an explosion, or blasting.

No blasting, pile driving, and/or rock crushing is anticipated during the grading operations. Therefore, no impulsive noise sources are expected and the project is anticipated to comply with Section 36.410 of the County Noise Ordinance and no further analysis is required. Guideline 3-2 is not exceeded, impacts are less than significant, and no mitigation is required.

Guideline 3

Project grading and construction will occur within and adjacent to sensitive habitats, including Diegan Coastal Sage Scrub and Coast Live Oak Woodland. These sensitive habitats can support sensitive species, including Coastal California Gnatcatcher, Least Bell's Vireo, and migratory birds. Construction activities could result in noise levels over 60 dBA in these habitat areas. If sensitive bird species are nesting or breeding during these times of elevated sound, there is a potential for a significant impact and mitigation is required (**Impact N-2**).

2.8.3 Cumulative Impact Analysis (Off-site Impacts)

The traffic analysis for the project concluded that the project would generate 528 daily trips, with a worst case peak hour volume of 53 trips (KOA, 2012). The existing average daily traffic (ADT) volumes are 8,320 along the nearest segment of SR76. Typically it requires a project to double (or add 100 percent) to the traffic volumes to have a direct impact of 3 dBA CNEL or be a major contributor to the cumulative traffic volumes. The

project will add less than a 10 percent increase to the exiting roadway volumes and no direct impacts are anticipated. Cumulatively the traffic volumes along the roadway segments are expected to potentially double but the project related increase would be minimal (less than 5 percent) of the overall increase. Therefore, the project traffic contributions are not cumulatively considerable. The additional traffic generated from the project would result in a less than one decibel increase to the cumulative analysis, and cumulative noise related to the project is considered less than significant.

2.8.4 Significance of Impacts Prior to Mitigation

- N-1 Since second floor facades of Lots 5, 6, 15, 16, 29 and 30 are expected to experience noise levels above the County standard of 60 dBA CNEL, the interior noise levels of structures proposed for these lots could exceed the interior noise standard of 45 dBA CNEL. This represents a significant impact.

- N-2 Project grading and construction activities could result in sound levels in excess of 60 dBA in sensitive habitat areas which could impact sensitive birds during their nesting or breeding season. This represents a significant impact.

2.8.5 Mitigation

- M-N-1 A Noise Restriction Easement shall be placed on Lots 5, 6, 15, 16, 29, and 30, requiring a future noise analysis and implementation of subsequent mitigation if two-story homes are proposed on these lots. Upon completion of precise grading plans and architectural building design specifications for these lots, a noise analysis shall be prepared to evaluate interior noise attenuation requirements. The analysis shall be completed prior to issuance of building permits for these lots. The analysis shall identify mitigation requirements to ensure interior noise levels do not exceed 45 dBA CNEL. Such measures could include, but are not limited to, use of dual-paned windows or other architectural improvements.

- M-N-2 Because the project site is considered potentially occupied by Least Bell's Vireo and Southwestern Willow Flycatcher, grading or construction noise in excess of 60 dBA shall not be permitted during the breeding season of these species (mid-March to mid-September), in order to avoid impacts to potentially nesting vireos, flycatchers, and/or other riparian obligate songbirds. This restriction may be waived if directed surveys for these two species are conducted on all areas within 300 feet of proposed grading or construction activity and it is found the birds are not present. The results of these surveys should be provided in a report to the Director of Planning

and Development Services and the Wildlife Agencies for concurrence with the conclusions and recommendations. An acoustician shall be present on site to monitor noise levels during grading that takes place within the above noted period unless it is determined by directed surveys by the biologist that the birds are not present. This mitigation measure is also ~~shall~~ reflected in the biology section of the DEIR, 2.4.5, mitigation measure M-BI-1.

2.8.6 Conclusion

An acoustical analysis was for the proposed project by a consultant on the County's CEQA Consultant List.

The analysis concluded that traffic noise from SR76 will constitute the principal source of community noise that will affect the site. Six lots would experience noise levels above 60 dBA CNEL at second-story facades if two-story homes are proposed, which could result in interior noise level exceeding 45 dBA CNEL. Mitigation measure M-N-1 will require a Noise Protection Easement to be placed on Lots 5, 6, 15, 16, 29 and 30 to require a future noise analysis and implementation of subsequent mitigation if interior noise levels are shown to exceed 45 dBA CNEL. Such measures could include dual paned windows, which typically provide 15 dBA noise attenuation. Implementation of this mitigation measure will reduce sound level to acceptable levels and reduce the impact to below a level of significance.

Construction noise could impact sensitive bird species if construction noise levels exceed 60 dBA during the breeding season. Mitigation measure M-N-2, limits construction noise in excess of 60 dBA during the breeding season of these species (mid-March to mid-September), in order to avoid impacts to potentially nesting vireos, flycatchers, and/or other riparian obligate songbirds. This restriction may be waived if directed surveys for these two species are conducted on all areas within 300 feet of the proposed activity and note that the sensitive species are not present. This mitigation measure protects the sensitive species by keeping noise levels below 60 dBA and would reduce impacts to below a level of significance.

Cumulative impacts were evaluated using cumulative traffic data. The additional traffic generated from the project would result in a less than one decibel increase to the cumulative analysis, and cumulative noise related to the project is considered less than significant. No mitigation is required.

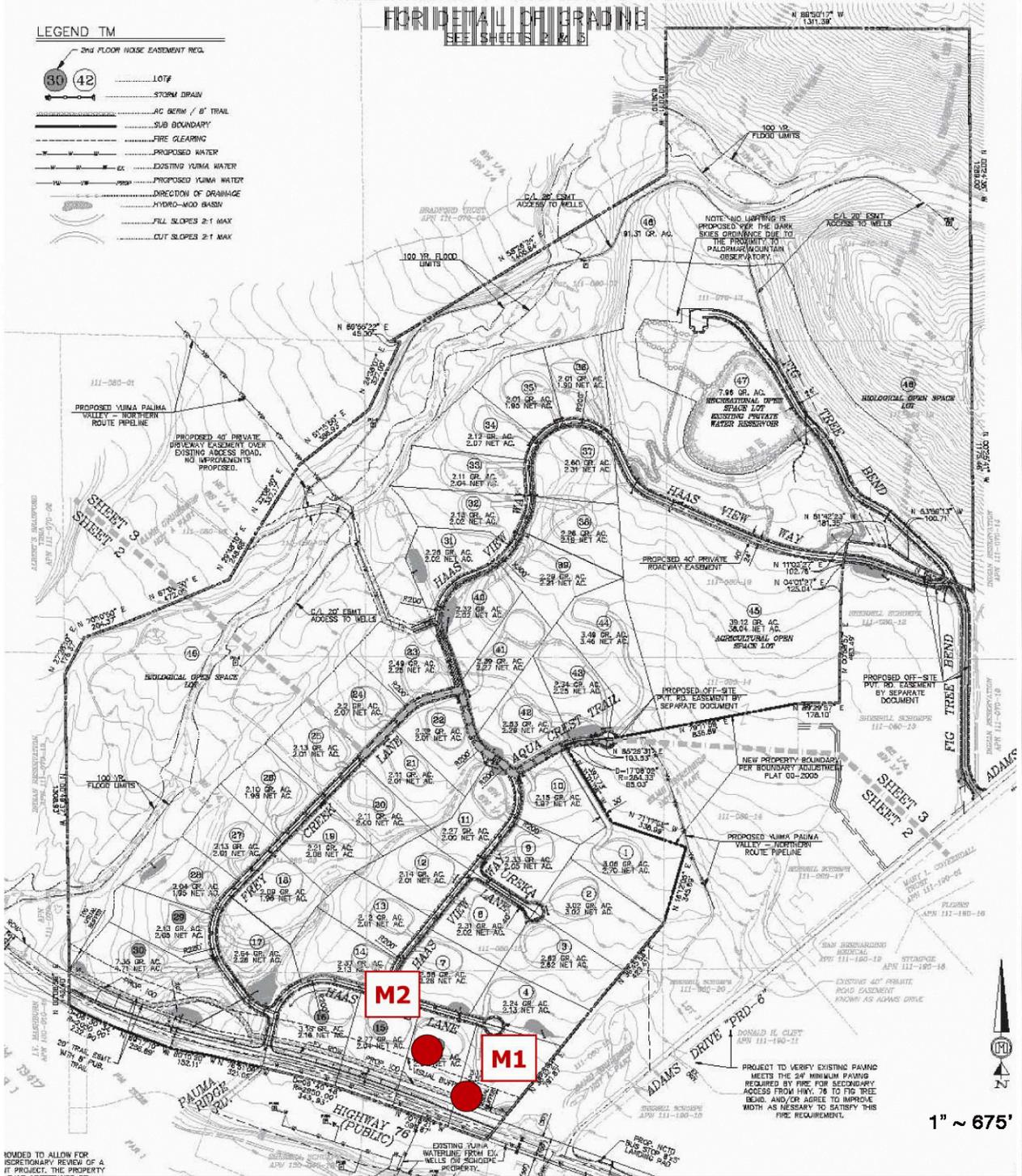
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COUNTY OF SAN DIEGO TRACT NO. TM 5223 RPL-3 SHADOW RUN RANCH, PAUMA VALLEY PRELIMINARY GRADING PLAN

FOR DETAIL OF GRADING
SEE SHEETS 1, 2 & 3

LEGEND TM

- 2ND FLOOR WIDE EASTMENT REG.
- LOT#
- STORM DRAIN
- AC BERM / B' TRAIL
- SLAB BOUNDARY
- FIRE CLEARING
- PROPOSED WATER
- EXISTING YUMA WATER
- PROPOSED YUMA WATER
- DIRECTION OF DRAINAGE
- HYDRO-MOD SHADE
- FILL SLOPES 2:1 MAX
- CUT SLOPES 2:1 MAX



ROUND TO ALLOW FOR
DISCRETIONARY REVIEW OF A
IT PROJECT, THE PROPERTY

PROJECT TO VERIFY EXISTING PAVING
MEETS THE 2" MINIMUM PAVING
REQUIRED BY FIRE FOR SECONDARY
ACCESS FROM HWY. 78 TO FIG TREE
BEND, AND/OR AGREE TO IMPROVE
WIDTH AS NECESSARY TO SATISFY THIS
FIRE REQUIREMENT.

1" ~ 675'



Noise Monitoring Locations

Figure 2-8-1

LEGEND TM

- 2nd FLOOR NOISE EASEMENT REQ.
- 30 42 LOT#
- STORM DRAIN
- AC BERM / 8" TRAIL
- SUB BOUNDARY
- FIRE CLEARING
- PROPOSED WATER
- EXISTING YUMA WATER
- PROPOSED YUMA WATER
- DIRECTION OF DRAINAGE
- HYDRO-MOD BASIN
- FILL SLOPES 2:1 MAX
- CUT SLOPES 2:1 MAX

60 dBA CNEL Contours
— First Floor
- - - - Second Floor

75 dBA CNEL Contours Located at edge of roadway

575-Feet

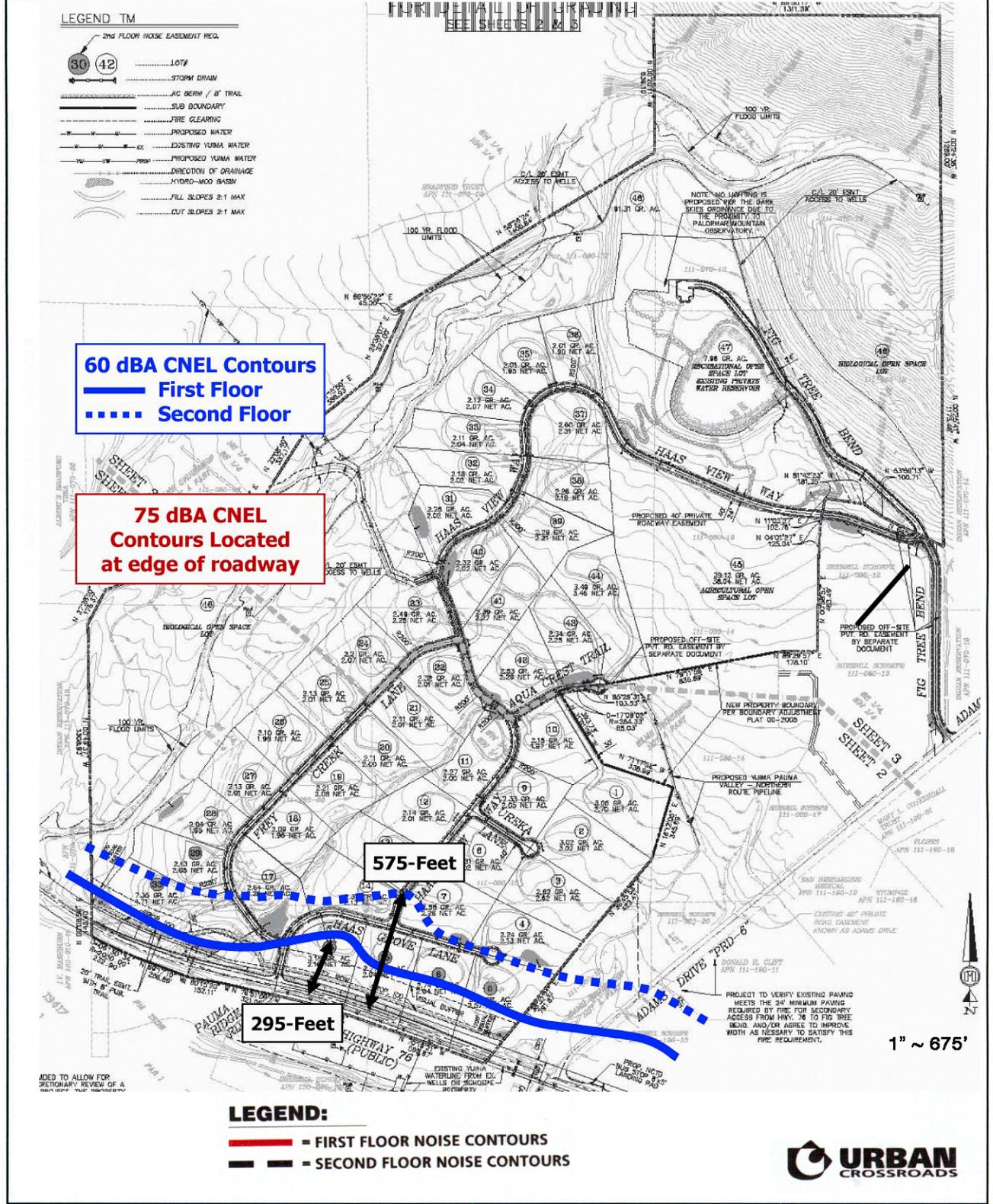
295-Feet

- LEGEND:**
- - FIRST FLOOR NOISE CONTOURS
 - - - -** - SECOND FLOOR NOISE CONTOURS



Future Noise Contours

Figure 2-8-2

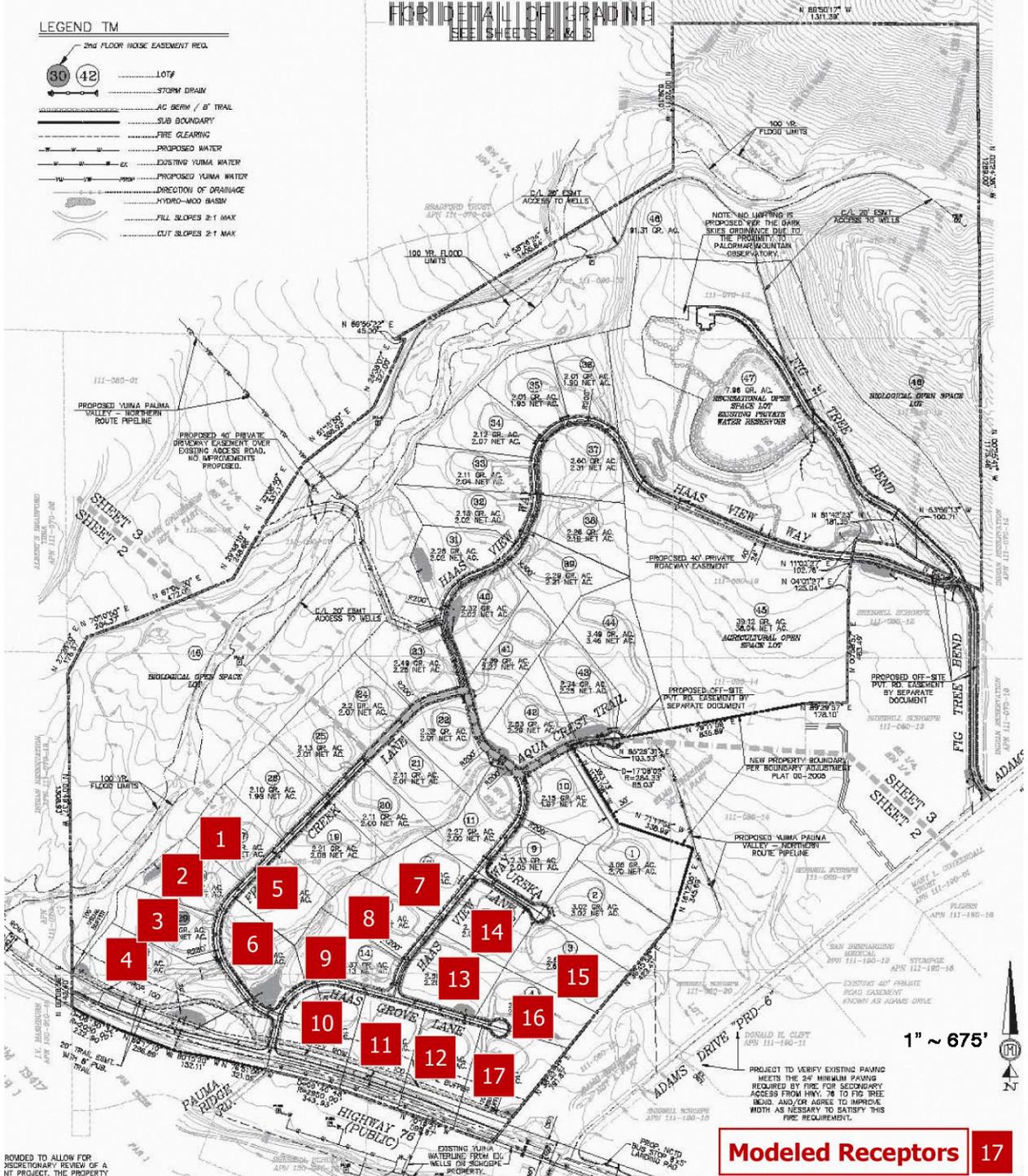


COUNTY OF SAN DIEGO TRACT NO. TM 5223 RPL-3 SHADOW RUN RANCH, PAUMA VALLEY PRELIMINARY GRADING PLAN

LEGEND TM

- 2ND FLOOR ROUSE EASEMENT REG.
- LOT#
- STORM DRAIN
- AC BEAM / 8" TRAIL
- SUB BOUNDARY
- FIRE CLEARING
- PROPOSED WATER
- EXISTING YUMA WATER
- PROPOSED YUMA WATER
- DIRECTION OF DRAINAGE
- HYDRO-MOD BASIN
- FILL SLOPES 2:1 MAX
- CUT SLOPES 2:1 MAX

FOR DETAIL OF GRADING
SEE SHEETS 17 & 18



ROUNDED TO ALLOW FOR DISCRETIONARY REVIEW OF A MT PROJECT, THE PROPERTY

PROJECT TO VERIFY EXISTING PAVING MEETS THE 34" MINIMUM PAVING REQUIRED BY FIRE FOR SECONDARY ACCESS FROM HWY 78 TO FIG TREE BEAD, AND/OR AGREE TO IMPROVE WIDTH AS NECESSARY TO SATISFY THIS FIRE REQUIREMENT.

Modeled Receptors 17



Modeled NSLU Receptor Locations

Figure 2-8-3

Modeled Receptor Number	Receptor Location (Lot #)	Receptor Elevation (Feet) ¹	Unmitigated Outdoor Noise Level (dBA CNEL) ²	Second Floor Façade Noise Levels (dBA CNEL) ³
1	27	815	52.1	56.0
2	28	813	55.3	59.2
3	29	802	57.0	61.9
4	30	785	59.2	63.3
5	18	823	53.4	57.0
6	19	839	51.3	55.5
7	12	849	51.7	55.9
8	13	827	53.6	57.2
9	14	811	56.3	59.3
10	16	788	60.1	62.7
11	15	789	60.0	62.6
12	6	787	60.2	62.5
13	7	819	55.2	58.7
14	8	839	52.6	56.7
15	3	831	52.9	57.1
16	4	813	55.0	58.9
17	5	793	59.8	62.4

1 Receptor Elevation is 5-feet above the Pad Elevation for ground level and 15-feet above the Pad for the second floor.

2 Exterior Mitigation or Interior Noise Study required per County Guidelines if **BOLD**

3 Interior Noise Study required per County Guidelines if **BOLD**

Construction Equipment	Quantity	Source Level @ 50 Feet (dBA) ¹	Duty Cycle (Hours/Day)	Cumulative Noise Level @ 50 Feet (dBA)
Scrapers	3	75	8	79.8
Tractors/Loaders/Backhoes	3	72	8	76.8
Excavators	1	70	8	70.0
Graders	1	74	8	74.0
Rubber Tired Dozers	1	73	8	73.0
Water Trucks	1	70	8	70.0
Cumulative Levels @ 50 Feet (dBA)				83.5
Distance To Property Line				135
Noise Reduction Due To Distance				-8.6
NEAREST PROPERTY LINE NOISE LEVEL				74.8
¹ Source: EPA 1971, FHWA and Empirical Data				

2.9 Paleontology

A paleontological evaluation of the Shadow Run Ranch was conducted by Thomas A. Demere, Ph.D. of the Department of Paleoservices at the San Diego Natural History Museum on June 29, 2012 (see Appendix K, “Paleontological Resource Assessment, Shadow Run Ranch, Pauma Valley, San Diego County, California”), June 29, 2012”). The assessment includes a review of site records in the area, a site visit, and where appropriate, selected testing of potential resource areas. ~~The study is dated June 29, 2012.~~

2.9.1 Existing Conditions

As defined in the report, paleontological resources (i.e., fossils) are the remains and/or traces of prehistoric plant and animal life exclusive of humans. Fossil remains such as bones, teeth, shells, leaves, and wood are found in the geologic deposits (rock formations) within which they were originally buried. For the purposes of the report, paleontological resources can be thought of as including not only the actual fossil remains but also the collecting localities and the geologic formations containing those localities.

2.9.1.1 Types of Deposits

Younger Quaternary Alluvial Fan Deposits: The younger alluvial fan deposits within the project area are Holocene and/or late Pleistocene in age, and may produce significant fossils. Therefore, they are assigned moderate sensitivity. Lithologically, they are composed of unconsolidated boulders, cobbles, gravel, sand, silt and clay.

Older Quaternary Alluvial Fan Deposits: Older Quaternary alluvial fan deposits within the project area are reported to be younger than 500,000 years in age (Pleistocene), and include fan, debris flow, and talus deposits, with clasts which are highly weathered in a typically reddish-brown matrix. Lithologically, older alluvial fans are composed of unconsolidated boulders, cobbles, gravel, sand, silt and clay. These are also assigned moderate sensitivity for the reason that these may also produce significant fossils.

Active Channel and Wash Deposits: The active channel and wash deposits within the Shadow Run Ranch property have low paleontological sensitivity because they are late Holocene in age and are thus too young to contain fossils.

2.9.1.2 Area Resources Assessment

Fossiliferous Deposits: Knowing the geology of a particular area and the fossil productivity of particular formations that occur in that area, it is possible to predict where fossils will or will not be encountered. Only one previously-recorded fossil

locality was found during the museum record search conducted for the Shadow Run project. This locality, LACM (CIT) 599, produced a single tooth of a fossil horse (*Equus* sp.). Unfortunately, the locality is described only as being ‘from Pala’, and its exact whereabouts are unknown.

Alluvial Fan Deposits: Ellis and Lee (1919) mapped uplifted alluvial fan deposits (fanglomerates) in the Pala area, referring to them as the ‘Pala Conglomerate.’ The old fan surface (Agua Tibia Fan) is as much as 150 feet (elevation 1000 feet) higher than the level of the present day San Luis Rey River. Elevations of fanglomerates in the Pala and Pauma valley areas suggest that deposition occurred at a time when stream-base-level was considerably higher than at present. Tectonic activity on the adjacent Elsinore Fault zone has probably been responsible for this impressive uplift. The age of these deposits is presently unknown.

Paleontological Deposits: Jahns (1954) reported the occurrence of scattered vertebrate remains from the late Pleistocene age in the Pala Conglomerate deposits, but gave no indication as to specific remains that were found or where they were curated. Subsequent fieldwork has failed to turn up any new fossil discoveries in these deposits. It is felt that increased attention to these older alluvial deposits and/or new exposures created by excavation projects will turn up additional fossil material. Younger alluvial fan sediments that are at least 10,000 years old have the potential to contain fossils.

Active Channel Wash Deposits: Channel and wash deposits consisting primarily of gravel and sand are actively accumulating within the Frey Creek drainage and other unnamed drainages within the Shadow Run Ranch property. These sediments were derived from the erosion of bedrock on adjacent mountains and the re-working of older alluvial and colluvial deposits. Geologically, these are the youngest sediments on the property, and as such are unlikely to yield fossils.

2.9.1.3 Site-Specific Resources Assessment

A field survey was conducted of potentially fossiliferous portions of the project site to field check the results of the literature and record surveys and to determine the paleontological sensitivity of the geologic units that would be affected by the planned improvements. This field work involved inspection of the site for bedrock outcrops and exposures of potentially fossiliferous surficial deposits, geologic contacts, and the presence or absence of paleontological resources (i.e., fossils).

Murphey and Browne’s assessment of the project site found three geologic units: younger and older Quaternary alluvial fan deposits that are considered to be moderately sensitive geologic units, and active alluvial flood plain deposits that are considered to have low paleontological sensitivity. From Frey Creek to Adams Drive, the entire Shadow Run Ranch property is underlain by older and younger alluvial fan

deposits, which are carved by active channel and wash deposits that crisscross the property. Onsite alluvial fan deposits are generally not exposed due to the nature of the topography and the coverage provided by the existing groves. Older alluvial fan sediments are well exposed at several locations in the northeast portion of the property. No fossils were observed within the Shadow Run property during the field survey.

Channel and wash deposits are present within Frey Creek. The unnamed drainage that traverses the center of the property has been partially channelized, and is no longer actively accumulating sediments.

2.9.2 Analysis of Project Effects and Determination as to Significance

Direct impacts to paleontological resources occur when earthwork activities, such as mass grading operations, cut into the geological deposits (formations) within which fossils are buried. These direct impacts are in the form of physical destruction of fossil remains. Since fossils are the remains of prehistoric animal and plant life, they are considered to be nonrenewable resources. Such impacts can be significant and, under CEQA guidelines, require mitigation. Analysis of project impacts included the review of relevant published geologic reports, unpublished paleontological reports, and museum paleontological site records.

2.9.2.1 Guidelines for the Determination of Significance

Guidelines to determine paleontological significance were taken from the *County of San Diego's Guidelines for Determining Significance Paleontological Resources, modified January 15, 2009*. The guidelines state that an affirmative response to or confirmation of the following guideline will generally be considered a significant impact related to paleontological resources as a result of project implementation, in the absence of scientific evidence to the contrary. The project will have a significant impact if:

1. The project proposes activities directly or indirectly damaging to a unique paleontological resource or site. A significant impact to paleontological resources may occur as a result of the project, if project-related grading or excavation will disturb the substratum or parent material below the major soil horizons in any paleontologically sensitive area of the County, as shown on the San Diego County Paleontological Resources Potential and Sensitivity Map.

Impacts to paleontological resources are rated in this analysis on a Significance of Impacts Scale from high to zero depending upon the resource sensitivity of impacted formations. The specific criteria applied for each sensitivity category as related to the site areas summarized below.

1. High Significance –_No high-sensitivity formations for the occurrence of paleontological resources were identified on the project site.
2. Moderate Significance –Formations that are classified as moderate significance for the occurrence of paleontological resources have been identified on the project site. These formations include older and younger alluvial fan deposits that are at least 10,000 years old.
3. Low Significance –_Formations that are classified as low significance for the occurrence of paleontological resources have been identified on the project site. These formations include active channel and wash deposits.
4. Zero Significance –_No zero sensitivity formations for the occurrence of paleontological resources were identified on the project site.

2.9.2.2 Analysis

Guideline 1: The project proposes activities directly or indirectly damaging to a unique paleontological resource or site.

Moderately sensitive geological units within the project site include older and younger alluvial fans deposits. These formations are at least 10,000 years old and so may produce significant fossils. While no fossils were observed within the Shadow Run Ranch property during the field survey, exposure of older alluvial deposits and/or new exposures created by grading and excavation up to approximately 12 feet in depth could turn up additional fossil material. Potential impacts to scientifically significant paleontological resources would be in the form of destruction of potential fossil remains during grading and excavation for residential construction including associated infrastructure and access roads. The guideline is exceeded and impacts are significant (**Impact PA-1**). Mitigation is required.

2.9.3 Cumulative Impact Analysis

The cumulative study area is shown on Figure 1-6, “Cumulative Projects” The area encompasses both sides of the San Luis Rey River in the vicinity of the project and includes geological units of the type found on the site, that is alluvial deposits of varying ages. Research at the County of San Diego has revealed that one project, TM 5499 (Club Estates), was assessed as having a potential impact to paleontological resources. This site is located approximately three miles southwest of Shadow Run on the south side of SR76 and just north of the river. The project had a potential to impact resources during site grading; however, its impacts were mitigated by requiring monitoring during grading. Shadow Run has a similar impact and includes mitigation that includes monitoring with the authority to divert grading. Mitigation also includes provisions for recovery, documentation, and curating of any fossils found. Therefore, there is no cumulative impact to which the proposed project could contribute.

2.9.4 Significance of Impacts Prior to Mitigation

- PA-1 The project could have a direct impact on paleontological resources that might be present in onsite formations of Moderate and Low Sensitivity during grading and excavation operations.

2.9.5 Mitigation

The following mitigation measures must be implemented in order to reduce project impacts to a less than significant level:

APPROVAL OF MAP: The following condition shall be complied with before a Final Map is approved by the Board of Supervisors and filed with the County Recorder of San Diego County (and, where specifically, indicated, shall also be complied with prior to approval of any plans, and issuance of any grading or other permits as specified):

M-PA-1. PALEO GRADING MONITORING: [PDS, PCC] [DPW, LDR] [GP, IP, MA] [PDS, FEE X 2] INTENT: In order to mitigate for potential impacts to paleontological resources on the project site, a monitoring program during grading, trenching or other excavation into undisturbed rock layers beneath the soil horizons and a fossil recovery program, if significant paleontological resources are encountered, shall be implemented pursuant to the *County of San Diego Guidelines for Determining Significance for Paleontological Resources*. **DESCRIPTION OF REQUIREMENT:** A County approved Paleontologist "Project Paleontologist" shall be contracted to perform paleontological resource monitoring and a fossil recovery program if significant paleontological resources are encountered during all grading, trenching, or other excavation. The following shall be completed:

- a. A County approved Paleontologist ("Project Paleontologist") shall perform the monitoring duties pursuant to the most current version of the *County of San Diego Guidelines for Determining Significance for Paleontological Resources*, and this permit. The contract provided to the county shall include an agreement that the grading/ trenching/excavation monitoring will be completed, and a Memorandum of Understanding (MOU) between the approved Paleontologist and the County of San Diego shall be executed. The contract shall include a cost estimate for the monitoring work and reporting.
- b. The cost of the monitoring shall be added to the grading bonds that will be posted with the Department of Public Works, or bond separately with Planning & Development Services.

DOCUMENTATION: The applicant shall provide a copy of the Grading Monitoring Contract, cost estimate, and MOU to the [PDS, PCC]. Additionally, the cost amount of the monitoring work shall be added to the grading bond cost estimate. **TIMING:** Prior to the approval of the map for and prior to the approval of any plan and issuance of any permit, the contract shall be provided. **MONITORING:** The [PDS, PCC] shall review the contract, MOU and cost estimate or separate bonds for compliance with this condition. The cost estimate shall be forwarded to [DPW, LDR], for inclusion in the grading bond cost estimate, and grading bonds. The [DPW, PC] shall add the cost of the monitoring to the grading bond costs, and the grading monitoring requirement shall be made a condition of the issuance of the grading or construction permit.

PRE-CONSTRUCTION MEETING: The following action will occur prior to Preconstruction Conference, and prior to any clearing, grubbing, trenching, grading, or any land disturbances:

M-PA-2. PALEONTOLOGICAL MONITORING: [DPW, PDCI] [PDS, PCC] [PC] [PDS, FEE X2] INTENT: In order to comply with Mitigation Monitoring and Reporting Program pursuant to 3100 5223, a Paleontological Resource Grading Monitoring Program shall be implemented. **DESCRIPTION OF REQUIREMENT:** The County approved Project Paleontologist, and the PDS Permit Compliance Coordinator (PCC), shall attend the pre-construction meeting with the contractors to explain and coordinate the requirements of the grading monitoring program. The Project Paleontologist shall monitor during the original cutting of previously undisturbed deposits for the project, both on and off site, the Qualified Paleontological Resources Monitor shall be on-site to monitor as determined necessary by the Qualified Paleontologist. The grading monitoring program shall comply with *the County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements for Paleontological Resources*. **DOCUMENTATION:** The applicant shall have the contracted Project Paleontologist attend the preconstruction meeting to explain the monitoring requirements. **TIMING:** Prior to Preconstruction Conference, and prior to any clearing, grubbing, trenching, grading, or any land disturbances this condition shall be completed. **MONITORING:** The [DPW, PDCI] shall invite the [PDS, PCC] to the preconstruction conference to coordinate the Paleontological Resource Monitoring requirements of this condition. The [PDS, PCC] shall attend the preconstruction conference and confirm the attendance of the approved Project Paleontologist.

DURING CONTRUCTION: The following actions shall occur throughout the duration of the grading construction:

M-PA-3. PALEONTOLOGICAL MONITORING: [DPW, PDCI] [PDS, PCC] [PC] [PDS, FEE X2] INTENT: In order to comply with Mitigation Monitoring

and Reporting Program pursuant to 3100 5223, and the *County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements for Paleontological Resources*, a Grading Monitoring Program shall be implemented. **DESCRIPTION OF REQUIREMENT:** The Project Paleontologist shall monitor During the original cutting of previously undisturbed deposits for the project, both on and off site, the Qualified Paleontological Resources Monitor shall be on-site to monitor as determined necessary by the Qualified Paleontologist. The grading monitoring program shall comply with the following requirements during grading:

- a. If paleontological resources are encountered during grading/excavation, the following shall be completed:
 1. The Qualified Paleontological Resources Monitor shall have the authority to direct, divert, or halt any grading/excavation activity until such time that the sensitivity of the resource can be determined and the appropriate salvage implemented.
 2. The Qualified Monitor shall immediately contact the Qualified Paleontologist.
 3. The Qualified Paleontologist shall contact the County’s Permit Compliance Coordinator immediately.
 4. The Qualified Paleontologist shall determine if the discovered resource is significant. If it is not significant, grading/excavation shall resume.”
- b. If the paleontological resource is significant or potentially significant, the Qualified Paleontologist or Qualified Paleontological Resources Monitor, under the supervision of the Qualified Paleontologist, shall complete the following tasks in the field:
 1. Salvage unearthed fossil remains, including simple excavation of exposed specimens or, if necessary, plaster-jacketing of large and/or fragile specimens or more elaborate quarry excavations of richly fossiliferous deposits;
 2. Record stratigraphic and geologic data to provide a context for the recovered fossil remains, typically including a detailed description of all paleontological localities within the project site, as well as the lithology of fossil-bearing strata within the measured stratigraphic section, if feasible, and photographic documentation of the geologic setting; and
 3. Transport the collected specimens to a laboratory for processing (cleaning, curation, cataloging, etc.).

DOCUMENTATION: The applicant shall implement the grading monitoring program pursuant to this condition. **TIMING:** The following actions shall occur throughout the duration of the grading construction. **MONITORING:** The [DPW, PDCI] shall make sure that the Project Archeologist is on-site performing the Monitoring duties of this condition. The [DPW, PDCI] shall contact the [PDS, PCC] if the Project Paleontologist or applicant fails to comply with this condition.

ROUGH GRADING: The following actions shall occur prior to rough grading approval and issuance of any building permit:

M-PA-4. PALEONTOLOGICAL MONITORING: [PDS, PCC] [RG, BP] [PDS, FEE]. INTENT: In order to comply with the adopted Mitigation Monitoring and Reporting Program (MMRP) pursuant to 3100 5223, and the *County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements for Paleontological Resources*, a Grading Monitoring Program shall be implemented. **DESCRIPTION OF REQUIREMENT:** The Project Paleontologist shall prepare one of the following letters upon completion of the grading activities that require monitoring:

- a. If no paleontological resources were discovered, submit a “No Fossils Found” letter from the grading contractor to the [PDS, PCC] stating that the monitoring has been completed and that no fossils were discovered, and including the names and signatures from the fossil monitors. The letter shall be in the format of Attachment E of the County of San Diego Guidelines for Determining Significance for Paleontological Resources.
- b. If Paleontological resources were encountered during grading, a letter shall be prepared stating that the field grading monitoring activities have been completed, and that resources have been encountered. The letter shall detail the anticipated time schedule for completion of the curation phase of the monitoring.

DOCUMENTATION: The applicant shall submit the letter report to the [PDS, PCC] for review and approval. **TIMING:** Upon completion of all grading activities, and prior to Rough Grading final Inspection (Grading Ordinance SEC 87.421.a.2), the letter report shall be completed. **MONITORING:** The [PDS, PCC] shall review the final negative letter report or field monitoring memo for compliance with the project MMRP, and inform [DPW, PDCI] that the requirement is completed.

FINAL GRADING RELEASE: The following actions shall occur prior to any occupancy, final grading release, or use of the premises in reliance of this permit:

M-PA-5. PALEONTOLOGICAL MONITORING: [PDS, PCC] [RG, BP] [PDS, FEE]. INTENT: In order to comply with the adopted Mitigation Monitoring and Reporting Program (MMRP) pursuant to 3100 5223, and the *County of San*

Diego Guidelines for Determining Significance and Report Format and Content Requirements for Paleontological Resources, a Grading Monitoring Program shall be implemented. **DESCRIPTION OF REQUIREMENT:** The Project Paleontologist shall prepare a final report that documents the results, analysis, and conclusions of all phases of the Paleontological Monitoring Program if resources were encountered during grading. The report shall include the following:

- a. If paleontological resources were discovered, the Following tasks shall be completed by or under the supervision of the Project Paleontologist:
 1. Prepare collected fossil remains for curation, to include cleaning the fossils by removing the enclosing rock material, stabilizing fragile specimens using glues and other hardeners, if necessary, and repairing broken specimens;
 2. Curate, catalog and identify all fossil remains to the lowest taxon possible, inventory specimens, assigning catalog numbers, and enter the appropriate specimen and locality data into a collection database;
 3. Submit a detailed report prepared by the Project Paleontologist in the format provided in Appendix D of the County of San Diego’s Guidelines for Determining Significance for Paleontological Resources and identifying which accredited institution has agreed to accept the curated fossils. Submit TWO hard copies of the final Paleontological Resources Mitigation Report to the Director of PDS for final approval of the mitigation, and submit an electronic copy of the complete report in Microsoft Word on a CD. In addition, submit one copy of the report to the San Diego Natural History Museum and one copy to the institution that received the fossils.
 4. Transfer the cataloged fossil remains and copies of relevant field notes, maps, stratigraphic sections, and photographs to an accredited institution (museum or university) in California that maintains paleontological collections for archival storage and/or display, and submit Proof of Transfer of Paleontological Resources, in the form of a letter, from the director of the paleontology department of the accredited institution to the Director of PDS verifying that the curated fossils from the project site have been received by the institution.”
- b. If no resources were discovered, a brief letter to that effect and stating that the grading monitoring activities have been completed, shall be sent to the Director of Planning and Development Services by the Project Paleontologist.

DOCUMENTATION: The applicant shall submit the letter report to the [PDS, PCC] for review and approval. **TIMING:** Prior to the Final Grading Release (Grading Ordinance Sec. 87.421.a.3), the final report shall be completed. **MONITORING:** The [PDS, PCC]

shall review the final report for compliance with the project MMRP, and inform [DPW, PDCI] that the requirement is completed.

2.9.6 Conclusion

A paleontological survey of the site was carried out by a County of San Diego CEQA Consultant List approved consultant. Geologic formations of moderate and low sensitivity were detected, and it was determined that formations of moderate sensitivity could be disturbed by grading and excavation activities. Mitigation measures were required that provide for grading monitoring, recovery, documentation, and curating of any resources uncovered. These measures will provide effective mitigation because fossils will be documented and preserved for future study. Cumulative impacts were assessed by evaluating projects in surrounding areas with similar geologic characteristics. Cumulative effects were not significant because measures to detect and preserve the scientific value of fossils were implemented in all cases where impacts likely could occur.

2.10 Traffic

A traffic impact analysis was conducted by J. Arnold Torma and Rogelio Pelavo of KOA Corporation, a consultant on the County CEQA Consultant List approved for the preparation of traffic analyses. The resulting report, entitled “Shadow Run Ranch Traffic Impact Study,” dated ~~September 2015~~~~December 2013~~, is included as Appendix L to this DEIR. One addendum was prepared: Shadow Run Ranch—Update of Counts, April 30, 2019, By Clyde Prem, April 30, 2019. The study includes traffic counts taken in 2009, 2010, 2014, and 2019.

2.10.1 Existing Conditions

The project proposes the subdivision of 248.26 acres into 44 residential lots and three open space lots located in the unincorporated community of Pala/Pauma in San Diego County. The project is located along State Route 76/Pala Road (SR76) near its intersection with Adams Drive. SR76 connects the site to Interstate 15 (I15) to the west and Pauma and Valley Center to the east. Figure 2-10-1, “Circulation Network,” illustrates the local and regional circulation network near the project site.

The principal roadways within the specific study area are:

Adams Drive is a private two-lane roadway located southeast of the project site. It is not classified in the County of San Diego Mobility Element. Adams Drive is maintained under a County Road Maintenance District. Widths range from approximately 18 to 24 feet. Bike lanes are not provided on Adams Drive and on-street parking is generally not possible. There is no posted speed limit on Adams Drive.

State Route 76 (SR76) runs east/west connecting several of the northern communities in San Diego County. State Route 76 varies in its classification from a 2 lane highway, to a 4 lane collector, to a 4 lane major. Specifics regarding the classifications can be seen in the segment analysis sections of each chapter of the Mobility Element. The roadway does provide project access to adjacent land uses. It has a painted median. The posted speed limit is 55 MPH. State Route 76 provides project access. The adjacent land uses on the project access road includes: fronting residential; and open space.

Pala Mission Road runs east/west connecting SR76 to Pala Temecula Road. It has a functional classification of a 2 lane local road with 1 lane in each direction. The roadway does provide access to adjacent uses. It has a painted median. The posted speed limit is 25 MPH.

Pala Temecula Road runs north/ south connecting the Pala community to the City of Temecula. It has a functional classification of a 2 lane rural collector with 1 lane in each direction. The roadway does provide access to adjacent uses. The posted speed limit is 30 MPH.

The roadway segments within the project’s study area include the following:

- State Route 76 between I-15 South Bound (SB) and North Bound (NB) Ramps
- SR 76 between I-15 NB Ramps and Pankey Road
- SR76 between Pankey Road and/Horse Ranch Creek Road
- SR76 between Horse Ranch Creek Road 0.7 miles east of Pankey Road and Rice Canyon
- SR76 between Rice Canyon Road and Couser Canyon Road
- SR76 between Couser Canyon Road and W. Pala Mission Road
- SR76 between W. Pala Mission Road and E. Pala Mission Road
- SR76 between E. Pala Mission Road and Lilac Road
- SR76 between Lilac Road and Project Access
- SR76 between Project Access and Adams Drive
- SR76 between Adams Drive and Cole Grade Road
- W. Pala Mission Road between SR76 and Pala Temecula Road
- Pala Temecula Road to Trujillo Road

Under existing conditions, the majority of segments operate at LOS C or better with the following exceptions:

- SR76, from I-15 SB ramps to I-15 NB ramps– LOS E
- Pala Mission Road to Trujillo Road – LOS D

Peak-hour intersection performance measures the length of delays at intersections when they are experiencing the highest volume of use. The intersections within the project's specific study area include:

- I-15/SR76 SB Ramps
- I-15/ SR76 NB Ramps
- SR76 / Pankey Road
- SR76 / Horse Ranch Creek Road
- SR 76 / Rice Canyon Road
- SR 76 / Couser Canyon Road
- SR76 / Warner Ranch Driveway
- SR76 / W. Pala Mission Road (west)
- W. Pala Mission Road/ Pala Temecula Road

- SR76 / Brittian Road
- SR76/ E. Pala Missions Road
- SR76/ Lilac Road
- SR76/Project Access
- SR76 / Adams Drive
- SR76 / Cole Grade Road

Under existing conditions, all intersections operate at LOS C or better with the following exceptions:

- SR 76 / I-15 SB Ramps – LOS E (PM peak hour)
- SR 76 / I-15 NB Ramps – LOS D (PM peak hour)

2.10.2 Analysis of Project Effects and Determination as to Significance

2.10.2.1 Guidelines for the Determination of Significance

The analysis of potential traffic impacts is based on the County of San Diego *Guidelines for Determining the Significance and Report Format and Content Requirements for Transportation and Traffic*, last updated August 24, 2011.

The guidelines specify that a project will have significant impacts if:

For on-site Mobility Element roads:

1. The additional or redistributed ADT generated by the proposed land development project will cause on-site Mobility Element Roads to operate below LOS C during peak traffic hours.

For off-site Mobility Element roads:

2. The additional or redistributed ADT generated by the proposed project will significantly increase congestion on a Mobility Element Road or State Highway currently operating at LOS E or LOS F, or will cause a Mobility Element Road or State Highway to operate at LOS E or LOS F as a result of the proposed project as identified in Table 2-10-1, or
3. The additional or redistributed ADT generated by the proposed project will cause a residential street to exceed its design capacity.

**Table 2-10-1
Allowable Increases on Congested Road Segments**

Level of Service	Two-Lane Roadway	Four-Lane Road	Six-Lane Road
Los E	200 ADT	400 ADT	600 ADT
Los F	100 ADT	200 ADT	300 ADT
Notes:			
1. By adding proposed project trips to all other trips from a list of projects, this same table must be used to determine if total cumulative impacts are significant. If cumulative impacts are found to be significant, each project that contributes additional trips must mitigate a share of the cumulative impacts.			
2. The County may also determine impacts have occurred on roads even when a project’s traffic or cumulative impacts do not trigger an unacceptable level of service, when such traffic uses a significant amount of remaining road capacity.			

For signalized intersections:

4. The additional or redistributed ADT generated by the proposed project will significantly increase congestion on a signalized intersection currently operating at LOS E or LOS F, or will cause a signalized intersection to operate at a LOS E or LOS F as identified in the Table 2-10-2

**Table 2-10-2
Allowable Increases on Congested Intersections**

Level of Service	Signalized	Unsignalized
LOS E	Delay of 2 seconds or less	20 or less peak hour trips on a critical movement
LOS F	Either a Delay of 1 second, or 5 peak hour trips or less on a critical movement	5 or less peak hour trips on a critical movement
Notes:		
1. A critical movement is an intersection movement (right turn, left turn, through-movement) that experiences excessive queues, which typically operate at LOS F. Also if a project adds significant volume to a minor roadway approach, a gap study should be provided that details the headways between vehicles on the major roadway.		
2. By adding proposed project trips to all other trips from a list of projects, these same tables are used to determine if total cumulative impacts are significant. If cumulative impacts are found to be significant, each project is responsible for mitigating its share of the cumulative impact.		
3. The County may also determine impacts have occurred on roads even when a project’s direct or cumulative impacts do not trigger an unacceptable level of service, when such traffic uses a significant amount of remaining road capacity.		
4. For determining significance at signalized intersections with LOS F conditions, the analysis must evaluate both the delay and the number of trips on a critical movement, exceedance of either criteria result in a significant impact.		

5. Based upon an evaluation of existing accident rates, the signal priority list, intersection geometrics, proximity of adjacent driveways, sight distance or other facts, the project would significantly impact the operations of the intersection.

For unsignalized intersections:

6. The additional or redistributed ADT generated by the proposed project will add 21 or more peak hour trips to a critical movement of an unsignalized intersection, and cause an unsignalized intersection to operate below LOS D, or
7. The additional or redistributed ADT generated by the proposed project will add 21 or more peak hour trips to a critical movement of an unsignalized intersection currently operating at LOS E, or
8. The additional or redistributed ADT generated by the proposed project will add 6 or more peak hour trips to a critical movement of an unsignalized intersection, and cause the unsignalized intersection to operate at LOS F, or
9. The additional or redistributed ADT generated by the proposed project will add 6 or more peak hour trips to a critical movement of an unsignalized intersection currently operating at LOS F, or
10. Based upon an evaluation of existing accident rates, the signal priority list, intersection geometrics, proximity of adjacent driveways, the sight distance or other factors, the project would significantly impact the operations of the intersection.

2.10.2.2 Analysis

Street system operating conditions are typically described in terms of ‘Level of Service’ (LOS), which is a report-card scale used to indicate the quality of traffic flow on roadway segments and at intersections. Level of Service (LOS) ranges from LOS A (free flow, little congestion) to LOS F (forced flow, extreme congestion).

The traffic report analyzed the project in light of the following scenarios:

1. Existing conditions, reflecting traffic patterns as they currently exist
2. Existing conditions plus project conditions, reflecting how existing conditions would change with the addition of the project’s projected anticipated traffic impacts
3. Cumulative plus project conditions, reflecting future traffic conditions based on existing conditions and anticipated project traffic impacts, plus future

projects known to be underway that will also contribute to the overall traffic scenario for the area.

The methods used to determine LOS are outlined in the traffic impact study and listed here:

1. Roadway Segment Capacity Analysis: wherein roadway capacities established by the County of San Diego are used to determine existing and future anticipated traffic volumes in the area.
2. Intersection Capacity Analysis: the Traffix analysis software was used in the study. The software uses methodologies defined in the 2000 Highway Capacity Manual (HCM) to calculate results. LOS for intersections is determined by control delay, which is defined as the total elapsed time from when a vehicle stops at the end of a queue to the time the vehicle departs from the start line. Criteria for signalized and unsignalized intersections are provided in Appendix A of the traffic study.
3. Signalized Intersections: the HCM analysis methodology for evaluating signalized intersections is based on the 'operational analysis' procedure. This technique uses 1,900 passenger cars per hour of green per lane as the maximum saturation flow of a single lane at an intersection. This saturation flow rate is adjusted to account for a number of variables which impact the flow of traffic.
4. All-way Stop-controlled (AWSC) Intersections: The HCM analysis methodology for evaluating AWSC intersections is based on degree of conflict for each independent approach created by the opposing approach and each conflicting approach. LOS for AWSC intersections is also based on the average control delay. The threshold values for AWSC intersections are generally lower than those for signalized intersections with the same LOS, based on the rationale that drivers expect AWSC intersections to carry lower traffic volumes than signalized intersections.
5. Two-way Stop-controlled (TWSC) Intersections: The HCM analysis methodology for evaluating TWSC intersections is based on gap acceptance and conflicting traffic for vehicles stopped on the minor-street approaches. The critical gap (or minimum gap that would be acceptable) is defined as the minimum time interval in the major-street traffic stream that allows intersection entry for one minor-street vehicle. Average control delay and LOS for the 'worst approach' are reported. LOS is not defined for the intersection as a whole.

The guidelines were used to determine the project’s conformance with County of San Diego Public Facility Element policies and evaluate whether a project’s impacts are perceptible to the average driver.

Project Trip Generation

The traffic impact analysis forecasts the number of vehicle trips that are projected to begin or end at the project site, which is called the project’s ‘trip generation.’ These trips are added to existing traffic patterns, and therefore are expected to result in some traffic increases on the streets where they occur. The estimates found in the current analysis rely on standard rates established in the SANDAG [Not So] Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region (2002). This manual provides standards and recommendations for the probable traffic generation of various land uses based upon local, regional and nationwide studies of existing developments in comparable settings.

Table 2-10-3, “Project Trip Generation” summarizes the trips generated by the Proposed Project:

**Table 2-10-3
Project Trip Generation**

Land Use	Intensity	Rate/ Trips	Daily Trips	AM Peak Hour			PM Peak Hour		
				Total	In	Out	Total	In	Out
Residential (Estate, Urban, or Rural)	44	Rate	12	8%	30%	70%	10%	70%	30%
		Trips	528	42	13	30	53	37	16
Total			528	42	13	30	53	37	16

As shown in Table 2-10-3, the project would add 528 ADT to the circulation network, with 42 trips occurring during the AM peak hour, and 53 trips occurring during the PM peak hour.

Project Trip Distribution

Trip distribution identified the probable destinations, directions, or traffic routes that project-related traffic would likely affect. In this case, the project trip distribution was estimated from observed traffic patterns and considerations of surrounding land uses. Figure 2-10-2, “Trip Distribution,” shows the project trip generation. As shown, it is expected that 70 percent of the project traffic will use SR76 west of the project, and 30 percent of the project traffic will use SR76 east of the project.

Road Segment Analysis

The Existing With Project scenario reflects traffic volumes when expected project traffic is added to existing traffic volumes. Table 2-10-4, “Existing with Project

Roadway Segment Conditions,” summarizes the existing roadway segments both with and without the Proposed Project.

Guideline 1: The additional or redistributed ADT generated by the proposed land development project will cause on-site Mobility Element Roads to operate below LOS C.

The project contains no Mobility Element Roads. Therefore Guideline 1 does not apply and impacts are less than significant. Mitigation is not required.

Guideline 2: The additional or redistributed ADT generated by the proposed land development project will significantly increase congestion on a Mobility Element Road or State Highway currently operating at LOS E or LOS F, or will cause a Mobility Element Road or State Highway to operate at LOS E or LOS F as a result of the proposed project..

One roadway within the study area, SR 76 between the I-15 Northbound and Southbound Ramps, currently operates at LOS E. The project is shown to contribute 135 additional ADT to this segment, which does not exceed the threshold of 200 ADT as defined in Table 2-10-1. As shown in Table 2-10-4, this roadway is shown to continue to operate at LOS E with or without the additional project traffic. Therefore Guideline 2 is not exceeded and direct impacts are less than significant. No mitigation is required.

Guideline 3: The additional redistributed ADT generated by the proposed project will cause a residential street to exceed its design capacity.

The project is expected to generate a total of 528 ADT, which will be distributed over two access points and internal streets. Most traffic generated by the project will use the SR 76/Haas Grove Lane intersection because it provides the most direct route to SR 76 both east and westbound. Maximum peak hour traffic using Adams Drive in the AM peak hour is currently 10 trips while PM trips are 23. With the addition of the project entry as Haas View Way/Adams Drive, AM and PM peak hour trips will be 17 and 21 respectively. Adams Drive is not classified on the County’s Mobility Element, although it is a maintained roadway within County Road Maintenance District 6. The roadway segment from the project intersection to the Adams Drive /SR 76 intersection consists of a 24 foot wide two lane road paved road with asphalt curbs. Due to the low level of traffic placed on the roadway, Adams Drive will not be negatively impacted by the project. Guideline 3 is not exceeded and impacts are not significant. Guideline 3 is not exceeded and impacts are less than significant. No mitigation is required.

Guideline 4: The additional or redistributed ADT generated by the proposed project will significantly increase congestion on a signalized intersection currently operating at LOS E or LOS F, or will cause a signalized intersection to operate at LOS E or F.

The results of the analysis are shown in Table 2-10-5, “Existing With Project Intersection Conditions.” As shown in Table 2-10-5, and as disclosed in section 2-10-1, Existing Conditions, above, one signalized intersection in the study area currently operates at LOS E or lower:

- SR 76 / I-15 SB Ramps – LOS E (PM peak hour)

As shown in the table, the addition of project traffic to this or any other intersections in the study area will not result in a significant increase in congestion at those intersections. All other intersections analyzed in Table 2-10-5 will continue to operate at LOS D or better with addition of project traffic.

Therefore Guideline 4 is not exceeded and impacts are less than significant. Mitigation is not required.

Guideline 5: Based upon an evaluation of existing accident rates, the signal priority list, intersection geometrics, proximity of adjacent driveways, sight-distance or other factors, the project would significantly impact operations of the intersection.

As discussed above, two signalized intersections in the project’s study area currently operate below LOS D. As shown in the table referenced above, none of these signalized intersections will experience a change in LOS with the inclusion of the expected project-generated traffic. The project does not propose any modifications to these intersections and therefore would have no effect on intersection geometrics or proximity to adjacent driveways.

Therefore, Guideline 5 for signalized intersections is not exceeded and direct impacts are less than significant. Mitigation is not required.

Guideline 6: The additional or redistributed ADT generated by the proposed project will add 21 or more peak hour trips to a critical movement of an unsignalized intersection, and cause an unsignalized intersection to operate below LOS D, or

Guideline 7: The additional or redistributed ADT generated by the proposed project will add 21 or more peak hour trips to a critical movement of an unsignalized intersection currently operating at LOS E, or

Guideline 8: The additional or redistributed ADT generated by the proposed project will add 6 or more peak hour trips to a critical movement of an unsignalized intersection, and cause the unsignalized intersection to operate at LOS F, or

Guideline 9: The additional or redistributed ADT generated by the proposed project will add 6 or more peak hour trips to a critical movement of an unsignalized intersection currently operating at LOS F, or

No unsignalized intersections in the project study area operate at LOS D, E, or F, and the project's contributing traffic will not cause any unsignalized intersection to operate at LOS D, E, or F. Guidelines 6, 7, 8, and 9 are not exceeded, impacts are less than significant, and no mitigation is necessary.

Guideline 10: Based upon an evaluation of existing accident rates, the signal priority list, intersection geometrics, proximity of adjacent driveways, the sight distance or other factors, the project would significantly impact the operations of the intersection.

The remaining unsignalized intersections currently operate at LOS C or better, and will not experience a change in LOS as a result of the project. These intersections are:

- SR76 / Pankey Road
- SR76 / Horse Ranch Creek Road
- SR 76 / Rice Canyon Road
- SR 76 / Couser Canyon Road
- SR76 / Warner Ranch Driveway
- W. Pala Mission Road/ Pala Temecula Road
- SR76 / Brittian Road
- SR76/ E. Pala Missions Road
- SR76/ Lilac Road
- SR76/Project Driveway
- SR76 / Adams Drive
- SR76 / Cole Grade Road

The project will be have primary access to public roads via the proposed Haas Grove Lane/ SR 76 intersection.

Corner and Stopping Sight Distance

Corner sight distance, also known as 'intersection sight distance' or 'decision sight distance,' is the distance from a potential point of conflict to the locations where both vehicles can see each other. The spacing within the intersection should be such that the vehicle with right-of-way should have enough room/time to avoid the vehicle

without right-of-way should it enter the intersection out of turn. Corner sight distance for left turns from a major road is generally less than that required from minor roads.

Sight stopping distance is the distance from the point of potential conflict to the locations where both vehicles can see each other. The sight distance should allow enough time for the vehicle with the right-of-way to come to a complete stop if necessary should the vehicle without right-of-way enter the intersection out of turn.

Primary Access

Table 2-10-6, “Existing Configuration Sight Distance Summary Primary Access,” shows the existing configuration sight distance at the primary project access, assuming the proposed realignment of Adams Drive with SR 76. As shown in Table 2-10-6, depending on the maneuver, sight distance requirements vary from 540 feet to 645 feet. Therefore, the sight distance at the primary project access is adequate and no safety impacts are identified. The analysis also concluded that the primary access point has adequate corner sight distance based upon field measurements.

Guideline 10 is not exceeded, impacts are not significant, and no mitigation will be required.

2.10.3 Cumulative Impacts

The County of San Diego has adopted an overarching programmatic approach to address existing and projected future road deficiencies in the unincorporated area of San Diego County. This program includes the adoption of a Transportation Impact Fee (TIF) to fund improvements to roadways in order to mitigate potential cumulative impacts anticipated by traffic from future development.

Based on the results of the TIF traffic modeling, funding was identified which would provide for the necessary construction of transportation facilities that will mitigate cumulative impacts from new development. Existing roadway deficiencies will be corrected through improvement projects funded by other public funding sources, such as TransNet, gas tax, and grants. Potential cumulative impacts to the region’s freeways have been addressed in SANDAG’s Regional Transportation Plan (RTP). This plan, which considers freeway buildout over the next 30 years, will use funds from the TransNet, state, and federal funding to improve freeways to projected level of service objectives in the RTP.

The project generates 528 daily trips. Some of these trips will use roadways that were found in the course of the cumulative analysis to operate at inadequate levels of service.

Table 2-10-7, “Cumulative with Project Roadway Segment Conditions,” shows the existing, existing plus cumulative, and existing plus cumulative plus project traffic and

the attendant changes anticipated to those intersections' LOS. In summary the table shows impacts to the following road segments:

2.10.4 Roadway Segments

- SR-76 from Horse Ranch Creek Road to Rice Canyon Road
- SR-76 from Rice Canyon to Couser Canyon
- SR-76 from Couser Canyon Road to West Pala Mission Road
- SR-76 from West Pala Mission Road to East Pala Mission Road
- SR-76 from East Pala Mission Road to Lilac Rd
- SR-76 from Lilac Rd to Adams Drive

These six roadway segments currently operate at LOS C and will experience a change to LOS F with or without the addition of project related traffic. Therefore impacts would occur even if the project were not to go forward. However, the project contributes to these impacts and therefore impacts must be addressed. Guideline 2 is exceeded and impacts are significant. **(Impact TR-1)**. Mitigation is required.

Table 2-10-8, "Cumulative with Project Intersection Conditions," summarizes the cumulative intersection analysis. As shown in Table 2-10-8, just one intersection, SR 76/E. Pala Drive will go from LOS D to E as a result of the project:

2.10.5 Intersections

- SR-76 / I-15 SB Ramps
- SR-76 / I-15 NB Ramps

The potential growth represented by this project was included in the growth projections upon which the TIF program is based. Therefore, payment of the TIF, which will be required at issuance of building permits, in combination with other components of the program described above, will be required. **(Impact TR-1)** By paying the TIF, the project's contribution to the cumulative impact can be rendered less than cumulatively considerable.

2.10.6 Significance of Impacts Prior to Mitigation

No direct impacts are anticipated from the Proposed Project.

TR-1 The project may contribute to a cumulative impact.

2.10.7 Mitigation

M-TR-1

Prior to the issuance of building permits, the proposed project shall participate in the County's Transportation Impact Fee (TIF) program by paying applicable development fees.

2.10.8 Conclusion

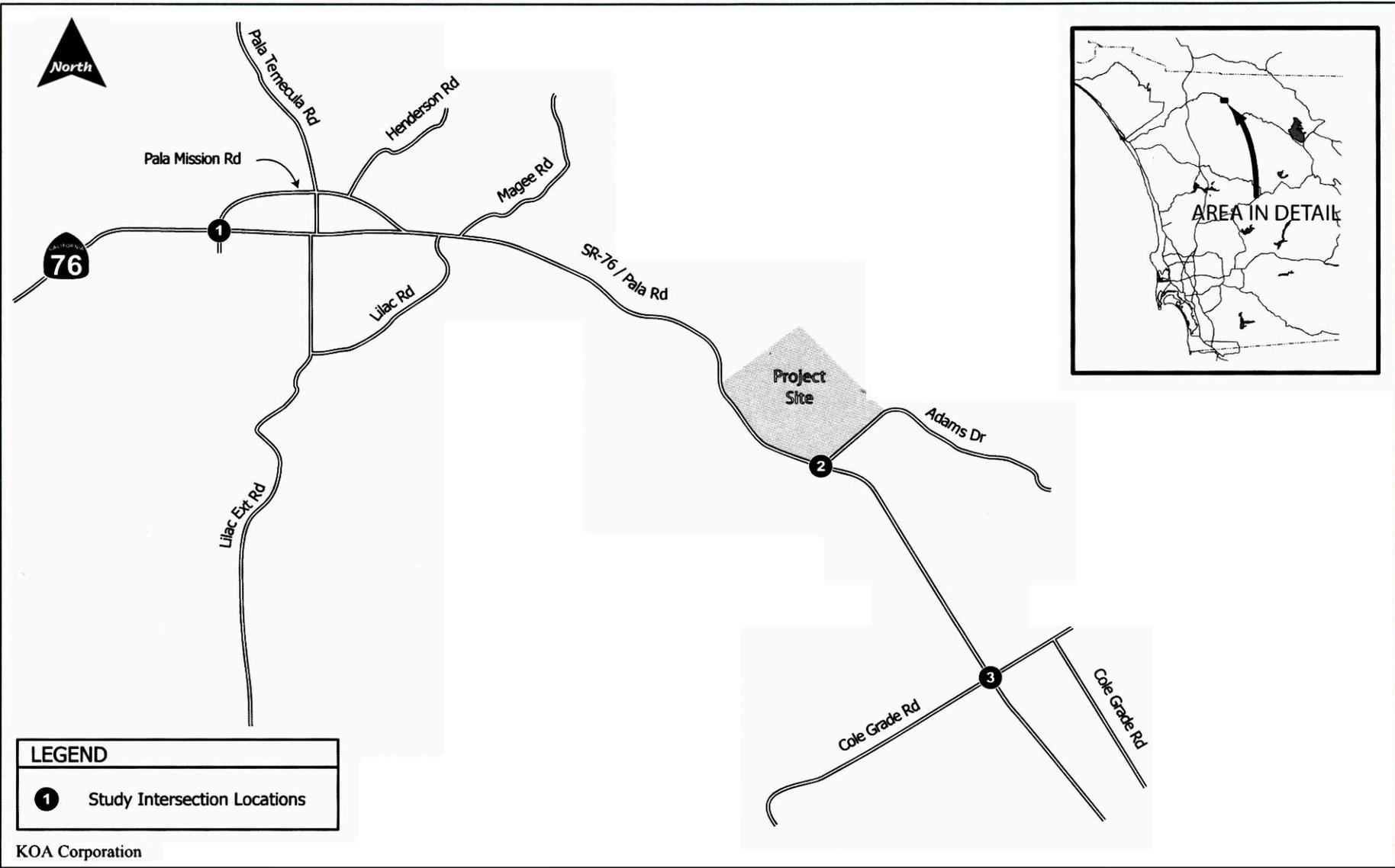
Analysis of existing roadway segment and peak-hour intersection performance was conducted by a County-approved consultant. Traffic counts were conducted in 2009, 2010, 2014 and 2019. The analysis found that all roadway segments and intersections are currently operating a LOS D or better, except for the road segment of SR76 between the northbound and southbound ramps of I-15. No direct impacts of any significance were identified.

A sight distance analysis was prepared for the project's primary access point. The analysis concluded that there is adequate site distance at the primary access point and no impacts are identified.

In the cumulative condition, the project the project was found to contribute to a significant impact to six study area roadway segments and two intersections. However, as a project that is accounted for in the growth projections for the area, payment of the TIF will be required. Payment of applicable development fees into the County's TIF program will mitigate the impact to below a level of significance because it will enable the County to fund improvements to roadways that will reduce the cumulative effect of increased traffic in the region. The TIF program involves the collection of development fees from project applicants to fund the construction of roadway facilities necessary to mitigate the cumulative traffic impacts of development project in the County of San Diego. Thus, cumulative impacts are mitigated to below a level of significance.

Adherence to the foregoing mitigation and recommendations will reduce project traffic impacts to below a level of significance. No further mitigation will be required.

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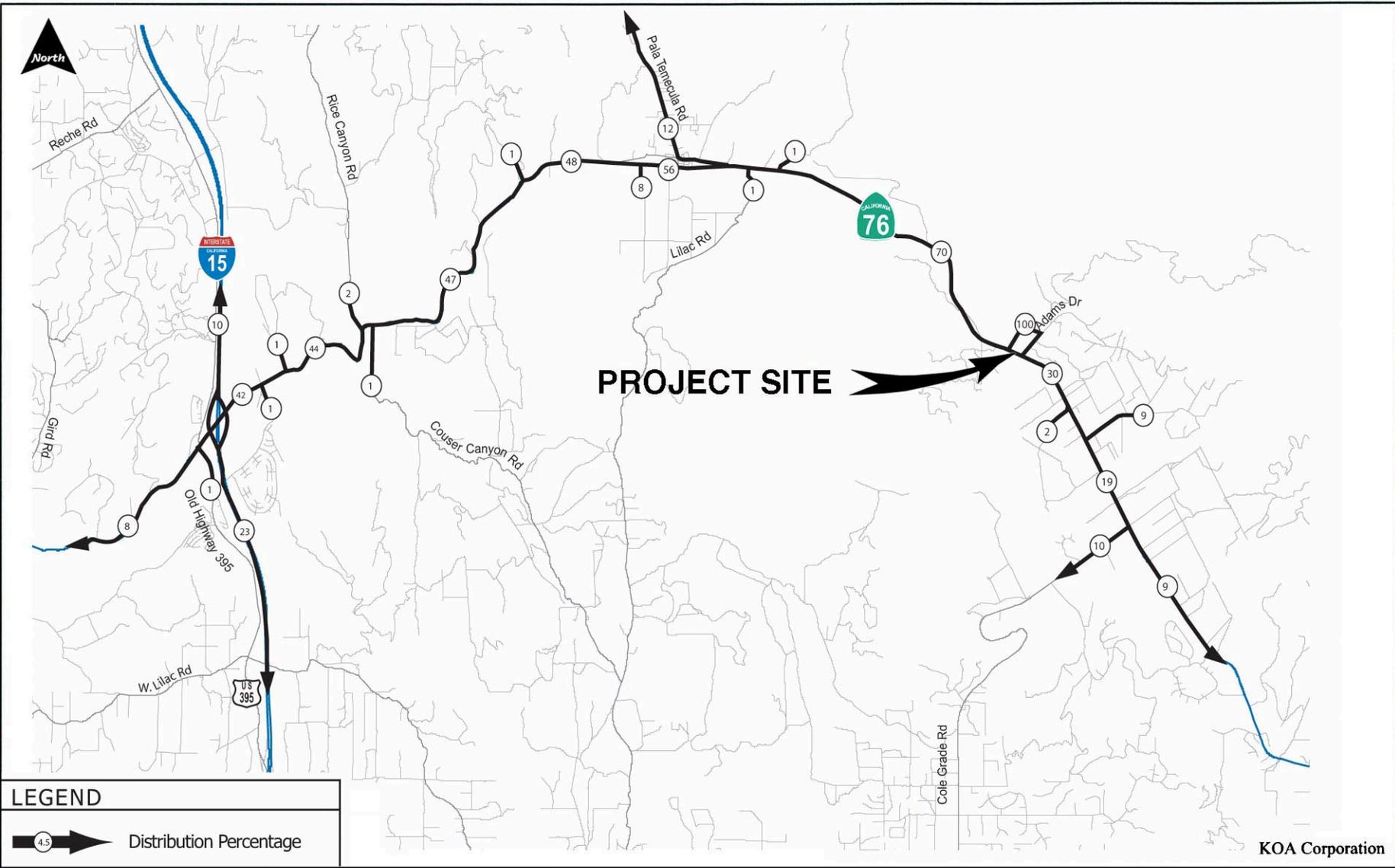
LEGEND	
1	Study Intersection Locations

KOA Corporation

**Figure
2-10-1**

Circulation Network





KOA Corporation

Figure 2-10-2

Trip Distribution



Roadway Segment	Lanes/ Class	LOS E Capacity	Existing			Existing + Project			Δ Traffic	Δ v/c	Direct Impact?
			ADT	V/C	LOS	ADT	V/C	LOS			
State Route 76											
I-15 SB Ramps to I-15 NB Ramps	2SR	22,900	19,359	0.845	E	19,494	0.851	E	135	0.006	No
I-15 NB Ramps to Pankey Road	4MR	37,000	11,031	0.298	A	11,263	0.304	A	232	0.006	No
Pankey Road to Horse Ranch Creek Road	4MR	37,000	11,031	0.298	A	11,263	0.304	A	232	0.006	No
Horse Ranch Creek Road to Rice Canyon Road	2SR	22,900	11,031	0.482	C	11,263	0.492	C	232	0.010	No
Rice Canyon Road to Couser Canyon Road	2SR	22,900	11,031	0.482	C	11,273	0.492	C	242	0.011	No
Couser Canyon Road to W. Pala Mission Road	2SR	22,900	10,224	0.446	C	10,478	0.458	C	254	0.011	No
W. Pala Mission Road to E. Pala Mission Road	2SR	22,900	10,329	0.451	C	10,625	0.464	C	296	0.013	No
E. Pala Mission Road to Lilac Road	2SR	22,900	8,821	0.385	C	9,181	0.401	C	360	0.016	No
Lilac Road to Adams Drive	2SR	22,900	9,456	0.413	C	9,826	0.429	C	370	0.016	No
Adams Drive to Cole Grade Road	2SR	22,900	9,090	0.397	C	9,248	0.404	C	158	0.007	No
W. Pala Mission Road											
State Route 76 and Pala Temecula Road	2RC	16,200	4,711	0.291	C	4,711	0.291	C	0	0.000	No
Pala Temecula Road											
Pala Mission Road to Trujillo Road	2RC	16,200	8,318	0.513	D	8,382	0.517	D	64	0.004	No

Note: 2RC: 2-lane Rural Collector; 2SR: 2-lanes State Route; 4C: 4-lane Collector; 4MR: 4-lane Major

Intersection	Existing		Existing + Project		Δ Trips	Δ Delay	Direct Impact?
	Delay	LOS	Delay	LOS			
AM Peak Hour							
1. I-15 / SR 76 SB Ramps	31.1	C	31.6	C	WBL - 7	0.5	No
2. I-15 / SR 76 NB Ramps	23.6	C	23.8	C	WBT - 10	0.2	No
3. SR 76 / Pankey Road ¹	12.3	B	12.4	B	NBLTR - 0	0.1	No
4. SR 76 / Horse Ranch Creek Rd	-	-	-	-	-	-	No
5. SR 76 / Rice Canyon Road ¹	11.2	B	11.3	B	SBLTR - 0	0.1	No
6. SR 76 / Couser Canyon Road ¹	12.3	B	12.5	B	NBLTR - 0	0.2	No
7. SR 76/Warner Ranch Driveway	0.5	A	0.5	A	EBT - 6	0.0	No
8. SR 76 / W. Pala Mission Road	26.4	C	26.3	C	WBT - 14	-0.1	No
9. Pala Mission Rd./ Pala Temecula Road ¹	9.7	A	9.7	A	SBLTR - 0	0.0	No
10. SR 76 / Brittian Road ¹	9.1	A	9.2	A	SBLTR - 0	0.1	No
11. SR 76/ E. Pala Mission Road ¹	12.5	B	12.9	B	SBLTR - 2	0.4	No
12. SR 76/ Lilac Road ¹	11.8	B	12.0	B	NBLTR - 0	0.2	No
13. SR 76 / Project Driveway ¹	0.0	A	9.9	A	SBLTR - 21	9.9	No
14. SR 76 / Adams Drive ¹	10.1	B	10.8	B	SBLTR - 9	0.7	No
15. SR 76 / Cole Grade Road ¹	17.0	C	17.2	C	NBLTR - 1	0.2	No
PM Peak Hour							
1. I-15 / SR 76 SB Ramps	58.8	E	59.7	E	EBR - 3	0.9	No ¹
2. I-15 / SR 76 NB Ramps	51.1	D	51.4	D	WBT - 5	0.3	No
3. SR 76 / Pankey Road ¹	13.1	B	13.4	B	NBLTR - 0	0.3	No
4. SR 76 / Horse Ranch Creek Rd	-	-	-	-	-	-	No
5. SR 76 / Rice Canyon Road ¹	13.3	B	13.7	B	SBLTR - 1	0.4	No
6. SR 76 / Couser Canyon Road ¹	14.8	B	15.1	C	NBLTR - 0	0.3	No
7. SR 76/Warner Ranch Driveway	0.5	A	0.5	A	EBT - 18	0.0	No
8. SR 76 / W. Pala Mission Road	27.6	C	27.4	C	WBT - 8	-0.2	No
9. Pala Mission Rd./ Pala Temecula Road ¹	11.2	B	11.3	B	SBLTR - 4	0.1	No
10. SR 76 / Brittian Road ¹	10.1	B	10.2	B	SBLTR - 0	0.1	No
11. SR 76/ E. Pala Mission Road ¹	16.7	C	17.7	C	SBLTR - 4	1.0	No
12. SR 76/ Lilac Road ¹	13.1	B	13.5	B	NBLTR - 0	0.4	No
13. SR 76 / Project Drive ¹	0.0	A	11.9	B	SBLTR - 12	11.9	No
14. SR 76 / Adams Drive ¹	13.4	B	13.6	B	SBLTR - 5	0.2	No
15. SR 76 / Cole Grade Road ¹	17.9	C	18.4	C	SBLTR - 4	0.5	No

¹County of San Diego Significant Traffic Impact Thresholds not met



Existing with Project Intersection Conditions

**Table
2-10-5**

Maneuver	Prevailing Speed	Existing Sight Distance (feet)				
		Type	Evasive Action	Needed	Available	Adequate?
Left turn from Project Driveway looking west	58 MPH	Corner	B slows for A	580* / 645**	700	Yes
		Stopping	----	540**	----	----
Right turn from Project Driveway looking east	58 MPH	Corner	C slows for A	580* / 645**	700	Yes
		Stopping	----	540**	----	----
Left Turn into Project Driveway looking east	58 MPH	Corner	----	----	----	----
		Stopping	B stops for D	540**	700	Yes

* Value from San Diego County Standards for Private Roads

** Value from AASHTO document: A Policy on Geometrics for Highways and Streets

Roadway Segment	Lanes/ Class	LOS E Capacity			Existing		Existing + Cumulative		Existing + Cumulative + Project		[X] Traffic		[X] v/c	Cumulative Impact?
		ADT	V/C	LOS	ADT	V/C	LOS	ADT	V/C	LOS				
State Route 76														
I-15 SB Ramps to I-15 NB Ramps	2SR	22,900	19,359	0.845	E	35,150	1,535	F	35,285	1,541	F	135	0.006	No ¹
I-15 NB Ramps to Pankey Road	4MR	37,000	11,031	0.298	A	32,805	0.887	D	33,037	0.893	D	232	0.006	No
Pankey Road to Horse Ranch Creek Road	4MR	37,000	11,031	0.298	A	31,921	0.863	D	32,153	0.869	D	232	0.006	No
Horse Ranch Creek Road to Rice Canyon Road	2SR	22,900	11,031	0.482	C	32,513	1,420	F	32,745	1,430	F	232	0.010	Yes
Rice Canyon Road to Couser Canyon Road	2SR	22,900	11,031	0.482	C	32,764	1,431	F	33,006	1,441	F	242	0.011	Yes
Couser Canyon Road to W. Pala Mission Road	2SR	22,900	10,224	0.446	C	32,946	1,439	F	33,200	1,450	F	254	0.011	Yes
W. Pala Mission Road to E. Pala Mission Road	2SR	22,900	10,329	0.451	C	23,166	1,012	F	23,462	1,025	F	296	0.013	Yes
E. Pala Mission Road to Lilac Road	2SR	22,900	8,821	0.385	C	25,438	1,111	F	25,798	1,127	F	360	0.016	Yes
Lilac Road to Project Access	2SR	22,900	9,456	0.413	C	24,958	1,090	F	25,326	1,106	F	368	0.016	Yes
Project Access to Adams Drive	2SR	22,900	9,456	0.413	C	24,958	1,090	F	25,084	1,095	F	126	0.006	No ¹
Adams Drive to Cole Grade Road	2SR	22,900	9,090	0.397	C	24,158	1,055	F	24,316	1,062	F	158	0.007	No ¹
W. Pala Mission Road														
State Route 76 and Pala Temecula Road	2RC	16,200	4,711	0.291	C	7,010	0.433	C	7,010	0.433	C	0	0.000	No
Pala Temecula Road														
Pala Mission Road to Trujillo Road	2RC	16,200	8,318	0.513	D	10,548	0.651	D	10,612	0.655	D	64	0.004	No

¹ County of San Diego Significant Traffic Impact Thresholds not met based upon Table 3 of Chapter 4 in the County of San Diego Guidelines for Determining Significance

General Note: 2RC: 2-lane Rural Collector; 2SR: 2-lanes State Route; 4C: 4-lane Collector; 4MR: 4-lane Major



Cumulative with Project Roadway Segment Conditions

Table 2-10-7

Cumulative With Project Intersection Conditions

Intersection	Existing		Existing + Cumulative		Existing + Cumulative + Project		☑ Trips		☑ Delay		Cumulative Impact?
	Delay	LOS	Delay	LOS	Delay	LOS	Trips	LOS	Delay	LOS	
AM Peak Hour											
1. I-15/SR 76 SB Ramps	31.1	C	2153	F	217.1	F	F	WBL-7	1.8		Yes
2. I-15/SR 76 NB Ramps	236	C	119.1	F	121.2	F	F	WBT-10	2.1		Yes
3. SR 76/Parkley Road ¹	123	B	252	C	25.1	C	C	NBLTR-0	0.1		No
4. SR 76/Horse Ranch Creek Rd ¹	-	-	21.9	C	21.8	C	C	-	0.1		No
5. SR 76/Rice Canyon Road ¹	112	B	341.0	F	361.8	F	F	SELTR-0	20.8		No
6. SR 76/Cousser Canyon Road ¹	123	B	167.8	F	170.3	F	F	NBLTR-0	11.5		No
7. SR 76/Warner Ranch Diverge ¹	0.5	A	23.7	C	23.6	C	C	EBT-6	0.1		No
8. SR 76/W. Pala Mission Road	264	C	24.9	C	24.9	C	C	WBT-14	0.0		No
9. Pala Mission Rd/Pala Temocula Road ¹	97	A	14.7	B	14.8	B	B	SEL-0	0.1		No
10. SR 76/Bitter Road ¹	91	A	10.8	B	11.0	B	B	SELTR-0	0.2		No
11. SR 76/E. Pala Mission Road ¹	125	B	34.9	D	38.4	E	E	SELTR-2	3.5		No
12. SR 76/Like Road ¹	118	B	26.5	D	27.9	D	D	NBLTR-0	1.4		No
13. SR 76/Project Access ¹	0.0	A	0.0	A	13.5	B	B	SELTR-26	13.5		No
14. SR 76/Adams Drive ¹	101	B	13.0	B	14.4	B	B	SELTR-5	1.4		No
15. SR 76/Cole Grade Road ¹	17	C	266.6	F	266.6	F	F	NBLTR-1	9.0		No
PM Peak Hour											
1. I-15/SR 76 SB Ramps	588	E	32.5	F	30.5	F	F	EBR-3	1.0		Yes
2. I-15/SR 76 NB Ramps	51.1	D	263.4	F	265.5	F	F	WBT-5	2.1		Yes
3. SR 76/Parkley Road ¹	131	B	51.1	D	51.8	D	D	NBLTR-0	0.7		No
4. SR 76/Horse Ranch Creek Rd ¹	-	-	24.3	C	24.3	C	C	-	0.0		No
5. SR 76/Rice Canyon Road ¹	133	B	Overflow	F	Overflow	F	F	SELTR-1	N/A		No
6. SR 76/Cousser Canyon Road ¹	148	B	711.3	F	739.7	F	F	NBLTR-0	47.4		No
7. SR 76/Warner Ranch Diverge ¹	0.5	A	13.5	B	13.5	B	B	EBT-18	0.0		No
8. SR 76/W. Pala Mission Road	276	C	32.5	C	32.6	C	C	WBT-8	0.1		No
9. Pala Mission Rd/Pala Temocula Road ¹	112	B	21.0	C	21.4	C	C	SELTR-4	0.4		No
10. SR 76/Bitter Road ¹	101	B	19.6	C	20.2	C	C	SELTR-0	0.6		No
11. SR 76/E. Pala Mission Road ¹	167	C	519.5	F	57.8	F	F	SELTR-4	58.3		No
12. SR 76/Like Road ¹	131	B	131.5	F	148.1	F	F	NBLTR-0	17.6		No
13. SR 76/Project Access ¹	0.0	A	0.0	A	25.6	D	D	SELTR-13	25.6		No
14. SR 76/Adams Drive ¹	134	B	33.6	D	35.5	E	E	SELTR-3	1.9		No
15. SR 76/Cole Grade Road ¹	17.9	C	948.2	F	995.3	F	F	SELTR-4	37.1		No

¹ Significance of unsignalized intersections is determined by the number of added project trips to the critical movement as seen in Table 2 of Chapter 4 in the County of San Diego Guidelines for Determining Significance.



Cumulative with Project Intersection Conditions

Table 2-10-8