

Approximately 1.19 acres of this designation are located along the property boundaries in the southeastern and northern portions of the Project site.

Other Land

Areas not included in any other Important Farmland mapping category are designated as Other Land. Common examples include low density rural developments; brush, timber, wetland and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; vacant and non-agricultural areas larger than 40 acres and surrounded by urban development; and strip mines, borrow pits and water bodies smaller than 40 acres. Approximately 109.70 acres of Other Land are mapped in the northern, eastern and southeastern portions of the site.

Important Farmland Designation Not Present Within the Project Site

Prime Farmland

Prime Farmland includes areas that have the best combination of physical and chemical characteristics for the production of crops, including (but not limited to) moisture regime, soil temperature, pH, groundwater depth, sodium content, flooding, erodibility, permeability, rock fragment content and rooting depth. It has the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops when treated and managed, including water management, according to current farming methods. Prime Farmland must have been used for the production of irrigated crops at some time during the two update cycles (four years) prior to the mapping date.

Farmland of Statewide Importance

Farmland of Statewide Importance includes areas other than Prime Farmland that have a good combination of physical and chemical characteristics for the production of crops (including all characteristics listed for Prime Farmland except permeability and rooting depth). It must have been used for the production of irrigated crops at some time during the two update cycles prior to the mapping date.

Table 2
FMMP IMPORTANT FARMLAND DESIGNATIONS WITHIN THE
PROJECT SITE, ZOI AND AGRICULTURAL CUMULATIVE STUDY AREA
(acres)¹

Important Farmland Designations	Project Site	ZOI	Cumulative Study Area²
Prime Farmland	0	0	2.43
Farmland of Statewide Importance	0	0	0
Unique Farmland	100.49	131.58	516.20
Farmland of Local Importance	27.32	35.59	217.68
Urban and Built-up Land	1.19	462.33	1,881.92
Other Land	109.70	797.25	10,187.17
TOTAL	238.70³	1,426.75³	12,805.40³

¹ See Figure 6 for mapped locations.

² Includes all area within the cumulative study area and the ZOI, but not the Project site. Refer to Section 4.0 of this report for a discussion of the cumulative study area and related impact analysis.

³ Totals may vary slightly from those in other portions of this report due to rounding.

History of Agricultural Use

Available historic information from the Project Cultural Resources Investigation (Affinis Environmental Services, 2013) indicates that portions of the site were originally patented (conveyed to private ownership) in the late 19th Century, with a number of “farm-related” facilities reportedly erected in the late-19th to mid-20th centuries. Specifically, the Cultural Resources Investigation identifies two “historic farm complexes” within the site, including one (P-37-026762) in the south-central portion of the site, and one (the “Fines Complex”) in the southeastern site corner. Both of these areas, along with other applicable on-and off-site resources, are evaluated below in the discussion of historic aerial photographs. This discussion encompasses photos from the Project Cultural Resources and Phase I/II ESAs dated 1928, 1928/1929, 1947, 1953, 1963, 1974, 1980, 1990, 1994/1995, and 2005, as well as a current (2012) photo provided as Figure 4. Because two separate ESAs were conducted for different portions of the Project site, a number of the associated historic photos occur in both reports for the same years, with the individual photos encompassing different areas of coverage. Specifically, two separate photos are included in the ESAs and reviewed below for the following dates: 1947, 1953, 1963, 1974, 1994/1995, and 2005 (with these photos included in Appendix C, along with the 1928, 1928/1929 and 1980 photos, and identified by the associated ESA. Additional aerial photos available from online sources (<http://www.earth.google.com>, and <http://www.historicaerials.com>) were also used to review areas not visible in the Cultural Resource and Phase I/II ESA photos, with these photos described below where appropriate but not included in Appendix C.

- 1928 and 1928/1929 Photographs – The 1928 photo from the Cultural Resources Investigation encompasses the southeastern and south-central portions of the site, including the two “historic farm complexes” noted above. This photo depicts relatively extensive orchard cultivation in the southeastern portion of the site, with this area assumed to be associated with the “Fines Complex.” Additional orchards and related

residential uses are also present in adjacent/nearby off-site areas to the east, west, north, and south. Both photos show development associated with historic site P-37-026762, including a “farmhouse” (as termed in the Cultural Resources Investigation) and related structures in the south-central portion of the site (refer also to Figures 7a and 7b, with the “farmhouse” labeled as “Former Residential Structure”). While associated areas within the Project site have been subject to clearing or grading, there is no definitive evidence of related agricultural uses such as cultivation (e.g., orchard/crop plantings or furrows) or livestock production (e.g., barn structures or corrals). The 1928/1929 photo from the Cultural Resources Investigation also clearly depicts cultivated areas (orchards) in adjacent off-site properties north of P-37-026762. Based on the described information, the “Fines Complex” and associated areas in the southeastern Project site were in agricultural production by at least 1928, while no agricultural uses are attributed to historic site P-37-026762 and adjacent areas within the Project site at that time. Additional development within visible portions of the site in the referenced photos is limited to unpaved roads and trails. The majority of the western Project site is not visible in either photograph, although it is assumed that no agricultural activities were present in these areas based on evidence from subsequent photos as outlined below.

- **1947 Photographs** – The 1947 photos from the Project Phase I/II ESA reports include all but the northern-most portion of the Project site, along with adjacent off-site areas. In these photos, the orchard cultivation previously noted in association with the “Fines Complex” in the southeastern portion of the site is absent, with a small water impoundment present along the main drainage extending generally north-south through this area. A number of buildings and unpaved roads and trails are also present in this area by 1947, although no associated agricultural uses are visible. The portions of the site associated with P-37-026762 do not include visible cultivation or other apparent agricultural uses, and are generally similar in nature to the 1928 and 1928/1929 photos. A potential exception to this assumption involves a linear structure present in the area just southwest of the “farmhouse” structure. While this facility could possibly be interpreted as an agricultural-related structure (e.g., a greenhouse or poultry barn), it is considered most likely to be non-agricultural in nature (e.g., a storage facility) due to its limited extent (i.e., a single structure) and small size (approximately 90 feet by 6.5 feet) relative to similar local agricultural structures (which are typically on the order of 200 to 300 feet long and 20 to 30 feet wide). Accordingly, no agricultural use is attributed to historic site P-37-026762 and adjacent areas in 1947. An approximately 1.6-acre area of apparent orchard cultivation is present in the east-central portion of the site, in association with similar adjacent off-site uses to the south. Based on the location and minor extent of this use, this on-site orchard use may have resulted from a surveyor’s error or other misinterpretation of the on-the-ground property boundary. Additional on-site uses in 1947 include an apparent residential site in the north-central portion of the property and a number of unpaved roads and trails. Off-site orchard uses to the east and south (the Harmony Grove Village site) are less extensive than in 1928/1929, while small additional areas of off-site orchard development and related facilities (roads, structures, etc.) are present to the southwest and immediately north of historic site P-37-026762 (and extend into the site, as previously noted).

An additional 1947 photo was reviewed online (historicaerials.com) to observe the northern-most portion of the site not visible in the Phase I/II ESA 1947 photos described above. Based on this photo, the northernmost portion of the site was undeveloped in 1947 and supported native vegetation, with no agricultural activity present.

- 1953 Photographs – The 1953 photos from the Project Phase I/II ESA reports provide similar on-site coverage and slightly less off-site coverage to the north and south than that noted above for the Phase I/II ESA 1947 photos. Conditions within the visible portions of the site and surrounding areas were similar to those described for the Phase I/II ESA 1947 photos, with on-site agricultural uses limited to a 1.6-acre area of orchards in the east-central portion of the property, and agricultural activity (orchards) located in several adjacent off-site areas. The water impoundment noted in the southeastern portion of the site on the 1947 photos was expanded somewhat by 1953, although no evidence of associated agricultural uses, such as cultivation or animal activity is visible.

An additional online (historicaerials.com) 1953 photo was also reviewed, with the northernmost portion of the Project site supporting native vegetation and no agricultural uses present. Surrounding areas encompassed extensive open space in 1953, with minor (albeit more extensive) orchard development to the south and east, and more extensive orchards than are currently present in surrounding areas further from the site. The following two notable changes also occurred in surrounding areas to the north and south: (1) an area of apparent row/field crops and an animal facility (i.e., a small dairy or feed lot) are present northwest of the site (north of the current SR-78 corridor); and (2) portions of the large area of orchard cultivation to the south on the Harmony Grove Village site were apparently graded, with no evidence of cultivation or other agricultural activity observed in these graded sites (although substantial orchard uses remained in the other, ungraded, portions of this area).

- 1963 Photographs – The 1963 photos from the Project Phase I/II ESA reports are generally similar in extent to the 1953 Phase I/II ESA photos described above, with more coverage to the north and slightly less to the south. On-site conditions in 1963 were generally similar to those described in 1953, although the 1.6-acre area of orchards in the east-central area appears abandoned (with no trees present), the related off-site orchard operations to the south are also largely gone, no additional on-site agricultural activities are visible, and the linear structure noted in association with historic site P-37-026762 on the 1947 and 1953 photos was absent. Additional development was present on-site in the form of new roads and trails, an apparent equestrian facility (i.e., a horse ring) in the east-central portion of the site, and a pumphouse and water impoundment associated with historic site P-37-026762 (refer also to Figures 7a and 7b). While the latter facilities are described as part of a “farm complex” in the Project Cultural Resources Report, no associated cultivation or other agricultural facilities/uses are visible onsite. It should also be noted that several areas of cultivated orchards are present in adjacent or nearby off-site areas to the north, east and southwest, with the described irrigation facilities potentially used to support water for those off-site uses.

An additional online (historicaerials.com) photo dated 1964 was also reviewed to assess the northernmost portion of the site and off-site areas. The northernmost site area supports native vegetation, while additional off-site agricultural development is present in this photo to the east in the form of orchards, as well as to the south on the Harmony Grove Village site. Specifically new development on the Harmony Grove site included a number of apparent dairy-related facilities (corrals and barns), as well as chicken coop structures. Agricultural uses in areas further to the west and southwest are more extensive than documented in previous photos, with large-scale orchards, as well as additional uses such as row/field crops and nursery sites. Agricultural uses consisting mainly of orchards are more prevalent in areas further to the north than current conditions (similar to the previous photos), although some reduction in these uses occurred between 1953 and 1964 as a result of ongoing urban development. The dairy or feed lot site identified to the northwest in 1953 is present and somewhat larger in 1964, and an additional animal-related facility is present just south of the dairy/feed lot.

- 1974 Photographs – The 1974 photos from the Phase I/II ESA reports include the majority of the Project site, although the western and northernmost areas are not visible. Conditions in the southeastern, south-central and central portions of the site are similar to those described for the 1963 photos, with no agricultural uses present and some additional development such as roads and minor structures. The visible portions of the western site area include extensive orchard cultivation similar to current conditions, although with generally smaller trees. As a result, the majority of the current on-site avocado orchards are assumed to have been planted during the late 1960s and early 1970s. Off-site areas visible in this photo are limited mainly to adjacent properties to the east and south, with conditions generally similar to those described above for the 1963 and 1964 photos.
- 1980 Photograph – The 1980 photo from the 2012 Phase I ESA Report is limited to the southeastern site area, a small portion of the south-central site area, and adjacent off-site properties to the east and south. On-site conditions in the noted locations are generally unchanged from the 1974 photos, with no agricultural uses present. Additional agricultural uses are visible in off-site areas to the east and south, including orchards in several locations and more extensive egg ranch/dairy structures on the Harmony Grove Village site to the south.

An additional online (historicaerials.com) photo dated 1980 was reviewed to assess applicable on- and off-site areas not visible in the Phase I 1980 photo. Based on this review, the nature and extent of on-site agricultural (orchard) uses in the western and northern portions of the site were similar to current conditions, although the orchards in the northernmost area appear to be more recent (as evidenced by smaller trees). A number of additional on-site facilities are also present, however, including an apparent residential structure in the northern portion of the Project site (which is still present), an apparent equestrian facility (a horse ring) in the east-central portion of the site (which is no longer present and was in a different location than a similar facility noted on the 1963 photos), and an additional residence/equipment shed associated with historic site P-37-026762 (refer to Figures 7a and 7b). Additional orchard and nursery development

is also present in adjacent off-site areas to the south (on the Harmony Grove Village site) and southwest, with these areas similar in nature and extent to current conditions. Agricultural uses to the east (orchards) are similar to those described on the 1964 online photo, while additional egg ranch/dairy uses are present on the Harmony Grove Village site to the south (i.e., compared to previous photos). Much of the previous agricultural use (orchards) further north of the Project site had been replaced with ongoing urban development by 1980, with only minor cultivation remaining in association with estate residential uses. The previously noted animal-related facilities to the northwest, however, are still present in 1980. The overall extent of agricultural use in areas further to the southwest is similar to that noted above in 1964, although some previous agricultural uses were replaced with low-density urban development, while new agricultural uses, including orchards, row/field crops, and nurseries were present.

- 1990 Photographs – The 1990 photos from the Project Phase I/II ESA reports include all but the northern-most portions of the Project site, along with adjacent off-site areas. Conditions in the visible portions of the site are similar to current conditions, with extensive avocado orchards in the western and northern areas and agricultural uses in other portions of the site limited to minor apiary facilities. A number of additional apparent equestrian facilities (horse rings and trails) are also present in the southeastern portion of the site, and the horse ring present in the east-central portion of the site on previous photos is no longer visible. Off-site uses are generally similar to those described in 1980, although additional urban development is present to the east.

An additional 1989 photo was reviewed online (historicaerials.com) to assess the northernmost portions of the site, with these areas supporting avocado orchards similar to current conditions.

- 1994/1995 Photographs – The 1994/1995 photos from the Project Phase I/II ESA reports are similar in extent to the 1990 Phase I/II ESA photos described above, with slightly less on- and off-site coverage to the north, and slightly more off-site coverage to the south. On-site conditions are generally the same as those described in 1990, with extensive avocado orchards and minor apiary facilities in the western portion of the site and no other on-site agricultural uses present. A transmission line easement/corridor is visible within the southeastern portion of the site for the first time, with these facilities still present as previously described. Visible off-site areas in these photos are essentially similar to current conditions, with extensive orchards and nurseries present to the south and southwest, and smaller areas of orchards and other agricultural uses to the east, south, and west (often associated with estate residential development). In addition, large-scale egg ranch/dairy facilities are present on the Harmony Grove Village site to the south in 1994/1995, although as previously described these facilities were observed to be completely removed/demolished, during February 2013 field surveys.

An additional online (earth.google.com/) 1994 photo was also reviewed to assess the northern portion of the site and off-site areas to the north and west not visible in the 1994/1995 phase I/II photos. Observed conditions in the noted on- off-site areas are similar to current conditions, with avocado orchards in the northern portion of the Project

site, small-scale orchards to the west (typically associated with estate residential uses), estate residential uses to the northwest, and increasing urban development farther north.

- 2005 Photographs – The 2005 photos from the Project phase I/II ESA reports include all but the northernmost portions of the Project site, along with adjacent off-site areas. Conditions in the visible portions of the site are generally similar to current conditions, with extensive avocado orchards and several small apiary facilities present in the western area. An additional area of on-site agricultural use is also visible in 2005, however, consisting of a small (1.35-acre) area of apparent row/field crops in the east-central portion of the site likely associated with nearby estate residential development. Visible off-site areas in the 2005 photos are essentially the same as those described in 1994/1995.

A number of additional online (earth.google.com/) photos dated 1996, 2002, 2003, 2006, and 2008 through 2010 were also reviewed to assess the northern portion of the Project site, as well as to determine the historical timing and extent of the noted row/field crop cultivation in the east-central portion of the site visible in the 2005 photos. The northern portion of the site exhibited avocado orchards similar to current conditions in all the listed online photos. The row/field crop cultivation was first visible as a smaller area (approximately one acre) in 2002 (i.e., this use was not present in the 1996 photo), and is present at varying sizes until 2009 when this use was apparently discontinued (with no subsequent agricultural use of this area, refer also to the 2012 photo description below). Accordingly, this use is assumed to have been initiated sometime between 1997 and 2002, and was active for a period of approximately 7 to 12 years before being discontinued in 2009 (with the described conditions on the 2005 photos representing the maximum extent of cultivation).

- 2012 Photograph – The 2012 photo included as Figure 4 displays current conditions in the site and most off-site areas. Specifically, on-site agricultural uses are similar to those described from 2005, with the following exceptions: (1) the row/field crop cultivation in the east-central portion of the site is no longer present (with this use apparently terminated in 2009 as previously noted); and (2) some additional avocado cultivation is present in the west-central portion of the site and a few areas exhibit smaller trees, suggesting replacement of mature trees. Conditions in the southeastern portion of the site are also similar to 2005, with some minor modifications related to additional structures and road/trail reconfigurations. Additional off-site orchard cultivation is present in adjacent areas to the south and southwest (with areas along the southern site boundary removed or abandoned, as previously described), as well as nearby locations to the west associated with estate residential uses. While all of the previously described orchard areas to the east of the site have been replaced by urban development in 2012, several new agricultural uses are present east of the property boundary, including minor orchards and small areas of apparent row/field crop, greenhouse and vineyard operations (with all uses except greenhouses apparently associated with estate residential sites). All of the previously described agricultural uses in areas further north of the site have been replaced with urban development by 2012. The previously described egg ranch and dairy uses at the Harmony Grove Village site to the south are still partially present in the 2012 photo, although as previously noted this site is currently being developed and all egg- and

dairy-related uses/facilities had been terminated/removed, as of February 2013. Agricultural uses in areas further to the southwest are similar to those described in 2005, with numerous small orchards related to estate residential sites, and a number of relatively large commercial nursery operations.

Pursuant to the above information, the following conclusions are provided: (1) commercial agricultural operations (orchards) on the Project site were initially conducted in the southeastern portion of the site during the early part of the 20th Century, with these activities discontinued by the late 1940s; (2) minor and short-lived agricultural activities occurred on-site in the east-central portion of property during the 1950s (orchards) and late 1990s/early 2000s (row crops); and (3) existing commercial orchard operations in the western and northern portions of the site have occurred more or less continuously since the late 1960s or early 1970s.

Based on the nature and extent of current and historical on-site agricultural use, limited soil testing, and information received from the County AWM, pesticide use (and the potential for associated residues) at the site is considered low. Specifically, current and historical agricultural operations within the site and nearby areas consist predominantly of avocado or citrus orchards; as well as small-scale mixed-use orchards, row/field crop cultivation, vineyards, and greenhouses. Orchards and greenhouses typically entail only minor pesticide use, while other noted on- and off-site agricultural uses are minor in scale, associated with estate residential sites, and unlikely to be commercial in nature. A total of 13 soil samples from the western and central portions of the site were laboratory tested for organochlorine pesticides and arsenic, as part of the limited Phase II ESA, with none of the noted compounds detected at or above laboratory reporting limits (GEOCON 2013). Agricultural-related pesticide use records for the Project site obtained from the AWM indicate that no recorded pesticide use and/or storage occurred on site, during the period of 2008 to 2012 (County 2013b).

Climate

As noted in Section 1.4.1, the Project site region is characterized by a Mediterranean climate, with moderate year-round temperatures and relatively low precipitation levels, most of which falls during the winter months. Average annual precipitation at the nearest reporting station (City of San Marcos, 92078) is approximately 15.11 inches, with the highest average rainfall totals occurring in January (3.03 inches), February (3.52 inches), and March (2.65 inches). The driest months are June, July, and August, with average rainfall totals of 0.12, 0.08, and 0.08 inches, respectively (weather.com 2013). July, August, and September are the warmest average months in the Project site region, with average daily highs of 87°F for July and September, and 89°F for August. Corresponding average lows are 62°F for July and September, and 63°F for August. December and January represent the coldest months, with average high temperatures of 68° and 69°F respectively, and corresponding average lows of 42 and 43°F. Temperature extremes are relatively uncommon in the Project vicinity, with a record high temperature of 112°F recorded in 2006, and a record low of 25°F in 2007 (weather.com 2013).

The County is divided into a series of “plant climates,” which are defined as areas “[i]n which specific plants, groups or associations are evident and will grow satisfactorily, assuming water and soil are favorable.” (Gilbert 1970). Plant climates in San Diego County occur as a series of

five generally north-south trending linear zones, including the Maritime, Coastal, Transitional, Interior and Desert zones. These areas are influenced by factors including topography and proximity to the ocean and are generally gradational inland, with the Project site located in the Transitional Zone (County 2006). The Maritime and Coastal zones located west of the Project site exhibit relatively low relief and are dominated by oceanic influences, with typically narrow diurnal and seasonal temperature changes and relatively high humidities. These factors begin to decline further inland, with the Transitional Zone displaying more topographic and climatic variation and often alternating between (or combining characteristics of) both the oceanic and inland areas. Specifically, the Transitional Zone includes a series of valleys that are partially screened from maritime/coastal and interior/desert influences by topography, and exhibits more variable temperature and humidity fluctuations than areas further west, but has generally higher humidity levels and lower temperature extremes than the Interior and Desert zones to the east.

More localized climate zones were adapted from the described plant climates, and are termed Generalized Plant Climate Zones, or Sunset Zones, based on the Sunset Western Garden Books that popularized their use (County 2007, 2006). Sunset Zones differentiate local microclimates, freeze/frost potential, and air/water drainage based on conditions such as latitude, elevation, topography and the influence of oceanic and/or continental air masses. The Project site and vicinity are located in Sunset Zones 20 and 21, which consist of: (1) Zone 20 – a cold air basin that can be dominated by both coastal and inland influences, with low temperatures ranging from 23° to 28°F; and (2) Zone 21 – an air drained thermal belt, with low temperatures ranging from 23° to 36°F (and rarely dropping below 30°F). Sunset Zones also incorporate the U.S. Department of Agriculture (USDA) hardiness ratings, which designate 11 zones depicting the lowest temperature at which individual plant species will thrive (County 2007). The Project site is located in USDA hardiness Zone 10a, which exhibits an average minimum temperature range of 30° to 35°F (USDA 2007a).

Based on the described information, the Project site climate exhibits generally mild year round temperatures and infrequent episodes of freezing and severe frost. These conditions make it potentially suitable for a number of temperature-sensitive crops such as citrus, avocados, nuts, row/field crops, and nursery products (e.g., flowers).

Water Resources

Municipal water service is currently provided to the Project site area by the RDDMWD, with a number of associated water lines located along or adjacent to the eastern site boundary. One existing groundwater well is located onsite as previously described, although no known data are available regarding associated well/water depths or yield. Shallow groundwater was encountered in alluvial deposits during subsurface geotechnical explorations in the central and east-central portions of the site, and is also anticipated to occur in the southeastern portion of the site (GEOCON 2012b and 2012c). These observed/anticipated occurrences were interpreted as perched aquifers, which consist generally of unconfined (i.e., not under pressure) groundwater contained by impermeable or semi-permeable strata. The presence and/or extent of perched groundwater bodies are typically associated with and influenced by seasonal precipitation and local irrigation.

Williamson Act Contracts and Agricultural Preserves

The California Land Conservation Act of 1965, commonly referred to as the Williamson Act (California Administrative Code §51200 et. seq.), enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. The issuance of such a contract precludes non-agricultural development of the subject property for a period of 10 years. In return, the landowner receives property tax assessments that are lower than normal because the assessments are based on farming and/or open space uses rather than full market value. Local governments receive an annual subvention of forgone property tax revenues from the state via the Open Space Subvention Act of 1971. Contracts issued under the Williamson Act automatically renew each year for a new 10-year period, unless the landowner files a Notice of Non-renewal to terminate the contract at the end of the current 10-year period. During the 10-year cancellation period, property taxes are gradually raised to the appropriate level for developable land.

The Williamson Act also authorizes cities and counties to establish agricultural preserves, with these areas intended to identify locations wherein the issuing city or county is willing to enter into Williamson Act contracts. Agricultural preserves are generally intended to avoid areas where public utility improvements and related land acquisitions may be required. The Williamson Act does not specifically address the issue of compatible land uses in sites adjacent to agricultural preserves or contract lands, other than to require that “[c]ities and counties shall determine the types of uses to be deemed ‘compatible uses’ in a manner which recognizes that a permanent or temporary population increase often hinders or impairs agricultural operations.” (California Administrative Code §51220.5).

No Williamson Act contract lands or agricultural preserves are located within the Project site. An existing Williamson Act parcel and overlying agricultural preserve are located southeast of the site boundary, however, and within the Project site ZOI. These designations and other preserves and contract lands in surrounding areas are described below in Section 1.4.3.

Prime Agricultural Land

As previously noted, the Proposed Project includes an annexation into the County Sanitation District for sewer service. The described annexation would be conducted pursuant to related LAFCO requirements, with the San Diego LAFCO to serve as a California Environmental Quality Act (CEQA) Responsible Agency for the Proposed Project. Part of the LAFCO review will entail evaluating the conversion of Prime Agricultural Land, pursuant to San Diego LAFCO Policy L-101, Preservation of Open Space and Agricultural Lands. Prime Agricultural Land is defined by LAFCO in Government Code §56964 to include “[a]n area of land...that has not been developed for a use other than agricultural use and that meets any of the following qualifications:

- (a) Land that qualifies, if irrigated, for rating as Class I or Class II in the USDA Natural Resources Conservation Service land use capability classification, whether or not the land is actually irrigated, provided that irrigation is feasible.
- (b) Land that qualifies for rating 80 through 100 Storie Index Rating.

- (c) Land that supports livestock used for the production of food and fiber and that has an annual carrying capacity equivalent to at least one animal unit per acre as defined by the USDA in the *National Handbook on Range and Related Grazing Lands*.
- (d) Land planted with fruit or nut-bearing trees, vines, bushes, or crops that have a nonbearing period of less than five years and that will return during the commercial bearing period on an annual basis from the production of unprocessed agricultural plant production not less than four hundred dollars (\$400) per acre.
- (e) Land that has returned from the production of unprocessed agricultural plant products an annual gross value of not less than four hundred dollars (\$400) per acre for three of the previous five calendar years.

As described above under Soils (Land Capability Classification) and shown in Table 1, approximately 34.58 acres of mapped soils within the Project site exhibit a Capability Class II and a Storie Index rating of 80 or more, with no additional on-site soils meeting the stated soil criteria. Specifically, the described areas include 32.71 acres of Visalia Sandy Loam, 2 to 5 percent slopes, and 1.87 acres of Wyman Loam, 2 to 5 percent slopes (refer to Table 1 and Figure 8 for soil data and locations). The Project site does not include any livestock operations, but does encompass approximately 116.96 acres of active avocado orchards, portions of which were damaged or destroyed in a 2014 wildfire event as previously described. Based on these conditions, the Project site would not meet Prime Agricultural Land qualification “c,” but would meet qualifications “a,” “b,” “d” and “e,” for applicable portions of the site (i.e., active orchards and qualifying soils as described).

Per the previous discussion of on-site agricultural resources in this section, however (as depicted on Figures 7a and 7b), portions of the site are considered unavailable for agricultural use (and are thus not considered Prime Agricultural Land), due to the presence of roads/structures and utility easements, sensitive habitats, and mature eucalyptus woodland. The exclusion of these areas is based on the same considerations previously identified for agricultural resources in Section 1.4.2, including: (1) the underlying soil quality in developed areas has likely been compromised through grading and compaction, and areas within utility easements are unavailable for agricultural use; (2) sensitive habitat areas would likely either be precluded from agricultural use based on environmental preservation concerns, or would require mitigation that would likely be prohibitively expensive (e.g., habitat restoration and/or the purchase of off-site mitigation credits); and (3) removal of eucalyptus woodland/forest to accommodate agriculture would likely be prohibitively expensive (i.e., tree and stump/root system removal).

Based on the on-site land that meets the LAFCO definition of Prime Agricultural Lands and the information presented above regarding the property’s areas that are unavailable for agricultural production, approximately 140.22 acres of LAFCO Prime Agricultural Land are present on site,. Specifically, this area includes the noted 116.96 acres of active orchards, as well as 23.26 acres of qualifying soils that are not encumbered with roads, structures, easements, sensitive habitats, or mature eucalyptus woodland/forest (including 22.08 acres of Visalia soils and 1.18 acres of Wyman soils).

1.4.3 Off-site Agricultural Resources

A ZOI was identified for the Project site pursuant to the County agricultural resource guidelines (County 2007), and includes an area of approximately 1,427 acres. As shown on Figures 5a, 6 and 9, a Williamson Act contract parcel and two agricultural preserves, FMMP Important Farmland designations, and active agricultural operations are present within the Project ZOI, with these designations and uses outlined below.

Williamson Act Contract Lands/Agricultural Preserves

One active Williamson Act contract parcel and an associated (overlying) agricultural preserve is located within the Project ZOI, as depicted on Figure 9. The noted Williamson Act contract parcel/agricultural preserve (Contract No. 77-45, Preserve No. 95) is owned by the Harry and Shirley Houtman Trust, is located approximately 700 feet southeast of the Project site, and includes 12 acres. Based on field reconnaissance and a previous investigation of this property (HELIX 2006), it is not currently in agricultural use. Agricultural Preserve No. 89, Ward Egg Ranch, is located just outside of the ZOI, approximately 0.3 mile southwest of the Project site. This designation includes approximately 35.3 acres, although as previously noted, the associated property is currently being developed as a mixed-use residential site, all associated facilities/uses have been removed/terminated, and the preserve designation has likely been (or will be) removed.

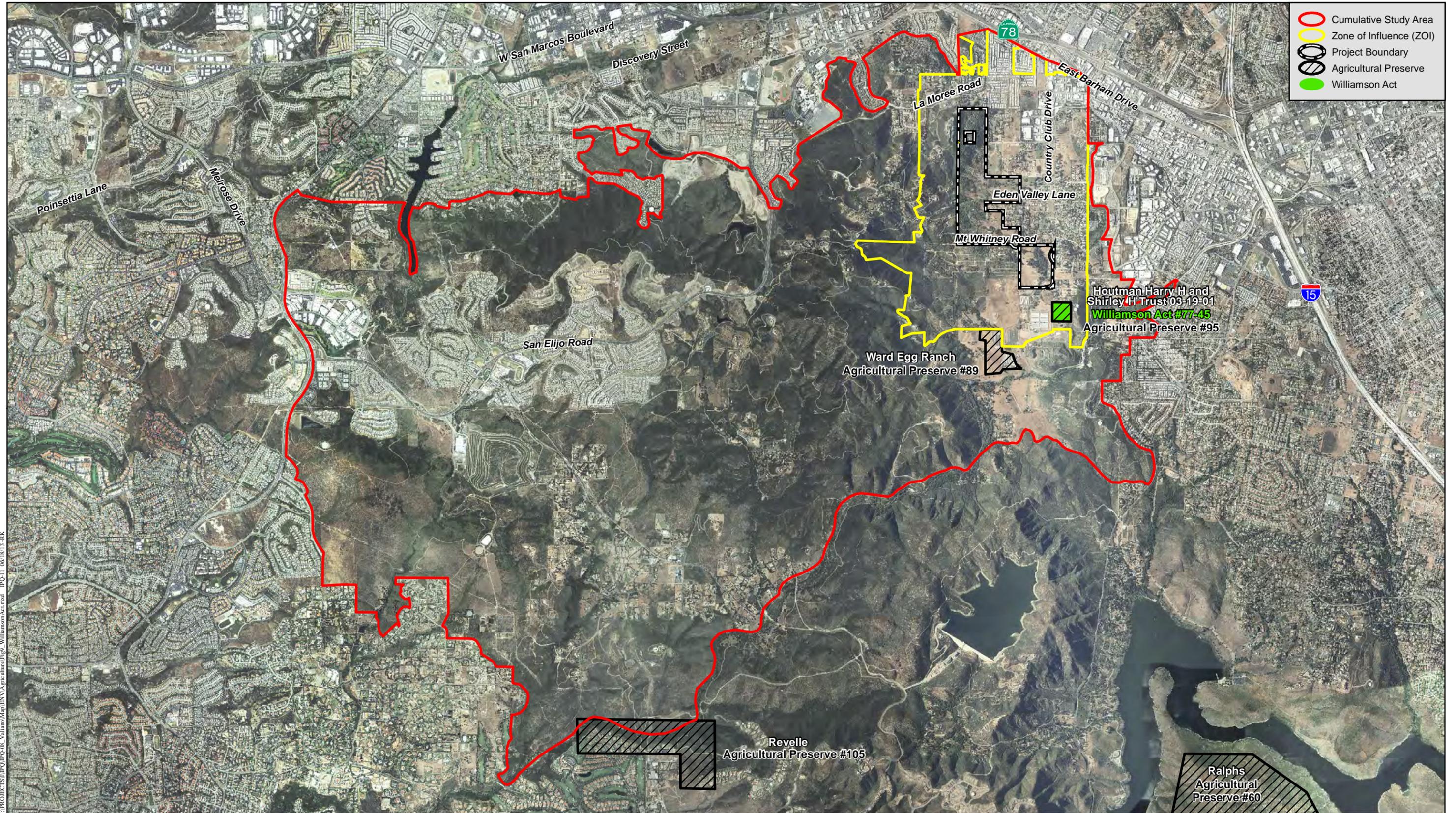
An additional agricultural preserve (No. 105, Revelle) is located outside of the Project ZOI to the southwest, approximately 3.9 miles from the site (with this Preserve partly within the Project cumulative study area, as depicted on Figure 9). This area includes open space and urban development (e.g., residential and golf course), but does not encompass any current agricultural uses. As seen on Figure 9, an additional preserve (Ralphs, No.60) is located farther southeast of the Project site (south of Lake Hodges), with this designation outside of the Project ZOI and cumulative study area boundary.

FMMP Important Farmland Designations

Important Farmland designations mapped within the Project site, ZOI and surrounding areas are depicted on Figure 6, with associated mapped acreages provided in Table 2. As seen from these data, four of the eight previously identified Important Farmland categories occur within the Project ZOI, including Unique Farmland, Farmland of Local Importance, Urban and Built-up Land, and Other Land. All of these Important Farmland categories were previously defined in Section 1.4.2, with a summary description of the Important Farmland categories within the Project ZOI provided below.

Unique Farmland

Approximately 131.58 acres of Unique Farmland are present within the ZOI, with these areas located south of the Project site. Existing agricultural uses associated with Unique Farmland include orchards and nurseries.



Williamson Act and Agriculture Preserves

I:\PROJECTS\IPQ\IPQ_06_Valiano\Map\ENV\Agriculture\Fig9_WilliamsonAct.mxd IPQ_11_06/18/13_RK

Farmland of Local Importance

Approximately 35.59 acres of Farmland of Local Importance are present within the ZOI, with these areas located south and east of the Project site. Associated existing agricultural uses within the ZOI include nurseries in areas to the south.

Urban and Built-up Land

Approximately 462.33 acres of this designation are located within the Project ZOI, with these areas occurring mainly to the north, east and west of the site. Agricultural uses in this designation include minor areas of orchards and greenhouses.

Other Land

Approximately 797.25 acres of Other Land are present within the Project ZOI in areas to the west, south and east of the site. Agricultural uses present within this designation include minor areas of orchards, (apparent) row/field crops, and vineyards.

Active Agricultural Operations

As described in Section 1.4.1 and shown on Figures 5a and 5b, the Project site region encompasses generally scattered agricultural operations, including relatively large blocks of avocado orchards, smaller areas of mixed-use and citrus orchards, several relatively large nursery operations, and minor areas of row/field crops, greenhouses and vineyards. In addition, a number of former agricultural facilities/operations located just south of the Project site have been recently removed or abandoned, as part of the Harmony Grove Village project development approved in 2007 (e.g., egg ranches/poultry farms, dairy operations and orchards, refer to Sections 1.4.1 and 1.4.2). Because the egg ranch and dairy facilities and uses are no longer present/active, they are not discussed further, in the following analysis. While portions of the associated off-site orchards have been removed or abandoned as previously described, the bulk of these uses are still in place and are evaluated below. Summary descriptions of active agricultural operations within the Project ZOI are provided below, with more regional descriptions given in Section 4.0, Cumulative Impacts.

Avocado and Citrus Orchards

Relatively large areas of active avocado and citrus orchards are located adjacent to the southern Project site boundary, with these operations including approximately 89.8 acres (and portions of this area recently removed or abandoned as previously noted). Avocado and citrus orchards within the Project ZOI are located on variable slopes in areas designated primarily as Unique Farmland.

Nurseries

A 40.76-acre nursery operation is located south of the site in areas designated as Unique Farmland and Farmland of Local Importance. This site consists of intensive operations for

predominantly in-ground plantings of decorative varieties (e.g., dollar eucalyptus). While the cultivated plants themselves were observed to be in generally good condition, the operation as a whole exhibited evidence of disuse or abandonment, such as unrepaired access roads and irrigation hardware. Additionally, no evidence of commercial or wholesale operation was observed (e.g., offices, signs, or customer/staff activity).

Mixed-use Orchards

This designation consists primarily of citrus orchards in the Project ZOI, with minor additional uses such as avocados, nuts and other fruits (e.g., persimmons). Observed mixed-use orchards within the Project ZOI are small and associated with estate residential development. A total of 2.06 acres of mixed-use orchards are mapped within three areas inside the Project ZOI, with these areas located approximately 1,000 feet west, and 50 to 475 feet south of the Project site.

Greenhouses

Greenhouse operations within the ZOI encompass one small (2.46-acre) area approximately 1,000 feet east of the Project site. The associated greenhouse structures were fully enclosed and opaque, with no outdoor use (e.g., container or in-ground), plantings, or signs to identify the associated uses.

Vineyards

Two small (0.18- and 0.24-acre) vineyards are located within the Project ZOI, with both of these areas approximately 250 feet east of the nearest Project site boundary (and 300 feet or more from Proposed Project development) and associated with estate residential properties.

Row/Field Crops

Two small (1.61- and 1.21-acre) areas of apparent row/field crops are located approximately 200 and 900 feet east of the site (and 300 to 1,000 feet from Proposed Project development), within the Project ZOI. These areas are associated with estate residential properties and could not be directly accessed to verify the nature of the use or associated crop type(s), although both areas appeared to be fallow or between seasonal plantings, during the February 7 and 9, 2013 field surveys.

1.4.4 Zoning and General Plan Designation

The Project site is currently zoned for residential (RS) and Limited Agriculture (A-70), with minimum lot sizes of 1 to 2 acres. The RS designation is intended primarily for large-lot (estate) residential development, with agricultural uses, including tree crops, also allowable. The A-70 designation is intended to create and preserve areas primarily for agricultural crop production. Additional allowable agricultural uses within this zoning designation include keeping limited numbers of small farm animals and processing agricultural products raised on the premises. The A-70 zone is typically applied to areas throughout the County to protect moderate to high quality agricultural land.

The existing regional land use category for the Project site is Semi-Rural (SR), with associated General Plan designations of SR-1 and SR-2. The SR-1 designation allows one DU per 1, 2 or 4 gross acres; while the SR-2 category allows one DU per 2, 4 or 8 gross acres (County 2011). Certain types of agricultural use, including orchards and vineyards, are allowable in the SR-1 and SR-2 designations.

Implementation of the Proposed Project would entail a GPA to change the land use category to SR 0.5 and a rezone to change the A-70 areas to RS, with the minimum lot size to be reduced to 5,000 SF (as proposed in the Project design).

2.0 IMPACTS TO ON-SITE AGRICULTURAL RESOURCES

2.1 Local Agricultural Resource Assessment (LARA) Model

The County of San Diego has approved a local methodology that is used to determine the importance of agricultural resources in the unincorporated area of San Diego County, known as the Local Agricultural Resource Assessment (LARA) Model. The LARA Model takes into account six factors, including water, climate, soil quality, surrounding land uses, land use consistency, and slope, in determining the importance of agricultural resources.

The following subheadings provide a description of the Project site rating for each LARA Model factor, including justification for the factor ratings assigned to the Project site. Each factor receives a rating of high, moderate or low importance based on site-specific information, as detailed in the LARA Model instructions (*Section 3.1, LARA Model Instructions, from the Agricultural Guidelines for Determining Significance, County 2007, see Appendix A*). The factor ratings for the Project site are summarized in Table 3, LARA Model Factor Findings, with the final LARA Model results based on the associated combination of factor ratings shown in Table 4, Interpretation of LARA Model Results (refer to Section 2.1.2).

2.1.1 LARA Model Factors

Descriptions of the LARA Model factor evaluations conducted for the Proposed Project are outlined below, with additional information provided in the referenced LARA Model Instructions included as Appendix A of this report.

Required Factors

Water

The LARA Model water rating for the Project site is high, based on the site location within the San Diego County Water Authority (SDCWA) service area, and the fact that existing water infrastructure and metered water service is currently provided by the RDDMWD (refer to Sections 1.4.1 and 1.4.2). The Project site is located within a fractured crystalline rock groundwater aquifer, with one existing on-site well (as previously described) and within shallow groundwater that is associated with alluvium (refer to Section 1.4.2). Pursuant to Section 3.1.1 and Table 3 of Appendix A, sites where imported water is available receive the highest water rating in the LARA Model, regardless of groundwater availability. This conclusion is based on the fact that imported water is considered essential to long-term agricultural use in San Diego County, due to the limited availability of local rainfall and groundwater resources.

Climate

The Project site climate rating is high, based on its location within Sunset Zones 20 and 21, as described under the Climate heading in Section 1.4.2. Specifically, both Zones are rated high in Table 6 of Appendix A, based on factors including the favorable climate, the associated infrequency of freezing temperatures, and proximity to urban areas.

Soil Quality

Pursuant to the LARA Model, soil quality within the Project site is rated as moderate, based on the fact that the site yielded a Soil Quality Matrix score of 0.202, and has a minimum of 10 acres of contiguous mapped CDC Prime Farmland or Farmland of Statewide Importance candidate soils (refer to Table 2 and Figure 8 in this report, and Table 8 in Appendix A). A copy of the Soil Quality Matrix Worksheet used to determine the Project site score is included as Table B-1 in Appendix B of this report. As outlined in Section 3.1.3 of Appendix A, the presence of CDC Prime Farmland and Farmland of Statewide Importance candidate soils is used in the LARA Model soil quality rating because these designations are used in the corresponding FMMP Prime Farmland and Farmland of Statewide Importance categories (as defined below), as well as the fact that limited quantities of these high quality soils occur in San Diego County.

Complementary Factors

Surrounding Land Use

The surrounding land use rating for the Proposed Project is high, based on the fact that more than 50 percent of lands within the Project ZOI are “compatible with agriculture,” as shown on Table 9 of Appendix A. Specifically, approximately 1,050 acres (or 73.6 percent) of the 1,427-acre ZOI encompass lands that are compatible with agriculture (per Section 3.1.4 of Appendix A), including existing agricultural uses (see Figure 5a), protected resource lands (e.g., a Williamson Act contract/agricultural preserve, see Figure 9), and areas developed or zoned as rural residential areas (i.e., areas with parcel sizes of two acres or more). Surrounding land use is included as a complementary factor in determining the importance of agricultural resources due to the fact that compatible land uses make a site generally more attractive for agricultural use. This is based on the expectation that such compatible uses will result in fewer potential nuisance issues (noise, dust, etc.) from non-agricultural neighbors than would likely occur in association with more urban uses. Accordingly, while agricultural uses can be viable in a more urban setting (depending on the type of agricultural use), the likelihood of establishing agricultural operations and the long-term viability of such pursuits will generally be higher in areas with compatible land uses as described.

Land Use Consistency

The land use consistency rating for the Proposed Project is low, based on the fact that the parcel size of the Project site is more than 10 acres larger than the median parcel size within the ZOI (per Table 10 in Appendix A). Specifically, the Project site includes 13 parcels with a median size of 11.34 acres, while the ZOI includes 700 parcels with a median size of 0.98 acre. As outlined in Section 3.1.5 of Appendix A, land use consistency is included as a complementary factor in determining the importance of agricultural resources based on the assumption that larger parcel sizes will generally represent areas that have not been significantly urbanized and are more likely to support and be compatible with viable agricultural operations. Median parcel size is used in the analysis to account for the fact that a small number of very large or very small parcels could potentially skew the results if the average parcel size was utilized.

Topography

The topographic (slope) rating identified for the portion of the Project site that is “available for agricultural use” (as shown in Table B-1 of Appendix B) in the LARA Model is moderate, based on the fact that the noted portion of the Project site exhibits an average slope between 15 and 25 percent. The Project site slope is included as a complementary factor in the LARA Model to reflect the fact that topography can represent an important element in the overall viability of a property for agricultural use. Specifically, sites with more level terrain can typically accommodate a greater range of potential agricultural uses, and are more amenable to efforts such as the use of mechanized operations and the effective management of irrigation runoff and erosion.

2.1.2 LARA Model Results

A summary of the LARA Model factor ratings described above are in provided in Table 3, followed by an interpretation of these results in Table 4.

Table 3 SUMMARY OF LARA MODEL FACTOR RATINGS			
Factors	LARA Model Rating		
	High	Moderate	Low
Required Factors			
Climate	X		
Water	X		
Soil Quality		X	
Complementary Factors			
Surrounding Land Use	X		
Land Use Consistency			X
Topography (Slope)		X	

Table 4 INTERPRETATION OF LARA MODEL RESULTS			
LARA Model Results			LARA Model Interpretation
Possible Scenarios	Required Factors	Complementary Factors	
Scenario 1	All three factors rated high	At least one factor rated high or moderate	The site is an important agricultural resource
Scenario 2	Two factors rated high, one factor rated moderate	At least two factors rated high or moderate	
Scenario 3	One factor rated high, two factors rated moderate	At least two factors rated high	
Scenario 4	All factors rated moderate	All factors rated high	
Scenario 5	At least one factor rated low	N/A	The site is not an important agricultural resource
Scenario 6	All other model results		

Source: County (2007)

As seen from the information in Table 3, the LARA Model results exhibit: (1) high ratings for two required factors (climate and water); (2) a moderate rating for the third required factor (soil quality); (3) a high rating for one complementary factor (surrounding land use); (4) a moderate rating for one complementary factor (topography); and (5) a low rating for the third complementary factor (land use consistency). Accordingly, per the rating factors shown in Table 4, the site conforms to Scenario Two and is an important agricultural resource.

2.2 Guidelines for Determination of Significance

The following significance guideline is the basis for determining the significance of impacts to important on-site agricultural resources, as defined by the LARA Model, in San Diego County. Direct impacts to agricultural resources are potentially significant when a project would result in the following:

The project site has important agricultural resources as defined by the LARA Model; and the project would result in the conversion of agricultural resources that meet the soil quality criteria for Prime Farmland or Farmland of Statewide Importance, as defined by the FMMP; and as a result, the project would substantially impair the ongoing viability of the site for agricultural use.

2.3 Analysis of Project Effects

2.3.1 Project Site Effects Related to the LARA Model Results

Based on the information provided above in Sections 1.4.2 and 2.2, the Project site includes approximately 137.16 acres of agricultural resources (including approximately 14.55 acres located within Prime Farmland or Farmland of Statewide Importance candidate soils), and was determined to be an important agricultural resource based on the noted LARA Model results. From the described information on agricultural resources and candidate soils (refer to

Figures 7a, 7b and 8), Project-related impacts to identified on-site agricultural resources that occur within areas of Prime Farmland or Farmland of Statewide Importance candidate soils encompass approximately 12.98 acres. Specifically, this includes 11.58 acres of historic orchard use in the southeastern portion of the site, 0.21 acre of historic orchard use in the east-central area, and 1.19 acres of historic row/field crop production in the east-central area, with the noted locations shown on Figures 7a and 7b. It should also be noted that a small (0.06-acre) area of on-site agricultural resources encompassing apiary uses overlaps the area of on-site Prime/Statewide candidate soils, as shown on Figures 7a and 7b. This area was not included in the on-site agricultural resource impact total, however, due to the fact that apiary activities are generally temporary (seasonal) in nature, not dependent on physical conditions, such as soil quality, and therefore flexible with respect to location.

Based on the described considerations, the significance guideline identified in Section 2.2, and the related criteria identified in the County Agricultural Guidelines (2007), the Proposed Project would impact a total of 12.98 acres of on-site agricultural resources that encompass Prime Farmland or Farmland of Statewide Importance candidate soils, and thus would substantially impair the ongoing viability of the site for agricultural use. Accordingly, associated potential direct impacts to important agricultural resources within the site would be significant.

2.3.2 LAFCO Consistency

As noted above in Section 1.4.2, the Project site includes approximately 140.22 acres of Prime Agricultural Land as defined by LAFCO (with no additional LAFCO Prime Agricultural Land associated with the proposed off-site roadway improvements). Of this area, approximately 95.02 acres would be directly impacted by Project implementation (including 80.46 acres of avocado orchards and 14.56 acres of qualifying soils). The San Diego LAFCO will serve as a CEQA Responsible Agency for the Proposed Project, with their review to include an evaluation of the conversion of Prime Agricultural Land to non-agricultural use. The LAFCO Commission goals include the following: (1) encourage orderly growth; (2) promote logical and efficient public services for cities and special districts; (3) streamline governmental structure; and (4) discourage premature conversion of prime agricultural and open space lands to urban uses (LAFCO 2013). With respect to the last goal, LAFCO Legislative Policy L-101 states:

LAFCO's are required to consider how spheres of influence or changes of local governmental organization could affect open space and Prime Agricultural Lands. Commissions are directed to guide development away from Prime Agricultural Lands - unless that action would not promote the planned, orderly and efficient development of an area - and to encourage development of existing vacant or non-Prime Agricultural Lands within a jurisdiction before approving any proposal that would allow the development of open space lands outside of an agency's boundary (Govt. Code §56377). Proposals must be further reviewed for their effect on maintaining the physical and economic integrity of agricultural lands (Govt. Code §56668).

It is the policy of the San Diego Local Agency Formation Commission to:

1. Discourage proposals that would convert Prime Agricultural Lands or open space to other uses unless such an action would not promote the planned, orderly, efficient development of an area *or* the affected jurisdiction has identified all Prime Agricultural Lands within its sphere of influence and adopted measures that would effectively preserve Prime Agricultural Lands for agricultural use;
2. Require pre-zoning of territory (city only) to identify areas subject to agricultural/preservation and planned development;
3. Follow San Diego LAFCO's adopted procedures to define agricultural and open space lands and to determine when a proposal may adversely affect such lands.

Pursuant to guidance in the San Diego County Agricultural Guidelines (County 2007), the above policies 1 and 3 are addressed in the following analysis (with Policy No. 2 not applicable to the Proposed Project).

The Proposed Project is concluded to be consistent with the described LAFCO Policies 1 and 3, based on the following considerations:

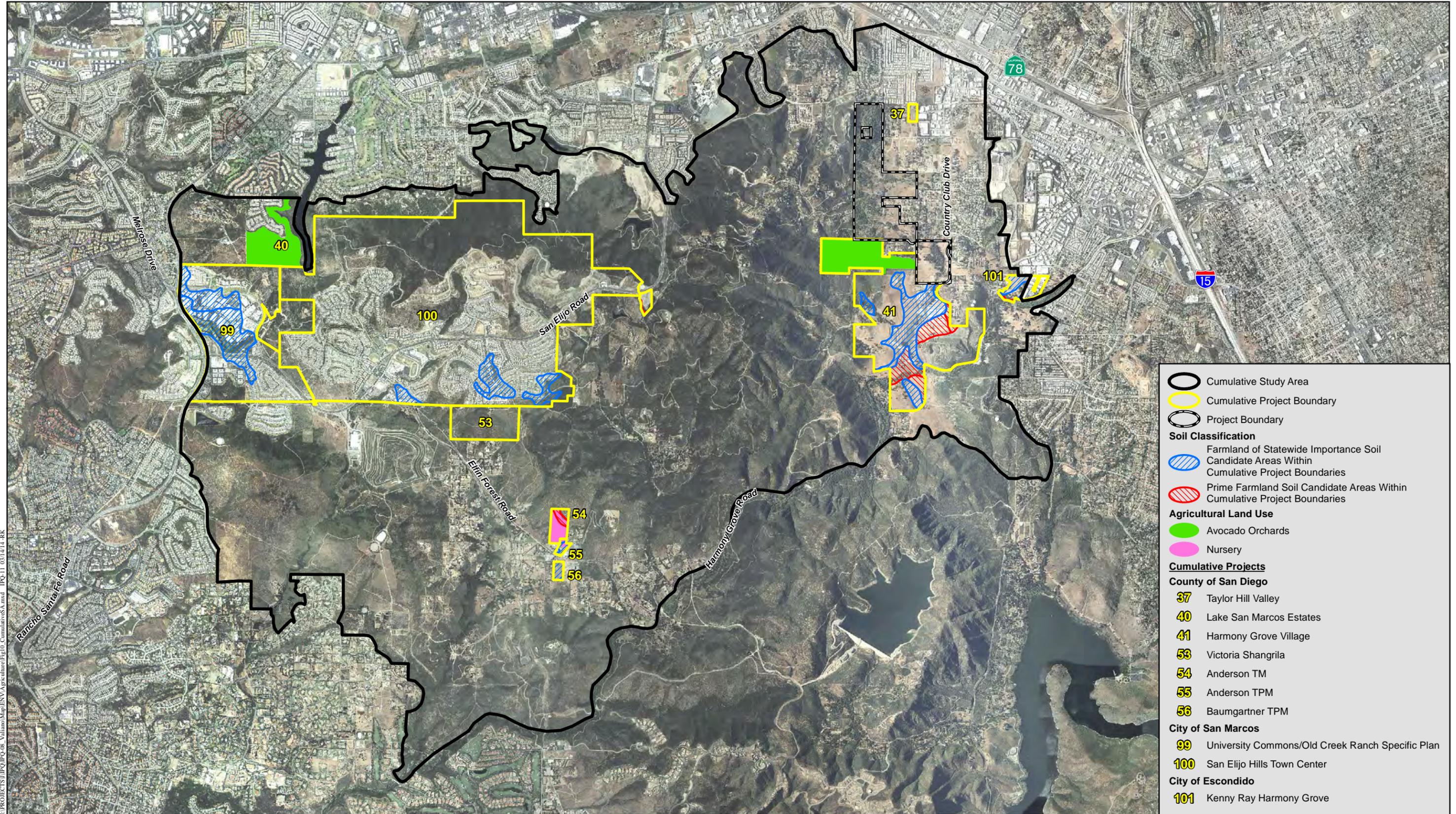
- Pursuant to Policy No. 1, “discouraging” the Proposed Project on the basis of converting Prime Agricultural Land would not “[p]romote the planned, orderly, efficient development...” of the Project site. This conclusion is based on the fact that, despite its described existing and historic agricultural history, the Project site is within an area that encompasses extensive existing urban development to the north (City of San Marcos) and east (City of Escondido, with additional urban development occurring in areas to the south, east and west. This is most directly evidenced by the 468-acre Harmony Grove Village project site adjacent to the south, along with a proposed 24-acre business park to the east and larger mixed-use developments to the west (refer to Figure 10). Specifically, the Harmony Grove Village site is currently under development, and involved the establishment of a County Sewer Maintenance District (the Harmony Grove District, County 2010) that borders the Project site, as well as extending existing RDDMWD water lines/facilities and other utilities to provide service in this area. Additionally, as described in Section 1.4.2, the Proposed Project site is located within the existing service area boundaries of the RDDMWD (with existing water lines/meters located in adjacent areas to the east). The Project site is also located adjacent to the Meadowlark Basin of the Vallecitos Water District (VWD) sewer service area (VWD 2010), and is within approximately 0.5 to 0.75 mile of the City of Escondido sewer service area, HARRF (wastewater treatment plant), and related facilities such as sewer trunk lines and lift stations (with the current City Wastewater Master Plan identifying several additional “future customers” within approximately 0.5 mile of the Project site, City of Escondido 2012). Based on the noted considerations, the Project site is within an area of mixed urban and rural uses, although substantial ongoing and planned urban development is

occurring, along with the related addition/expansion of public services. As a result, the Proposed Project has been designed to serve as a transitional or buffer area between the surrounding high-density urban communities to the north and east in the cities of San Marcos and Escondido, and the lower-density areas to the west and south (including Harmony Grove Village). To this end, proposed residential and related development would be clustered to limit the impact footprint and provide transitional areas, through efforts such as appropriate lot size locations (e.g., providing larger lots in areas with adjacent low-density uses) and setbacks (including graded and ungraded setbacks within lots adjacent to off-site agricultural areas, refer to Figures 3a and 5a). The Project design would also establish open space connections with lower density off-site uses, with approximately 146.5 acres (or 61 percent) of the Project site located outside of the proposed development footprint (including areas within proposed residential lots that would be graded during initial site development but subsequently landscaped and retained as open space). Specifically, this includes approximately 28.2 acres of biological open space easements, 56.4 acres of common areas (e.g., parks, landscaping and trails), 25.4 acres of slope easements, and the previously described 36.5-acre agricultural easement. The combined effect of the noted design features would help to maintain the semi-rural character of the site vicinity and provide a smoother rural-to-urban transition, as noted above. As outlined in Section 1.4.4, the Proposed Project also includes a GPA to reflect the described site design and resulting on-site density ranges. Once adopted, this GPA would ensure Project consistency with applicable goals and policies in the County General Plan, including associated requirements in the Land Use Element.

Based on the above discussion, the Proposed Project development would correspond with the nature of existing and ongoing urban and semi-rural development now exhibited; “planned, orderly, efficient development” in the Project vicinity; and provide a logical transition between these uses,, and would be reflect “planned, orderly, efficient development” consistent with the associated LAFCO Policy No. 1.

- Pursuant to Policy No. 3, the identification of Prime Agricultural Land within the Project site was based on LAFCO criteria “a” and “b” from Government Code §56964, with the remaining criteria (“c” through “e”) not applicable to the Project site (refer to Section 1.4.2). The determination of Prime Agricultural Land was further refined through consideration of site-specific conditions affecting soil quality and/or the availability of individual areas for agricultural use, including the presence of existing development/disturbance, utility easements, native habitats, and mature eucalyptus forest/woodland as described in Section 1.4.2. Accordingly, the resulting identification of approximately 140.22 acres of Prime Agricultural Land within the Project site is consistent with “...LAFCO’s adopted procedures to define agricultural...lands and to determine when a proposal may adversely affect such lands.”

The Proposed Project is also considered consistent with the noted LAFCO Commission goals to: (1) encourage orderly growth; (2) promote logical and efficient public services for cities and special districts; (3) streamline governmental structure; and (4) discourage premature conversion of prime agricultural and open space lands to urban uses. Goals 1 through 3 would be addressed



I:\PROJECTS\IPQ\IPQ_06_Valiano\Map\ENV\Agriculture\Fig10_CumulativeSA.mxd IPQ-11_031414-RK

Cumulative Study Area
 Cumulative Project Boundary
 Project Boundary

Soil Classification

Farmland of Statewide Importance Soil
 Candidate Areas Within Cumulative Project Boundaries
 Prime Farmland Soil Candidate Areas Within Cumulative Project Boundaries

Agricultural Land Use

Avocado Orchards
 Nursery

Cumulative Projects

County of San Diego

37 Taylor Hill Valley
 40 Lake San Marcos Estates
 41 Harmony Grove Village
 53 Victoria Shangrila
 54 Anderson TM
 55 Anderson TPM
 56 Baumgartner TPM

City of San Marcos

99 University Commons/Old Creek Ranch Specific Plan
 100 San Elijo Hills Town Center

City of Escondido

101 Kenny Ray Harmony Grove

Agricultural Cumulative Study Area

through the Proposed Project development review process , including evaluation of potential Project effects under CEQA; and annexation of the Project site into the County Sanitation District; and requirements to obtain a GPA, Rezone, Vesting Tentative Map, and Major Use Permit (with associated development conditions). Additionally, the Project would be consistent with the promotion of "...logical and efficient public services for cities and special districts." As noted above under the discussion of Policy No. 1, based on the description of local sewer and water district facility/boundary locations relative to the Proposed Project site, as well as assessments of existing capacity and plans for future expansion ensure adequate capacity for projected growth. Specifically, all of the identified local districts exhibit generally adequate water and/or wastewater capacity for current demands (with operations in the previously described Harmony Grove District related to the pending Harmony Grove Village development, County 2010c), and address existing shortfalls and projected future demands through extensive capital improvement programs identified in the associated master plans. As previously indicated, these master plans include numerous additional planned facilities such as treatment and conveyance structures, with the intent of ensuring adequate service capabilities for future demands projected in local (e.g., general plans) and regional (e.g., San Diego County Association of Governments) forecasts. Specifically, the City of Escondido and VWD Master Plans identify over \$35 million and \$30 million in capital improvements over the next 15 years, respectively, with a number of these planned facilities/improvements located in the Project site vicinity (including 1,300 feet of force main upgrade along Harmony Grove Road east of the site, and installation/upgrade of several additional pipeline/force main segments and lift stations to the east and north; VWD 2010, City of Escondido 2012). With respect to Goal 4, the described conversion of Prime Agricultural Land within the Project site is not considered premature. Specifically, this conclusion is based on: (1) the previously described locations of existing and ongoing urban development in the Project vicinity; (2) the noted locations and projected extension of utility district service areas/facilities, including planned future capital improvements; (3) the inclusion of Project design elements to minimize the impact footprint, preserve open space (including existing agricultural uses that encompass Prime Agricultural Land), provide buffers and setbacks in appropriate areas, and establish a transition between nearby urban and rural uses; and (4) the fact that the Proposed Project would maintain consistency with applicable Goals and Policies in the County General Plan through adoption of the associated GPA.

Based on the above described conditions, the Proposed Project is considered to be consistent with applicable LAFCO goals and policies related to the proposed conversion of Prime Agricultural Lands.

2.3.3 Direct Impacts From Off-site Facilities

Proposed Off-site Roadway Improvements

As described in Section 1.2, proposed off-site facilities involve widening and related improvements along four off-site roadways, including Hill Valley Drive, Eden Valley Lane, Mt. Whitney Road, and Country Club Drive (refer to Figures 3b and 3c). Because none of the off-site roadway improvements would affect areas of CDC candidate soils, no associated significant impacts would result.

Potential Off-site sewer Options

As described in Section 1.2, two of the three potential off-site sewer options, the HARRF and Harmony Grove options, would be located completely within existing City/County roadways, utility easements, or the Proposed Project WTWRF site (which is included in the Project site impact total noted above). Accordingly, neither of these potential sewer options would result in any impacts to CDC candidate soils available for agricultural use and no associated potential significant impacts would result. The third option, the VWD option, includes approximately 100 linear feet of pipeline that would extend through an area of CDC candidate soils (i.e., Visalia sandy loam, 2 to 5 percent slopes) within the eastern route segment extending between Hill Valley Drive and the Casitas del Sol Mobile Home Park (refer to Figure 3e). Based on a proposed 12-inch diameter pipeline, a conservative disturbance width of 20 feet is assumed for this segment, resulting in an impact of 0.05 acre (2,000 SF) within the noted CDC candidate soils. If the noted segment of the VWD off-site sewer option is ultimately implemented, the noted 0.05 acre of impact to CDC candidate soils would require mitigation as outlined below in Section 2.4.

2.4 Mitigation Measures and Design Considerations

Proposed Project

Mitigation Measures

Based on the above discussion in Section 2.3, implementation of the Proposed Project would result in approximately 12.98 acres of direct impacts to identified on-site agricultural resources that encompass Prime Farmland or Farmland of Statewide Importance candidate soils, with no impacts to CDC candidate soils from proposed off-site roadway improvements.

Pursuant to Section 5.1.1 of the County Agricultural Guidelines, on-site mitigation of the described impacts to 12.98 acres of agricultural resources encompassing candidate soils would require preservation of suitable agricultural resources at a 1:1 ratio. Accordingly, if 12.98 acres of on-site agricultural resources encompassing Prime or Statewide candidate soils were preserved as “available and viable” for agricultural use, the associated impacts would be considered less than significant. The use of on-site agricultural resource preservation to fully mitigate Project impacts is considered infeasible, however, based on the following considerations: (1) the Project design does not include lots of two acres or larger in size, with all proposed lots in appropriate areas of agricultural resources and candidate soils less than one acre in size (and most less than one-half acre, refer to Figures 3a, 7a and 7b); and (2) on-site preservation of approximately 12.98 acres of applicable agricultural areas would create substantial land use effects (and related financial impacts) for the Proposed Project, due to the required loss of several residential lots in Neighborhoods 3 and/or 5, as well as associated potential effects to proposed open space, landscaping, wastewater, stormwater and/or recycled water facilities. As a result, a potential redesign to preserve the described agricultural elements onsite is considered infeasible and would cause the project to be economically unviable (Integral Communities 2014; personal communication).

Based on the above discussion, the Proposed Project would be required to provide appropriate mitigation at a ratio of 1:1 for identified impacts per the referenced County Guidelines. Potential options to implement mitigation for the described direct impacts to agricultural resources include either: (1) providing off-site mitigation for the noted 12.98-acre impact area at a 1:1 ratio through the acquisition of agricultural mitigation credits via the County Purchase of Agricultural Conservation Easement (PACE) Program (if adopted by the Board of Supervisors as a mitigation program); (2) providing a combination of PACE mitigation credits and establishment of on- and/or off-site limited building zone (LBZ) easements or agricultural easements (off-site) in appropriate areas (e.g., larger residential or other lots encompassing CDC candidate soils) totaling 12.98 acres (pursuant to County approval); or (3) purchasing off-site agricultural lands or easements totaling 12.98 acres that meet the intent of the County Agricultural Guidelines. Additional discussion of the PACE Program and the noted mitigation options is provided below. With implementation of the described mitigation, direct Project-related impacts to on-site agricultural resources would be reduced below a level of significance.

The PACE Program is intended to promote the long-term preservation of agriculture in the County, as part of the General Plan Update process. Under the PACE Program, willing agricultural property owners are compensated for placing a perpetual easement on their agricultural property to limit future non-agricultural uses and development potential. As a result, the agricultural land is preserved and the property owner receives compensation that can make its continued use for agriculture more viable. The pilot phase of this Program was completed in Year 2013, with several agricultural easements established (County 2013c). On September 17, 2014, the Board of Supervisors approved the PACE Program as an agricultural mitigation credit Program. It is anticipated that under this scenario project applicants may purchase “mitigation credits” for impacts to agricultural resources (County 2014).

The noted potential mitigation option to preserve appropriate on-site areas could potentially include applicable portions of appropriate residential lots (e.g., undeveloped areas on larger lots) or other areas that encompass CDC candidate soils as previously described. Specifically, the preservation of such areas would require the establishment of LBZ easements to ensure the availability and viability of the subject areas for future agricultural use. The establishment of an LBZ easement typically restricts non-agricultural development to ensure that the underlying areas remain available for agricultural use. Any LBZ easements established on the Project site would be granted to the County of San Diego, with the following non-agricultural uses to be prohibited: (1) the construction or placement of any residence, garage, or any accessory structures designed or intended for human occupancy; (2) the construction or placement of any recreational amenities such as tennis courts or swimming pools; and (3) other non-agricultural related grading or construction that would render any portion of the noted easement unavailable or non-viable for agricultural use. Exceptions to the described prohibitions may include grading and construction/maintenance activities for wells, water distribution systems, other activities/facilities required for agricultural operation, or fuel management activities required by a written order from the Fire Marshall. Any applicable construction or maintenance activities within LBZs would also require the removal, on-site storage and reapplication of topsoil to protect agricultural viability (with specific language to be developed as part of the easement process and approval by the County). While individual locations within the Project site that may be suitable for the establishment of LBZ easements have not been specifically identified, they

may potentially include applicable areas in Neighborhood 1 (e.g., appropriate portions of proposed common area lots), Neighborhood 3 (e.g., undeveloped areas near the proposed detention basin), and Neighborhood 5 (e.g., larger applicable residential lots and undeveloped areas associated with the WTWRF and wet weather storage area, refer to Figures 3a, 7a and 7b).

Design Considerations

An Agricultural Maintenance Agreement between the easement land owner(s) and the County of San Diego will be developed to ensure proper maintenance of the 36.5-acre agricultural easement. The Agreement may be transferred to individual property owners or the HOA, and will address the following elements to the satisfaction of PDS:

- The property owner(s) and/or HOA will employ an agricultural manager to oversee ongoing orchard (and/or other agricultural) operations within the 36.5-acre easement in perpetuity.
- Agricultural fencing and signage shall be installed along the easement boundaries prior to approval of Project Grading and/or Improvement Plans, and shall be maintained as necessary.
- Signage will be corrosion resistant, a minimum size of 6 inches by 9 inches, spaced 100 feet apart, attached to fencing not less than three feet in height from the ground surface, and will state “County Easement: Agricultural Uses Only (Project Ref: TM-5575).”
- The wells and water distribution facilities used for the operations within the 36.5-acre easement will be properly maintained.
- Prior to approval of the Final Map, a security adequate to cover 10 years of operations in the 36.5-acre easement will be provided, based on an a cost estimate generated by the Project applicant and/or HOA and approved by the Director of PDS.

Off-site Sewer Options

As described above in Section 2.3, if the eastern route segment of the VWD option, extending between Hill Valley Drive and the Casitas del Sol Mobile Home Park (refer to Figure 3e), is ultimately implemented, approximately 0.05 acre of impact to CDC candidate soils would result. Under this scenario, an additional 0.05 acre of mitigation would be required in addition to the 12.98 acres of described mitigation for the Proposed Project, for a total mitigation requirement of 13.03 acres. This additional mitigation could be implemented either through the PACE Program or a combination of PACE mitigation credits and establishment of on- or off-site LBZ easements as noted above for the Proposed Project.

2.5 Conclusions

Proposed Project

Potential Project-related impacts to applicable on-site agricultural resources would total 12.98 acres, and would be significant pursuant to the County Agricultural Guidelines (County 2007). Based on these Guidelines, the Project applicant would be required to provide associated mitigation at a 1:1 ratio, or a total of 12.98 acres. This mitigation may be provided through: (1) acquiring 12.98 acres of off-site mitigation credits via the County PACE Program; (2) using a combination of PACE mitigation credits and on- or off-site establishment of LBZ easements in appropriate areas (with County approval) that totals 12.98 acres; or (3) applicant-purchase of off-site agricultural lands or easements totaling 12.98 acres that meet the intent of the County Agricultural Guidelines. With the described mitigation, direct Project-related impacts to on-site agricultural resources would be reduced below a level of significance.

Project implementation would impact approximately 95.02 acres of on-site LAFCO Prime Agricultural Land, including 80.46 acres of avocado orchards and 14.56 acres of qualifying soils. The Proposed Project is considered consistent with related LAFCO policies regarding effects to Prime Agricultural Land, however, as the Project would provide “orderly growth” and “logical and efficient public services.” Specifically, this conclusion is based on considerations including: (1) the nearby location of existing and ongoing urban development and related water and sewer district boundaries/infrastructure; (2) the inclusion of Project design elements, such as clustered development, appropriate lot sizes/locations and setbacks, to provide a “logical” transition between nearby urban and semi-rural uses; (3) the use of extensive open space and easements, including a 36.5-acre agricultural easement, to minimize the impact footprint and retain existing agricultural uses (including Prime Agricultural Land); and (4) the fact that the Proposed Project would maintain consistency with the County General Plan through adoption of the associated GPA.

Off-site Sewer Options

If the eastern route segment of the VWD option, extending between Hill Valley Drive and the Casitas del Sol Mobile Home Park (refer to Figure 3e), is ultimately implemented, approximately 0.05 acre of impact to CDC candidate soils would result. Under this scenario, 0.05 acre of mitigation would be required in addition to the 12.98 acres of described mitigation for the Proposed Project, for a total mitigation requirement of 13.03 acres. This additional mitigation could be implemented either through the PACE Program or a combination of PACE mitigation credits and establishment of on- and/or off-site site LBZ easements, as noted above for the Proposed Project.

3.0 IMPACTS TO OFF-SITE AGRICULTURAL RESOURCES

3.1 Guidelines for Determination of Significance

The following significance guidelines are derived from the San Diego County Agricultural Guidelines (2007), and are the basis for determining the significance of indirect impacts to off-site agricultural resources and Williamson Act Contract lands in San Diego County:

- a. The project proposes a non-agricultural land use within one-quarter mile of an agricultural operation or land under a Williamson Act Contract (Contract) and as a result of the project, land use conflicts between the agricultural operation or Contract land and the Proposed Project would likely occur and could result in conversion of agricultural resources to a non-agricultural use.
- b. The project proposes a school, church, day care or other use that involves a concentration of people at certain times within one mile of an agricultural operation or land under Contract and as a result of the project, land use conflicts between the agricultural operation or Contract land and the proposed project would likely occur and could result in conversion of agricultural resources to a non-agricultural use.
- c. The project would involve other changes to the existing environment, which due to their location or nature, could result in the conversion of off-site agricultural resources to a non-agricultural use or could adversely impact the viability of agriculture or land under a Contract.

3.2 Analysis of Project Effects

As described above in Section 1.4.3, the Project ZOI encompasses a number of active agricultural operations, as well as one active Williamson Act Contract. These areas are shown on Figures 5a and 9 (respectively), and are described below with respect to proximity to the Project site and related potential impacts.

3.2.1 Project Effects Related To Nearby Agricultural Resources

Implementation of the Proposed Project would result in the development of a residential property in an area with adjacent or nearby agricultural uses consisting primarily of avocado orchards and a commercial nursery. This scenario could potentially generate interface conflicts with nearby agricultural resources, as outlined below. For purposes of this analysis, “nearby” agricultural resources are defined to include existing and potential agricultural operations within the Project ZOI.

Properties with existing agricultural operations and agricultural zoning or designations (i.e., areas that could potentially accommodate various types of agricultural use) that are within the Project ZOI include the following (refer to Figure 5a): (1) active avocado orchards adjacent to the site on the south and southwest; (2) a nursery operation with predominantly in-ground decorative plantings (e.g., dollar eucalyptus) approximately 1,800 feet south of the site; (3) minor areas of

citrus and mixed use (primarily citrus) orchards to the west and south in association with estate residential uses; (4) minor greenhouse and (apparent) row/field crop areas to the east; (5) two small vineyards associated with estate residential properties to the east; and (6) several currently undeveloped properties in surrounding areas. Potential interface conflicts with these properties are discussed below to determine whether interface conflicts could result in the conversion of agriculture to a non-agricultural use. As previously, discussed, a number of former agricultural facilities/operations located just south of the Project site have been recently removed as part of the Harmony Grove Village project development approved in 2007 (e.g., egg ranch/poultry farm and dairy operations, refer to Sections 1.4.1 and 1.4.2). Because these facilities and uses were observed to be no longer present/active during the February 7 and 9, 2013 field surveys, they are not discussed further in the following analysis.

Orchard Operations

Relatively extensive avocado and citrus orchards are located in areas adjacent to, or near, the *Project site on the south and southwest (with portions of these orchards adjacent to the southern site boundary recently removed or abandoned, as previously described)*. Because orchard operations typically do not entail substantial noise, dust, vector or chemical generation as compared to more intensive agricultural operations, they are considered generally compatible with most urban uses, and would not result in substantial conflicts with (or associated impacts to) the Proposed Project. Specifically, the County Agricultural Guidelines (2007) note that "...orchard crops such as avocados and citrus are often compatible with residential uses..." The Project design also includes relatively large lots (with minimum lot sizes of approximately 12,000 SF) that are set back 150 feet or more in areas with existing nearby off-site orchards (refer to Figures 3a and 5a). The resulting generally low-density development would provide opportunities to further reduce potential conflicts through measures such as structure location/orientation and screening (e.g., with landscaping). It should also be noted that: (1) the Project design includes a 36.5-acre agricultural easement in the northern portion of the site (refer to Figure 3a) that would be used for continued operation of associated avocado orchards (and/or other agricultural uses); and (2) transitional uses such as small orchards and gardens would be allowable within applicable individual residential lots on the proposed development (including lots in Neighborhoods 1, 2, 4 and 5 that are near the off-site orchards), creating the potential for blending with and/or screening from larger off-site orchards. As a result of the described conditions, no significant effects related to interface conflicts with off-site orchards would result from Project implementation.

The Proposed Project would not be anticipated to result in potential conflicts with nearby orchards, such as trespassing, theft, and vandalism, with the site to include perimeter fencing to help prevent unauthorized ingress or egress. Implementation of the Proposed Project would also not result in conditions or effects (e.g., substantial air contaminant generation) that would adversely impact or be incompatible with nearby orchards, and Project implementation would include both short-term (construction) and long-term measures to avoid or minimize drainage and water quality effects to surrounding areas. Specifically, this would involve efforts such as designing storm drain systems to accommodate 100-year flows and prevent on- or off-site flooding, and controlling contaminant discharge through conformance with applicable regulatory requirements (e.g., the National Pollutant Discharge Elimination System [NPDES]).

Nursery Operations

An existing nursery operation consisting of mainly in-ground decorative plantings is located approximately 1,800 feet south of the Project site. While the plantings at this site are predominantly viable, most access roads and irrigation systems appeared to be in disrepair and no evidence of wholesale or retail activities, such as office/parking facilities or vehicular traffic, was observed during field investigation. Accordingly, this operation may potentially be inactive or abandoned. Regardless of the status of this site, however, no associated substantial interface conflicts with (or impacts to/from) the Proposed Project are anticipated due to the intervening distance to the Project site and the nature of the primary crop (dollar eucalyptus), which is generally not subject to intensive nuisance generation.

Citrus and Mixed-use Orchards

Minor areas of citrus and mixed-use orchards (totaling 2.06 acres) are located west and south of the Project site in association with estate residential uses. The mixed-use orchards are primarily citrus, with associated crops including nut and other fruit trees (e.g., persimmons and pomegranates). As described above for avocado orchards, these types of uses generally do not result in substantial interface conflicts or impacts to/from residential uses, with no associated significant effects anticipated from implementation of the Proposed Project.

Greenhouses

A small (2.46-acre) greenhouse operation is located approximately 1,000 feet north and east of the closest Project site boundaries. While the nature of associated activities is unknown as previously described, no associated significant interface conflicts or impacts to/from residential uses are anticipated from implementation of the Proposed Project. Specifically, this conclusion is based on the small area involved and the intervening distance to the site, as well as the fact that all greenhouse activities are apparently confined within enclosed structures, with no evidence of exterior plantings or other operations.

Row/Field Crops

As previously described, two minor (1.61- and 1.21-acre) areas of apparent row/field crops are located approximately 200 and 900 feet east of the Project site (with the closest area of row crops located 300 feet from Proposed Project residential development). Due to the noted intervening distances, the small extent of these areas, and the fact they are associated with estate residential sites, any associated nuisance factors such as dust, noise or chemical applications are expected to be minimal. Accordingly, no associated significant interface conflicts or impacts to/from residential uses are anticipated from implementation of the Proposed Project.

Vineyards

Two small (0.18- and 0.24-acre) vineyards are located approximately 250 feet east and 1,000 feet north of the site (with the closest vineyard area located approximately 300 feet from proposed residential development), and are associated with estate residential properties (with an associated

residence located between the closest vineyard and the Project site). No associated significant interface conflicts or impacts to/from residential uses are anticipated from implementation of the Proposed Project, for similar reasons as described above for row/field crops.

Agricultural Zoning and Williamson Act Contract Lands

Surrounding areas within the Project site ZOI include a number of zoning designations that would allow agricultural uses under the jurisdiction of the County (e.g., A-70, Limited Agriculture), City of San Marcos (e.g., A-1, Agriculture 1; and HR-1, Hillside Residential 1), and City of Escondido (e.g., R-A, Residential Agriculture). Accordingly, while currently undeveloped properties to the north, east, and west could potentially be subject to future agricultural use, no associated significant interface conflicts or impacts to/from Project residential uses would be anticipated. Specifically, this conclusion is based on the following considerations:

- Off-site land use and zoning designations in all the noted jurisdictions are not exclusive to agriculture, with agricultural uses in these areas typically associated with additional uses, such as estate residential development, which permits and anticipates the co-existence of single-family estate housing and high-value crop production, such as citrus and avocados (refer to pp. 3 and 41-43 of the referenced County Guidelines). Specifically, this includes: (1) areas to the west and north in the City of San Marcos zoned A-1 and HR-1, with allowable residential densities of between 1 and 8 DU per acre (and low-density estate residential development and related agricultural uses present); (2) the Harmony Grove Village Specific Plan to the south, which includes a number of areas identified for estate residential lots (minimum two-acres) and open space adjacent to the Proposed Project site; and (3) areas to the east in the County zoned A-70 and Single-family Residential (RS), with allowable densities of 1 to 2 DU per acre (and most of these areas supporting existing estate residential uses).
- Local topographic and soil conditions generally limit the type of agricultural uses in surrounding areas to the west and south, with uses more dependent upon such conditions (such as row crops) that would potentially result in interface conflicts with residential development considered unlikely to occur in these areas. A number of existing orchards are present in portions of these areas, however (including avocado and mixed-use orchards), with such uses less affected by soil quality and considered the most likely type of associated potential future agricultural development. As previously noted, orchards generally do not result in substantial interface conflicts with residential uses. Additionally, while minor areas of row crops, vineyards and greenhouses are present in areas to the east (refer to Figure 5a), the potential expansion of such uses is considered unlikely, based on soil quality limitations and/or the presence of existing residential sites in most nearby areas (including residential sites in closer proximity than Proposed Project development).
- The Proposed Project includes a Design Consideration to ensure conformance with the County Agricultural Enterprises and Consumer Information Ordinance (County Code Section 63.401 et seq.). This Ordinance is intended primarily to identify and limit the

circumstances, under which agricultural activities may constitute a nuisance. The ordinance notes that agricultural uses may be converted to other uses or zones, whether or not the parcels are zoned for agricultural uses. It prohibits land use changes in the vicinity of existing agricultural uses, however (when such uses have been established for a minimum of three years), that would result in the existing agricultural uses to be deemed a nuisance if they were not a nuisance prior to the proposed land use change. In addition, the Ordinance requires prospective property buyers (new or resale buyers) in unincorporated areas to be notified that agricultural activities may occur in the vicinity, and that associated inconveniences, irritations or discomforts could potentially result. Based on the noted ordinance criteria, the Proposed Project includes a Design Consideration to require written notification to all prospective buyers of property within the Project site, whether for new or resale dwellings, regarding the potential occurrence of agricultural activities (and associated nuisance factors) in adjacent areas.

As previously described, an active Williamson Act Contract parcel (Contract No. 77-45) is located approximately 700 feet southeast of the Project site and includes 12 acres (refer to Figure 9). No associated significant interface conflicts or impacts to/from residential or related on- and off-site uses are anticipated from implementation of the Proposed Project, however, based on the nature of, and intervening distance to, potential off-site uses, as well as the fact that this property is not currently in agricultural use (refer to Section 1.4.3).

3.2.2 Project Effects Related To More Distant Agricultural Resources

As depicted on Figure 5b, existing agricultural operations in more distant areas include a number of relatively large avocado orchard and nursery operations, as well as smaller areas of citrus and mixed-use orchards. None of these existing uses are anticipated to involve substantial interface conflicts with (or impacts to/from) the Proposed Project, based on the intervening distances to the Project site, and the nature of associated operations (i.e., for similar reasons as noted above for such uses within the Project site ZOI).

A number of the more distant agricultural uses described above, as well as currently vacant properties in these areas with suitable topography and/or soils, may be subject to development for different types of agriculture as previously discussed for nearby agricultural sites. Based on the conclusions provided above for existing uses in more distant areas, however, no associated substantial interface conflicts with (or impacts to/from) the Proposed Project would result from such conversions/development.

As previously described, two agricultural preserves are located approximately 0.3 mile south (No. 89, Ward Egg Ranch) and 3.9 miles southwest (No. 105, Reville) of the Project site. No substantial interface conflicts with (or impacts to/from) the Proposed Project are anticipated in relation to these preserves, based on the intervening distances from the Project site, the lack of current associated agricultural activities, and the fact that the area encompassing Preserve No. 89 is currently being developed as a mixed-use residential property.

3.2.3 Project Effects Associated With Agricultural Resources Related to Proposed School, Church, Day Care or Other Applicable Uses

Because the Project does not include any proposed schools, churches, day care facilities or other applicable uses, no associated impacts would result from Project implementation.

3.2.4 Summary of Impacts to Off-site Agricultural Resources

The Proposed Project is not expected to result in significant effects related to interface conflicts with existing or potential future off-site agricultural operations. This conclusion is based on the following considerations: (1) large-scale agricultural operations in close proximity to the site are predominantly avocado and citrus orchards, which are generally compatible with residential uses; (2) the Project design includes relatively low density (large lot) development, appropriate setbacks from nearby orchards along applicable boundaries, retention of a 36.5-acre agricultural easement area encompassing existing avocado orchards (and/or other agricultural uses), landscaping to screen off-site areas, and opportunities for on-site transitional uses (e.g., orchards and gardens) on residential lots; (3) other agricultural uses in relatively close proximity to the Project site (including citrus/mixed-use orchards, greenhouses, vineyards, and apparent row/field crop plots) are very minor in extent and/or associated with estate residential sites, with any associated nuisance factors expected to be minimal, and are also subject to appropriate setbacks, buffers and transitional uses, as described for off-site orchards; (4) based on soil, topography and existing land use conditions, orchards are considered the most likely type of potential future agricultural use in areas surrounding the Project site; (5) other existing agricultural uses and Williamson Act Contract lands/preserves within the Project ZOI are located at distances ranging from 700 to 1,800 feet from the Project site, are minor in extent, and/or generally do not encompass uses that would involve excessive nuisance factors such as noise, dust or chemical applications; (6) agricultural uses/designations in areas outside the ZOI are minor in nature/extent and/or include substantial intervening distances to the Project site. No other potential indirect impacts to off-site agricultural resources related to trespassing, theft, vandalism or air/water contamination are anticipated, based on the incorporation of Project design measures such as fencing and setbacks, as well as required conformance with applicable regulatory standards; and (7) the Proposed Project includes a Design Consideration to ensure conformance with the County Agricultural Enterprises and Consumer Information Ordinance via written notification to all prospective property buyers.

3.3 Mitigation Measures and Design Considerations

Because no significant impacts to off-site agricultural resources were identified, associated mitigation measures are not required.

The Proposed Project includes a number of design features to address potential interface nuisance factors with off-site agricultural operations, however, such as theft/vandalism, air/water contamination, potential dust, odor and noise conflicts (i.e., from off-site areas). Specifically, these measures involve the use of fencing to restrict ingress/egress; the use of open space (including agricultural) preservation, landscaping (including potential on-site orchards and gardens) and setbacks in appropriate areas; and conformance with pertinent standards regarding

hydrology/water quality and air quality. In addition, the Proposed Project includes the following Design Consideration to ensure conformance with the County Agricultural Enterprises and Consumer Information Ordinance (San Diego County Code Section 64.401):

The Project applicant and/or HOA will provide written notice to all prospective buyers of property within the Project site, whether for new or resale dwellings, regarding the potential occurrence of agricultural activities (and associated nuisance factors) in adjacent and nearby areas. Specifically, this notice will include the following information: (1) the commercial agricultural industry in the County of San Diego is a significant element of the County's economy and a valuable open space/greenbelt resource for San Diego County residents; (2) agricultural operations are located throughout the unincorporated area, including properties adjacent, or in close proximity, to the Valiano Project site, and are predominately family operations conducted on smaller parcels; (3) based on the described conditions, inconveniences, irritations and discomforts could potentially occur between on-site land uses and existing and/or future agricultural activities, including (but not necessarily limited to) issues associated with noise, odors, dust, insects, rodents, and chemicals; and (4) purchasers of property within the Valiano site, whether for new or resale dwellings, may be required to accept such inconveniences, irritations and discomforts, unless the agricultural use constitutes a public or private nuisance under the provisions of Section 3482.5 of the Civil Code or Section 63.403 of the San Diego County Code.

3.4 Conclusions

Pursuant to the discussions in Sections 3.2 and 3.3, the Proposed Project would result in less than significant impacts to off-site agricultural resources.

Implementation of the Proposed Project would not result in any significant impacts to existing or potential future off-site agricultural uses, including orchards, nurseries, greenhouses, row/field crops or vineyards, as well as Williamson Act contract lands. This conclusion is based on considerations including: (1) the nature and location of these operations/designations; (2) the inclusion of an open space, landscaping and setbacks as transitional uses/buffers in the Project design; (3) required Project conformance with regulatory standards including NPDES hydrology and water quality criteria; and (4) the inclusion of a Project Design Consideration to ensure conformance with the County Agricultural Enterprises and Consumer Information Ordinance via written notification to all prospective property buyers, whether for new or resale dwellings.

The Proposed Project would also not generate significant interface impacts related to theft/vandalism and nuisance factors associated with off-site agricultural operations. This conclusion is based on the use of fencing, open space and landscaping as part of the Project design, with these facilities to maintain security and provide setbacks and screening from off-site agricultural areas.

4.0 CUMULATIVE IMPACTS

Cumulative impacts are those caused by the additive effects of impacts to agricultural resources from multiple projects over time. Individual impacts for a given project may be less than significant on an individual basis, although the additive (or cumulative) effect when viewed in connection with impacts from past, present and probable future projects may result in the significant loss or degradation of agricultural resources.

4.1 Guidelines for Determination of Significance

The guidelines for determining the significance of cumulative impacts are based on the same Guidelines used to determine project level impacts, except that the analysis considers the cumulative effects of impacts from the Proposed Project and applicable projects within the agricultural cumulative study area described below. Accordingly, the reader is referred to the discussions of significance Guidelines for project level impacts provided in Sections 2.2 and 3.1, as well as the following analysis of cumulative impacts.

4.2 Analysis of Project Effects

Pursuant to applicable CEQA requirements, the following analysis includes an assessment of potential cumulative impacts based on the “List of Projects Method,” as defined in Section 15130(b)(1)(A) of the State CEQA Guidelines. Specifically, the List of Projects Method involves evaluating potential impacts from the Proposed Project in concert with other “past, present and probable future projects” within an established cumulative study area (as defined below).

A cumulative study area was developed as part of the Proposed Project CEQA analysis, with a modified version used for this evaluation. The agricultural cumulative study area is shown on Figure 10, and was generated on the basis of the following considerations: (1) applicable cumulative project locations relative to the Project site; (2) the presence of active agricultural activity or designations (e.g., Williamson Act contracts/preserves); (3) agricultural resource potential (e.g., the presence of high quality soils); (4) physical barriers such as steep or rocky terrain; and (5) cultural barriers such as major roadway corridors or substantial urban development. Based on these factors, the cumulative study area boundaries shown on Figure 10 reflect criteria including substantial high-density urban development to the north (City of San Marcos), east (City of Escondido) and west (cities of Carlsbad and Encinitas); and steep, rocky terrain and designated open space (the Elfin Forest Recreational Reserve) to the south and southwest.

Applicable projects (as identified by the County of San Diego and cities of San Marcos and Escondido) within the identified agricultural resource cumulative study area are also shown on Figure 10, with summary descriptions of project features and identified agricultural resource data provided in Appendix D. Pursuant to the County Agricultural Guidelines (2007), the analysis in Appendix D includes the following information: (1) a general description of agricultural resources within the cumulative project sites; (2) a determination of whether these sites include important agricultural resources based on specified LARA Model factors (i.e., soils, water and

climate), and the inclusion of site-specific LARA Model results, if available; (3) identification of specific LARA Model results if available, or generation of an estimate of direct impacts to agricultural resources for each cumulative project site based on project size, density and the extent of on-site agricultural resources; and (4) an estimate of potential indirect impacts to off-site agricultural uses.

Based on review of County of San Diego, City of San Marcos and City of Escondido project files (County 2013d, City of San Marcos 2013, City of Escondido 2013), analysis of applicable databases (e.g., CDC and NRCS websites), and field reconnaissance efforts, agricultural resources and associated potential impacts identified for the listed projects in Appendix D and on Figure 10 include numerous areas of CDC-designated Prime Farmland and Farmland of Statewide Importance candidate soils. As noted in Appendix D, for cumulative projects that are already developed and do not have site-specific LARA Model (or other agricultural analysis) results, associated impact footprints and CDC candidate soil mapping were used to calculate impacts to agricultural resources, while a number of assumptions were made regarding the extent of agricultural impacts to provide a more conservative analysis. Specifically, for larger estate residential lots (i.e., two acres or more), half of the total lot size was assumed to be impacted through construction of buildings and related improvements (e.g., landscaping and swimming pools). The assumption that half of the noted lot types would be impacted is considered conservative, as it is common in San Diego County for two-acre or larger lots to encompass agricultural uses on more than half of the total lot area (with corresponding impacts thus totaling less than half the lot area). Similarly, for smaller lots and non-residential development, the entire project site was generally (and conservatively) assumed to be impacted (unless specific information to the contrary was available). Based on these assumptions and additional information provided in this report and in Appendix D, cumulative impact totals and significance conclusions are provided below for CDC Prime/Statewide candidate soils, as well as for active agriculture and farm sites within the described cumulative study area (with the use of these criteria based on direction in the County Agricultural Guidelines, 2007, refer to Section 2.1.1).

CDC Prime Farmland and Farmland of Statewide Importance Candidate Soils

Cumulative impacts to CDC Prime and Statewide candidate soils within the associated study area, including the Proposed Project and the identified off-site cumulative projects (refer to Figure 9 and Appendix D), would encompass a total of approximately 340.83 acres as outlined below.

- The Proposed Project would impact approximately 35.01 acres of CDC candidate soils within the Project site. Additionally, as described in Section 2.4, if the eastern route segment of the VWD off-site sewer option is ultimately implemented, this figure would be increased by approximately 0.05 acre to 35.06 acres (with this larger total used in the following analysis to provide a more conservative assessment).
- The Taylor Hill Valley project (No. 37 on Figure 10 and in Appendix D) would impact approximately 0.1 acre of CDC candidate soils.

- The Harmony Grove Village project (No. 41 on Figure 10 and in Appendix D) impacted approximately 150.8 acres of CDC candidate soils.
- The Anderson Tentative Map (TM 5278) project (No. 54 on Figure 10 and in Appendix D) would impact approximately 4.0 acres of CDC candidate soils. However, the LARA Model results showed that the project is not an Important Agricultural Resource.
- The Anderson Tentative Parcel Map (TPM 20350) project (No. 55 on Figure 10 and in Appendix D) was concluded to have no significant agricultural impacts in an environmental analysis conducted for the project site.
- The Baumgartner (TPM 20764) project (No. 56 on Figure 10 and in Appendix D) was concluded to have no significant agricultural impacts in agricultural and environmental analyses conducted for the project site.
- The University Commons/Old Creek Ranch Specific Plan project (No. 99 on Figure 10 and in Appendix D) impacted approximately 94.47 acres of CDC candidate soils.
- The San Elijo Hills Town Center project (No. 100 on Figure 10 and in Appendix D) impacted approximately 45.4 acres of CDC candidate soils.
- The Kenny Ray Harmony Grove project (no. 101 on Figure 10 and in Appendix D) would impact approximately 11 acres of CDC candidate soils.

The described cumulative impacts to CDC candidate soils would represent approximately 22.5 percent of the total area of CDC candidate soils within the cumulative study area (i.e., 340.83 out of 1,515.96 acres). Due to the relatively large percentage of CDC candidate soils that would be directly affected by the cumulative projects (including the Proposed Project), this is considered a cumulatively significant impact. The Project contribution to this impact would be less than considerable, however, based on the following considerations: (1) Project-related impacts would represent only approximately 10 percent of the cumulative total (i.e., 35.06 out of 340.83 acres); (2) under the Proposed Project design, nearly 38 percent of the on-site CDC candidate soils would be preserved (i.e., 21.41 out of 56.47 acres); and (3) impacts to CDC candidate soils from the Proposed Project would be partially offset by the required mitigation for direct on- and off-site impacts, which would total between 12.98 and 13.03 acres, depending on whether or not the eastern off-site sewer option is implemented (with all Project mitigation to be implemented through acquiring off-site mitigation credits via the County PACE Program, or a combination of PACE mitigation credits and on- and/or off-site establishment of LBZ easements in appropriate areas, with County approval, refer to Section 2.4).

Cumulative Impacts to Active Agriculture

Based on the information and assumptions on agricultural resource impacts provided in Appendix D, the Proposed Project, in concert with other identified cumulative projects, would result in the total loss of approximately 405 acres of active agricultural uses within the

12,805.4-acre cumulative study area. Specifically, this includes approximately 170.8 acres of primarily avocado orchards (including 80.46 acres of avocados on the Project site), 135 acres of egg ranches, 81 acres of dairy operations, and 18.1 acres of commercial nurseries (with no Project-related impacts to egg ranches, dairies or nurseries). The regional loss of 405 acres of active agriculture would not be cumulatively significant, based on the following considerations:

- The total area of active agriculture in the County during 2013 was 305,573 acres (County of San Diego 2013e), with the noted impact of 405 acres representing approximately 0.1 percent of this total, and thus not cumulatively considerable.
- Individually, the noted cumulative acreage losses for avocados and nurseries (with acreage figures not provided for dairies or egg ranches, and commodity analyses provided below) represent approximately 0.8 percent of the total harvested acreage in 2013 for avocados (i.e., 170.8 out of 21,082 acres); and 0.2 percent of the total 2013 acreage in for nurseries (i.e., 18.1 out of 8,892 acres, not including cut flower crops, County 2013e).
- Based on an Agricultural Technical Study conducted for the Harmony Grove Village Project (HELIX 2006), 2004 operations at the site produced approximately 2.5 million dozen eggs, and an average of approximately 94,170 hundredweight (CWT) of milk. These totals represent approximately 3.5 percent of Countywide egg production in 2004 (and 4 percent in 2013), and 7.1 percent of Countywide milk production in 2004 (and 21.7 percent in 2013, County 2013e, 2004).
- Agricultural acreage in San Diego County has generally increased both recently and historically, with the noted 305,573 acres in 2013 representing an increase of 1,590 acres (1 percent) from 2012, and an increase of 78,908 acres (35 percent) during the period of 2002 to 2013 (County 2013e, 2002).

Cumulative Impacts to Farm Sites

The cumulative projects described above and in Appendix D would result (or have resulted) in a reduction of farms within the cumulative study area. Specifically, this includes the following projects, which resulted in the known loss of established farm operations: (1) Harmony Grove Village, which eliminated established orchard, dairy and egg ranch operations; (2) The Anderson TM, which eliminated an established commercial nursery operation; and (3) the Anderson TPM, which eliminated an established commercial nursery operation. In addition, there are several other cumulative projects, which impacted important agricultural resources that may have supported farm operations prior to development (although no known specific data are available regarding farming operations on these sites). The 2013 County Crop Statistics and Annual Report lists 5,732 farms in the County, a decrease of 955 farms from the previous year, but an increase of nearly 10 percent from the 5,225 farms identified in 2002 by the USDA (USDA 2007b, County 2013e and 2012c). While the described known and potential loss of farms associated with identified cumulative projects could potentially represent a significant cumulative impact, the Proposed Project contribution would not be cumulatively considerable. Specifically, this conclusion is based on the fact that the Project site includes a single active

farming operation (i.e., avocado orchards), with agricultural use to be retained in this area (albeit at a reduced level) after implementation of the Proposed Project through issuance of the previously described agricultural easement.

4.3 Mitigation Measures and Design Considerations

As described above in Section 4.2, implementation of the identified cumulative projects would result in significant cumulative impacts to CDC candidate soils within the agricultural cumulative study area. The Proposed Project contribution to this impact would not be cumulatively considerable, however, based on the fact that Project-related impacts would represent only approximately 10 percent of the cumulative total, nearly 38 percent of the on-site CDC candidate soils would be preserved under the Proposed Project design, and impacts to CDC candidate soils from the Proposed Project would be partially offset by the required mitigation for direct on-site and (if applicable) off-site impacts (i.e., between 12.98 and 13.03 acres, refer to Section 2.4). Accordingly, no additional mitigation related to cumulative impacts is required.

4.4 Conclusions

Pursuant to the above discussions in Sections 4.2 and 4.3, implementation of the identified cumulative projects (including the Proposed Project) would result in significant cumulative impacts to CDC candidate soils, although the Proposed Project contribution to this impact would not be cumulatively considerable. Accordingly, no mitigation is required.

5.0 SUMMARY OF PROJECT IMPACTS AND MITIGATION

The Proposed Project would result in approximately 12.98 acres of significant impacts to on-site important agricultural resources, based on the results of the LARA Model analysis described in Section 2.0. Pursuant to the County Agricultural Guidelines criteria described in Section 2.4, these impacts would be mitigated through the acquisition of agricultural easements totaling 12.98 acres, through either: (1) the County PACE Program; (2) by providing a combination of PACE mitigation credits and establishment of on-site LBZ easements in appropriate areas totaling 12.98 acres (pursuant to County approval); or (3) applicant-purchase of off-site agricultural lands or LBZ easements totaling 12.98 acres that meet the intent of the County Agricultural Guidelines. Additionally, if the eastern route segment of the VWD off-site sewer option is ultimately implemented, approximately 0.05 acre of impact to CDC candidate soils would result. Under this scenario, an additional 0.05 acre of mitigation would be required (i.e., in addition to the 12.98 acres of described mitigation for the Proposed Project), for a total mitigation requirement of 13.03 acres. This additional mitigation would be implemented either through the PACE Program or a combination of PACE mitigation credits and establishment of on- and/or off-site LBZ easements, as noted above for the Proposed Project.

The Proposed Project would not result in significant indirect impacts to existing agricultural operations/resources including avocado, citrus or mixed-use orchards; greenhouses; nurseries; row/field crops; vineyards; or Williamson Act contract lands (as described in Section 3.2).

Potential interface impacts with surrounding agricultural operations related to theft/vandalism and the generation of nuisance factors such as noise, odor and dust would also be less than significant as described in Section 3.2, with these potential issues to be further reduced through Proposed Project design features, including the use of on-site security fencing, setbacks and landscaping/orchards, and the inclusion of the buyer notice required by the Agricultural Enterprises and Consumer Information Ordinance, as described above, to protect surrounding agricultural uses from resident nuisance complaints.

Implementation of the identified cumulative projects (including the Proposed Project) would result in significant cumulative impacts to CDC candidate soils, although the Proposed Project contribution to this impact would not be cumulatively considerable. Accordingly, no related mitigation is required.

6.0 REFERENCES

- Affinis Environmental Services. 2014. Cultural Resources Investigation for the Valiano Project.
- California Department of Conservation (CDC). 2010. Farmland Mapping and Monitoring Program (FMMP), Soil Candidate Listing for Prime Farmland and Farmland of Statewide Importance, San Diego County. Updated through June 30.
- 2007a. Division of Land Resource Protection, Farmland Mapping and Monitoring Program. <http://www.conservation.ca.gov/dlrp/fmmp/Pages/Index.aspx>.
- 2007b. Farmland of Local Importance Definitions. http://www.conservation.ca.gov/dlrp/fmmp/Documents/Local_definitions_00.pdf.
- 2007c. Williamson Act Contract Lands and Agricultural Preserves in San Diego County, California. <http://www.conservation.ca.gov/dlrp/LCA/Pages/Index.aspx>.
2004. A Guide to the Farmland Mapping and Monitoring Program, Publication No. FM92-02. Division of Land Resource Protection.
- City of Escondido. 2013. Review of Various City Project Files. August 6.
2012. City of Escondido 2012 Wastewater Master Plan. June.
- City of San Marcos. 2013. Review of Various City Project Files. August 1.
- County of San Diego. 2014. Personal communication between Mr. Dennis Campbell and Ms. Beth Ehsan of the County of San Diego, and Mr. Dennis Marcin of HELIX. January 8 and August 13.
- 2013a. Planning and Development Services. Valiano Specific Plan Scoping and EIR Request Letter. May 7.
- 2013b. Department of Agriculture, Weights & Measures. Personal Communication with Ms. Tina Thomas via email; Request for Public Information (pesticide use records). Tracking Number 13-RP0034. February 1, 19, and 26.
- 2013c. Personal Communication with Mr. Matthew Schneider, Land Use/Environmental Planner, County of San Diego Policy & Ordinance Development – Planning & Development Services. August 15.
- 2013d. Review of Various County Project Files. July 16 and August 6.
- 2013e. County of San Diego Department of Agriculture, Weights and Measures, 2013 Crop Statistics and Annual Report.

County of San Diego (cont.)

- 2012a. Pre-Application Summary Letter for the Valiano (Eden Hills) Project, Case Number 3992 12-004 (MPA).
 - 2012b. San Dieguito Community Plan. Adopted on December 31, 1974, Updated Through September 26, 2012.
 - 2012c. County of San Diego Department of Agriculture, Weights and Measures, 2012 Crop Statistics and Annual Report.
 - 2011. San Diego County General Plan. Adopted August 3.
 - 2010. County of San Diego Sewer System Management Plan. June.
 - 2007. County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements, Agricultural Resources. March 19.
 - 2006. Plant Climate Map; <http://www.sdcounty.ca.gov/pds/docs/zones.pdf>.
 - 2004. County of San Diego Department of Agriculture, Weights and Measures, 2004 Crop Statistics & Annual Report.
 - 2002. County of San Diego Department of Agriculture, Weights and Measures, 2002 Crop Statistics & Annual Report.
- Fuscoe Engineering, Inc. 2014. Valiano Project Vesting Tentative Map.
- GEOCON, Inc. (GEOCON). 2013. Phase I and Limited Phase II Environmental Site Assessment Eden Hills, Escondido California. July 2.
- 2012a. Phase I Environmental Site Assessment, Fines-Eden Hills Property, 1805 Country Club Drive, Escondido, California. December 7.
 - 2012b. Geotechnical Investigation Eden Hills, San Diego County, California. September 12.
 - 2012c. Preliminary Geotechnical Investigation Eden Hills – 48-Acre Fines, San Diego County, California. December 12.
- Gilbert, Dewayne E. 1970. *California Plantclimates*, University of California Agricultural Extension Service. November.
- Google Earth. 2013. Aerial Photo Image for Escondido, California, Image Date November 2, 2012. June.

- HELIX Environmental Planning, Inc. (HELIX). 2014a. Biological technical Report for the Valiano Project. November.
- 2014b. Personal communication between Messrs. Steve Neudecker and Dennis Marcin of HELIX Environmental Planning, Inc. March 10.
- 2014c. Personal communication between Messrs. Justin Fischbeck and Dennis Marcin of HELIX Environmental Planning, Inc. January 3.
2006. Harmony Grove Village Agricultural Technical Study. August.
- Historic Aerials.com. 2013. On-line review of historic aerial photographs for the Valiano Project Site and Vicinity, photos dated 1989, 1980, 1964, 1953, and 1947. February and June.
- Integral Communities. 2014. Personal communication between Ms. Melissa Krause of Integral Communities, and Ms. Julie McCall and Mr. Dennis Marcin of HELIX. April 29.
- Local Agency Formation Commission (LAFCO). 2013. San Diego LAFCO; <http://www.sdlafco.org/>. Accessed August 20.
- U.S. Department of Agriculture (USDA). 2007a. Available at: <http://www.usna.usda.gov/Hardzone/hzm-sw1.html>.
- 2007b 2007 Census of Agriculture, California State and County Data, Volume 1, Geographic Area Series, Part 5. AC-07-A-5. Updated Through December 2009. Available at: http://www.agcensus.usda.gov/Publications/2007/Full_Report/Volume_1,_Chapter_2_County_Level/California/cav1.pdf.
- U.S. Natural Resources Conservation Service (NRCS). 2007. Soil Series Data for San Diego County, California. <http://soildatamart.nrcs.usda.gov/>.
- U. S. Soil Conservation Service (SCS). 1973. *Soil Survey, San Diego Area, California*. December.
- Vallecitos Water District (VWD). 2010. Water, Wastewater, and Recycled Water Master Plan. November.
- Weather.com. 2013. <http://www.weather.com/weather/wxclimatology/monthly/graph/92078>. February 8.

7.0 LIST OF PREPARERS AND PERSONS AND ORGANIZATIONS CONTACTED

7.1 List of Preparers

This report was prepared by HELIX Environmental Planning, Inc. (HELIX). The following individuals contributed to the preparation of this report:

HELIX

Dennis Marcin*	B.S., Geology, Michigan State University
Elizabeth Scott	B.A., M.A., Environmental Studies, University of Southern California
Bill Vosti	MESM, Environmental Science and Management, University of California at Santa Barbara
Justin Palmer	B.A., Geography, focus on Natural Resource and Environmental Conservation, San Diego State University
Rebecca Kress	B.A., Geography, San Diego State University; GIS Professional Certificate, University of Denver

*Mr. Marcin is the principal author and is approved to prepare Agricultural Resource Reports by the County of San Diego.

7.2 Persons and Organizations Contacted

The following persons and organizations were contacted during preparation of this report:

Affinis Environmental Services

Mary Robbins-Wade

County of San Diego – Planning & Development Services

Dennis Campbell
Maggie Loy
Matthew Schneider
Beth Ehsan
Michelle Chan
Jennifer Domeier

County of San Diego – Department of Agriculture, Weights and Measures

Tina Thomas

Eden Hills Project Owner, LLC

Melissa Krause

Fuscoe Engineering, Inc.

Kenneth Kozlik
Randall Roberts
Robert Chase
Guillermo Lozoya

GEOCON

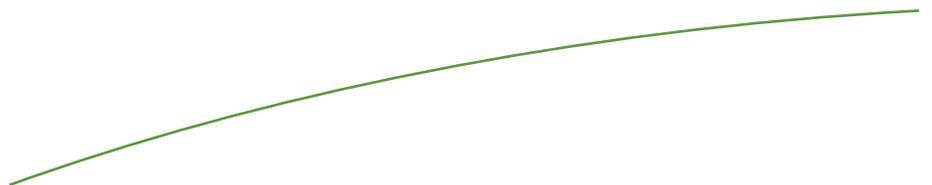
Elizabeth Miller
Ali Sadr

THIS PAGE INTENTIONALLY LEFT BLANK



Appendix A

LARA MODEL INSTRUCTIONS



3.1 LARA Model Instructions⁶

Application of the LARA model is intended for use in evaluating the importance of agricultural resources when it is determined that a discretionary project could adversely impact agricultural resources located onsite. The LARA model takes into account the following factors in determining importance of the agricultural resource:

Required Factors:

Water
Climate
Soil Quality

Complementary Factors:

Surrounding Land Uses
Land Use Consistency
Topography

Directions for determining the rating for each LARA model factor are provided in sections 3.1.1 through 3.1.6 of this document. Upon rating each factor, it is necessary to refer to Table 2, Interpretation of LARA Model Results, to determine the agricultural importance of the site.

Table 2. Interpretation of LARA Model Results

LARA Model Results			LARA Model Interpretation
Possible Scenarios	Required Factors	Complementary Factors	
Scenario 1	All three factors rated high	At least one factor rated high or moderate	The site is an important agricultural resource
Scenario 2	Two factors rated high, one factor rated moderate	At least two factors rated high or moderate	
Scenario 3	One factor rated high, two factors rated moderate	At least two factors rated high	
Scenario 4	All factors rated moderate	All factors rated high	
Scenario 5	At least one factor rated low importance	N/A	The site is <i>not</i> an important agricultural resource
Scenario 6	All other model results		

Data Availability

To complete the LARA model, various data sources are needed. The most efficient approach to completing the model is through analysis within a GIS. To facilitate this approach, the GIS data layers required to complete the LARA model are available upon request from DPLU. Available data sources include: groundwater aquifer type, Generalized Western Plantclimate Zones or "Sunset Zones", and Prime Farmland and

⁶ Various data sources referenced in this document are available from DPLU in hard copy format (maps) or in digital format for use within a Geographic Information System (GIS). Obtaining various data sources will be required to determine the importance of the resource.

Farmland of Statewide Importance soil candidates. Other data sources are available from the SANGIS webpage at <http://www.sangis.org/>.

3.1.1 Water

The water rating is based on a combination of a site's CWA service status, the underlying groundwater aquifer type and the presence of a groundwater well (Table 3). Due to the variability of well yields and the potential for groundwater quality problems to adversely impact the viability of the well for agricultural purposes, the water factor allows for a reduction in the water rating based on site specific well yield and quality data, if that data is available (Table 4).

Table 3. Water Rating ⁷

County Water Authority (CWA) Service Status	Groundwater Aquifer Type and Well Presence	Rating
Inside CWA service area with existing water infrastructure connections and a meter	Any groundwater aquifer type	High
Inside CWA service area with infrastructure connections to the site, but no meter has been installed	The site is located in an Alluvial or Sedimentary Aquifer <i>and</i> has an existing well	High*
	The site is located in an Alluvial or Sedimentary Aquifer, but has no existing well	Moderate*
	The site is located on Fractured Crystalline Rock and has an existing well	Moderate*
	The site is located on Fractured Crystalline Rock, but has no existing well	Low*
Outside CWA or inside CWA but infrastructure connections are not available at the site and no meter is installed	The site is located in an Alluvial or Sedimentary Aquifer <i>and</i> has an existing well	Moderate*
	The site is located in an Alluvial or Sedimentary Aquifer, but has no existing well	Low*
	The site is located on Fractured Crystalline Rock (with or without a well)	Low*
	The site is located in a Desert Basin (with or without a well)	Low*

*These water ratings may be reduced based on available groundwater quantity and quality information, in accordance with Table 4. If no additional groundwater quantity or quality data is available, the ratings above shall apply.

⁷ If more than one underlying groundwater aquifer type exists at a site, usually the aquifer type that could produce the most water should be used to obtain the water rating. If it would be more reasonable to apply the rating based on the aquifer that would produce less water, a clear justification and reason for doing so must be provided.

Water Quality and Quantity Limitations

Site specific limitations to groundwater availability and quality exist and can lower the overall water rating of a site when data is available to support the limitation. Sites with imported water availability may not receive a lower water rating based on groundwater quality or yield data. Table 4 outlines potential water availability and quality limitations and the associated effect on the LARA model water rating.

Table 4. Groundwater Availability and Quality Effects on Water Rating

Groundwater Availability and Quality	Effect on Water Rating
The site has inadequate cumulative well yield (<1.9 GPM per acre of irrigated crops); TDS levels above 600 mg/L; or another documented agricultural water quality or quantity limitation exists	Reduces water rating by one level (i.e. from high to moderate or from moderate to low)

A determination of inadequate cumulative well yield as stated in Table 4 means that a site's well cannot produce at least enough water for each acre of irrigated crops at the site. At least 1.9 GPM is required per acre of irrigated crops, equating to production of 3 Acre Feet/Year (AFY) based on the following conversion factor: 1 AFY = 325,851 Gallons per Year / 365 days / 1440 minutes = 0.62 GPM. Cumulative well yield means that the combined yield of all wells on site may be summed to meet the required groundwater yield. As an example, if a site has 5 acres of irrigated crops, then production would need to be at least 9.5 GPM to produce enough water to irrigate the 5 acres, equating to approximately 15 AFY. If residence(s) exist on the project site, the groundwater analysis must demonstrate that an additional supply of 0.5 AFY can be achieved to account for residential water use associated with each existing onsite residence. To allow a reduction in the water quality score, TDS levels above 600 mg/L must be documented. If other documented water quality limitations exist that are not captured in the water quality measure of TDS, the water quality data must be provided and an associated water rating reduction justified. Although these requirements assume that water needs are consistent for a crop throughout the year while water requirements are typically higher in the dryer months, average annual required yield is used as the best available general measure of the adequacy of groundwater yields.

The quality and availability of imported water is not included as a factor to allow a reduction in the water rating due to an assumption that the MWD will continue to deliver water with the 500 mg/L TDS objective. However, it should be recognized that the degradation of the quality of Colorado River water is a known issue that could preclude the production of certain crops in the future. If in the future, the MWD is unable to meet their adopted water quality objectives, a similar reduction for imported water quality may need to be developed for consideration in the water score. Similarly, there is uncertainty regarding the continued future reliability of agricultural water deliveries based on various external issues that may affect local imported water supply such as protection of the Salton Sea and the stability of the Sacramento/San Joaquin Delta. As the impacts from external sources to local agricultural water deliveries become realized, the treatment of the water score in this document may need to be reevaluated.

Water Rating Explanation

Sites with availability of imported water always receive the highest water rating regardless of groundwater availability because the availability of imported water is essential for the long term viability of agriculture due to the limited natural rainfall and limited availability of groundwater resources in the County. Sites within the CWA service area that have no existing water meter, but that have water infrastructure connections to a site (in or near an adjacent street), are assigned a higher water rating than sites without existing water infrastructure connections. This is because the cost of extending off-site water infrastructure and obtaining a water meter is much higher than only obtaining a water meter and constructing onsite infrastructure connections to existing adjacent imported water infrastructure. Furthermore, the presence of existing imported water infrastructure adjacent to a site is a good indication that imported water is likely to become available to the site in the future (more likely than for a site far from infrastructure for imported water).

The underlying groundwater aquifer type and the presence of a well are two additional factors that affect the water rating. In general, sites underlain by an alluvial or sedimentary aquifer receive the highest ratings because these substrates have a much greater capacity to hold water than fractured crystalline rock. A site underlain by an alluvial or sedimentary aquifer with an existing well receives a higher rating than a site underlain by these geologic formations but having no existing well because of the cost associated with well installation. Well installation costs are added to the initial capital outlay required to begin an agricultural operation, thereby reducing the water rating if no well is present. The availability of groundwater in fractured crystalline rock is highly uncertain. However, a site underlain by fractured crystalline rock that has an existing well and is located adjacent to imported water infrastructure receives a moderate rating to take into account the cost of well installation, and the increased likelihood that imported water may become available at the site in the near future. Additionally, while groundwater yield in fractured crystalline rock is generally limited compared to other aquifer types, it can provide a good source of groundwater, especially in valley areas where there may be saturated residuum overlying the fractured crystalline rock. Sites with a well located on fractured crystalline rock, but without imported water infrastructure connections to the site, always receive a low rating because such sites would likely be reliant on a limited groundwater resource for the foreseeable future.

Nearly all agriculture in the desert basins is located in Borrego Valley, where documented groundwater overdraft conditions limit the long-term sustainability of agricultural use. A site located in a desert basin receives a low water rating due to the absence of imported water, and low groundwater recharge rates, which can easily result in groundwater overdraft conditions as documented in Borrego Valley, where extraction rates far exceed natural recharge. The Borrego Municipal Water District is taking measures to reduce water use in the basin through encouraging the fallowing of agricultural land. In addition, the County of San Diego requires proposed projects to mitigate for significant impacts to groundwater supply in accordance with CEQA. Mitigation may be achieved through the fallowing of agricultural land. These factors make preservation of agriculture in Borrego Valley infeasible in the long term when

considering the need to reduce overall groundwater use to protect the public health and the sustainability of the community.

Groundwater Quantity and Quality Explanation

The following discussion explains the reasoning behind the water rating reductions detailed in Table 4, Groundwater Availability and Quality Effects on Water Rating. The lack of a well with adequate yield (1.9 GPM for each acre of irrigated crops) reduces the water rating by one factor. This standard is based on the well yield needed to achieve production of 3 AFY per acre, an average crop irrigation requirement for crops produced locally (Table 5).

Table 5. Crop Water Use Averages

Crop	Typical Water Usage Per Acre (AFY)
Indoor Flowering and Foliage Plants	3-4
Ornamental Shrubs and Trees	3
Avocados	3
Bedding Plants	3
Cut Flowers	2-3
Tomatoes	2
Citrus	2.5-3
Poinsettias	3-4
Strawberries	3
Average	3

Source: UC Cooperative Extension, County of San Diego

A well with poor water quality (as measured by TDS levels above 600 mg/L or another documented water quality limitation) may reduce the water rating by one factor to account for agricultural limitations associated with using poor quality water for crop production. Groundwater with TDS concentrations above 600 mg/L is the guideline for allowing a reduction in the water factor based on available research on the effects of TDS on crop production, with specific focus on the effects on crops important to the San Diego region. In general, as TDS levels rise, water has diminishing value for agricultural use as it can restrict the range of crops that can be irrigated with the water and increases the cost of irrigation system maintenance.

According to the San Diego County Water Authority Agricultural Irrigation Water Management Plan, TDS levels above 500 mg/L are problematic for many of the subtropical crops produced in San Diego County, and TDS levels over 1,000 mg/l are virtually unusable for many of the subtropical crops grown here (2001). While TDS concentrations above 500 mg/L can be problematic for many subtropical crops, concentrations above 600 mg/L was selected as the guideline to take into account the already elevated TDS concentrations in imported water sources. Another study (Peterson, 1999) identified the TDS tolerance of selected crops. Field crops such as oat hay, wheat hay and barley were found to tolerate water with TDS levels up to 2,500

mg/L, but these are among the lowest value crops produced in the County. Strawberries were found to be intolerant to TDS levels greater than 500 mg/L; apples, grapes, potato, onion, and peppers slightly tolerant to TDS levels up to 800 mg/L; and cucumbers, tomatoes, and squash moderately tolerant to TDS levels up to 1,500 mg/L. The Florida Container Nursery BMP Guide prepared by the University of Florida Agricultural Extension (2006) identified TDS levels and the associated degree of problem that will be experienced for microirrigated container nursery production at different TDS levels. TDS of 525 mg/L or less was identified as producing no problems, TDS from 525 to 2100 mg/L having increasing problems, and TDS greater than 2100 mg/L having severe problems. High levels of TDS can be overcome through planting more salt resistant crops; however salt resistant crops are typically lower in value and would not produce the economic returns necessary to sustain a viable farming industry in San Diego County (high cost of production and land generally require production of high value crops). In general as TDS levels rise, crop yields decline, maintenance of irrigation systems becomes more difficult, and the range of crops (particularly high value crops) that can be supported is reduced.

In summary, TDS levels in groundwater above 600 mg/L substantially impair the water as a source of irrigation for agriculture, justifying a reduction in the water rating by one factor to account for the potential for reduced yields, increased difficulty in maintaining irrigation systems, and reduction in the range of crops that can be produced.

It is important to note that TDS is only one measure of water quality and does not differentiate between the various types of dissolved solids or contaminants that may be present in water. High levels of certain constituents can cause severe problems for agricultural production. For example, high chloride content can damage certain crops, while nitrates can cause problems for livestock. If specific documented limitations exist that reduce the viability of the water supply for agriculture, the water rating should be reduced. The quality of imported water is not considered because it is assumed that the MWD will deliver water with a maximum TDS of 500 mg/L, their adopted TDS objective for imported water deliveries.

3.1.2 Climate

Ratings associated with each Generalized Western Plantclimate Zone or "Sunset Zone" are included in Table 6, Climate Rating. The table identifies and describes each zone and justification for the associated rating.⁸ Detailed descriptions of the Sunset Zones in San Diego County are included in Attachment B.

⁸ All Sunset Zones in the County are not included in the table. Zone 22 is a small area that occurs entirely within Camp Pendleton, therefore no rating is assigned to this zone. Zone 24 is the maritime influenced zone. Only limited portions of unincorporated communities exist in this zone (County Islands in National City and the west Sweetwater area). Although this zone is valuable for certain high value crops, it is not assigned any importance rating due to the very small area of unincorporated land that occurs in this zone and the fact that the land is fully urbanized.

Table 6. Climate Rating

Climate (Sunset Zone) Description	Rating	Justification
<p>Zone 23 represents thermal belts of the Coastal Areaclimate and is one of the most favorable for growing subtropical plants and most favorable for growing avocados. Zone 23 occurs in coastal incorporated cities and also occurs in the unincorporated communities of Fallbrook, Rainbow, Bonsall, San Dieguito, Lakeside, western portions of Crest and Valle De Oro, Spring Valley, Otay, and western portion of Jamul-Dulzura.</p>	<p>High</p>	<p>Zone 23 is rated high because this climate zone is the most favorable for growing some of the County's most productive crops. Year round mild temperatures allow year round production and the proximity to urban areas and infrastructure facilitates efficient delivery to market.</p>
<p>Zone 21 is an air drained thermal belt that is good for citrus and is the mildest zone that gets adequate winter chilling for some plants. Low temperatures range from 23 to 36 degrees F, with temperatures rarely dropping far below 30 degrees.</p>	<p>High</p>	<p>Zone 21 is rated high because of the mild year round temperatures and lack of freezing temperatures that allow year round production of high value crops. The importance of this zone is also related to the conversion pressure that exists due to urban encroachment. Preserving agriculture in Zone 21 is essential to maintain the high returns per acre that are common in this County. Climate is the essential factor that allows high value production. The loss of significant agricultural lands in Zone 21 would eventually relegate agriculture to areas further east where most of the County's high value crops cannot be viably produced. Zone 21 is also favorable due to its location close to urban areas and transportation infrastructure which facilitates product delivery to market.</p>
<p>Zone 20 is a cold air basin that may be dominated by coastal influence for a day, week or month and then may be dominated for similar periods of time by continental air. Over a 20 year period, winter lows in Zone 20 ranged from 28 to 23 degrees F.</p>	<p>High</p>	<p>Zone 20 occurs the Ramona area. Citrus groves are common in Zone 20 in addition to a concentration of animal agriculture operations and vineyards. Most of Zone 20 falls within the 89,000-acre Ramona Valley viticultural area which was designated as its own appellation in 2006 and contains 17 vineyards currently cultivating an estimated 45 acres of wine grapes. The distinguishing factors of the Ramona Valley viticultural area include its elevation, which contrasts with the surrounding areas, and climatic factors related to its elevation and inland location. Due to the favorable climate, proximity to urban areas, and its potential to become a more widely recognized viticultural area, Zone 20 is rated as a climate of high importance.</p>
<p>Zone 19 is prime for citrus, and most avocados and macadamia nuts can also be grown here.</p>	<p>High</p>	<p>Zone 19 is rated high due to the suitability for growing the County's high value crops and its location close to urban areas.</p>

<p>Zone 18 is a mountainous zone subject to frosts. Citrus can be grown in Zone 18, but frosts require the heating of orchards to reduce fruit loss. Zone 18 is the home of Julian's apple orchards.</p>	<p>Moderate</p>	<p>Zone 18 is assigned a medium rating due to its frost susceptibility, reducing its potential for supporting year round production and frost sensitive crops. However, the ability to produce crops that require winter chilling makes it a climate zone of moderate importance.</p>
<p>Zone 13 covers low elevation desert areas (considered subtropical) and is the most extensive of the County's desert Plantclimate zones. Zone 13 includes the extensive agricultural uses in the Borrego Valley.</p>	<p>Moderate</p>	<p>Zone 13 is assigned a moderate rating due to the temperature extremes characteristic of this zone. These temperature extremes exclude some of the subtropicals grown in Zones 22 to 24, however numerous subtropicals with high heat requirements thrive in this climate such as dates, grapefruit, and beaumontia and thevetia (ornamentals).</p>
<p>Zone 11 is located below the high elevation Zone 3 and above the subtropical desert Zone 13.</p>	<p>Low</p>	<p>Zone 11 is assigned a low climate rating due the agricultural hazards of the climate including late spring frosts and desert winds.</p>
<p>Zone 3 occurs in the high elevation Palomar Mountains in addition to high elevation areas east of the Tecate Divide. These are locations where snow can fall and wide swings in temperature occur.</p>	<p>Low</p>	<p>Most of these lands are public lands, reducing their potential for commercial agriculture. The wide swings in temperature, including freezing temperatures in winter make this zone of low importance agriculturally. This zone is also far from transportation infrastructure; an important consideration for crop delivery to market.</p>

While it is anticipated that the climate ratings would normally not be modified, it is important to acknowledge that microclimate conditions do exist that cannot be captured in the Sunset Zone definitions. For example, topography can create certain microclimate conditions such as frost susceptibility that could downgrade the climate importance of a site to marginal if frost tolerant crops cannot be grown at the site. Any downgrading or upgrading of a climate rating must be accompanied by site specific climate data to support the modification, and any identified climate limitations must be based on the range of crops that could be viable at the site. For example, if frost sensitive crops are the only crop identified to be viable at the site and the site would be subject to frequent frosts, this should be documented and a lower rating may be applied. It is not anticipated that climate modifications would be commonly used given the diversity of crops that a site would usually be able to support.

Sunset Zones are used as a standard measure of climate suitability due to the variability of microclimate conditions that the Sunset zones take into account. Recognizing that the Sunset Zones were not developed as a tool to determine the suitability for commercial agricultural production, their use is not intended to determine suitability for specific crops, rather they are a measure of overall climate suitability for the typical agricultural commodities produced in San Diego County. For example, the Sunset Zone designations take into account the USDA hardiness rating which identifies the lowest temperature at which a plant will thrive. Sunset Zones start with the USDA hardiness zones and add the effects of summer heat in ranking plant suitability for an area. The American Horticulture Society (AHS) heat zone map ranks plants for suitability to heat, humidity and dryness. The AHS heat zone map was developed under the direction of

Dr. H. Marc Cathey, who was instrumental in the organization of the USDA Plant Hardiness Map. Each AHS heat zone has “heat days,” those days with temperatures of 86° F or above. 86° F is the point at which some plants suffer damage to cellular proteins. The USDA plant hardiness zone maps and/or the AHS heat zone map may be used to supplement the Sunset Zone information if the Sunset Zone descriptions are not accurate.

3.1.3 Soil Quality

The project's soil quality rating is based on the presence of Prime Farmland Soils or Soils of Statewide Significance (Attachment C) that are available for agricultural use and that have been previously used for agriculture. Land covered by structures, roads, or other uses that would preclude the use of the land for agriculture, are not typically considered in the soil quality rating. To determine the soil quality rating, the soil types on the project site must be identified. The soils data for the project site must be entered into Table 7, Soil Quality Matrix as detailed in the steps below:

Step 1.

Identify the soil types that are on the project site. Enter each soil type in Rows 1 through 13 of Column A. If the site has more soil types than available rows, add additional rows as needed.

Step 2.

Calculate the acreage of each soil type that occurs on the project site and enter the acreage of each in Column B. Enter the total acreage in Row 14, Column B. This number should equal the total acreage of the project site.

Step 3.

Calculate the acreage of each soil type that is unavailable for agricultural use⁹ and enter the total in the corresponding rows of Column C.

Step 4.

Subtract the values in Column C from the acreages of each soil type identified in Column B. Enter the result in Column D.

⁹ Soils unavailable for agricultural use include: 1) lands with existing structures (paved roads, homes, etc.) that preclude the use of the soil for agriculture, 2) lands that have been disturbed by activities such as legal grading, compaction and/or placement of fill such that soil structure and quality have likely been compromised (e.g., unpaved roads and parking areas), 3) lands that are primarily a biological habitat type that have never been used for agriculture, and 4) lands constrained by biological conservation easements, biological preserve, or similar regulatory or legal exclusion that prohibits agricultural use. The distinction between agriculture and biological resources is not always clear because agricultural lands commonly support sensitive biological species. Agricultural lands that incidentally support sensitive species should still be considered an agricultural resource; however, biological habitats that have never been used for agriculture should not be considered an agricultural resource. It is possible that non-native grasslands will be classified as both a biological resource and an agricultural resource since many non-native grasslands have been established based on a history of agricultural use.

Step 5.

Sum the acreage values in Column D and enter the total in Column D, Row 14.

Step 6.

Divide the acres of each soil type in Column D by the total acreage available for agricultural use (Column D, Row 14) to determine the proportion of each soil type available for agricultural use on the project site. Enter the proportion of each soil type in the corresponding row of Column E.

Step 7.

Determine whether each soil type is a soil candidate for Prime Farmland or Farmland of Statewide Importance. If yes, enter 1 in the corresponding row of Column F. If no, enter zero in the corresponding row of Column F.

Step 8.

Multiply Column E x Column F. Enter the result in the corresponding row of Column G.

Step 9.

Sum the values in Column G and enter the result in Column G, Row 15 to obtain the total soil quality matrix score.

Step 10.

Based on the total soil quality matrix score from Table 7, identify the corresponding soil quality rating using Table 8 Soil Quality Matrix Interpretation

Table 7. Soil Quality Matrix

	Column A	Column B	Column C	Column D	Column E	Column F	Column G
	Soil Type	Size of project site (acreage)	Unavailable for agricultural use	Available for agricultural use	Proportion of project site	Is soil candidate for prime farmland or farmland of statewide significance? (Yes = 1, No = 0)	Multiply Column E x Column F
Row 1							
Row 2							
Row 3							
Row 4							
Row 5							
Row 6							
Row 7							
Row 8							
Row 9							
Row 10							
Row 11							
Row 12							
Row 13							
Row 14	Total		Total				
Row 15	Soil Quality Matrix Score						

Table 8. Soil Quality Matrix Interpretation

Soil Quality Matrix Score	Soil Quality Rating
The site has a Soil Quality Matrix score ranging from 0.66 to 1.0 and has a minimum of 10 acres of contiguous Prime Farmland or Statewide Importance Soils	High
The site has a Soil Quality Matrix score ranging from 0.33 to 0.66 or the site has a minimum of 10 acres of contiguous Prime Farmland or Statewide Importance Soils	Moderate
The site has a Soil Quality Matrix score less than 0.33 and does not have 10 acres or more of contiguous Prime Farmland or Statewide Importance Soils	Low

Soil Quality Rating Justification

The presence of Prime Farmland Soils or Soils of Statewide Significance is used as the measure of quality soil in the LARA soil quality rating based on their use in defining soil candidates for the FMMP Farmland categories of Prime Farmland and Farmland of Statewide Importance. Soil candidates for the FMMP Prime Farmland designation are soils with the best combination of physical and chemical characteristics for the production of crops. Soil candidates for the FMMP Farmland of Statewide Importance designation are similar to the soil criteria for Prime Farmland, but include minor shortcomings, such as greater slopes or less ability to store soil moisture. Soil candidates for Farmland of Statewide Importance do not have any restrictions regarding permeability or rooting depth. Soil candidates for Farmland of Statewide Significance are included in this rating to capture quality soils with minor shortcomings that may not have been included, if the typical definition of Prime Agricultural Land as stated in Government Code Section 51201(c) was used. Soil criteria used in Government Code Section 51201(c) identifies any land with a LCC rating of I or II or a Storie Index Rating from 80 to 100 as land that meets the definition of prime agricultural land. Because San Diego County has limited quantities of soils that meet these criteria, locally defined NRCS soil candidates for Prime Farmland and Farmland of Statewide Importance are included to define quality soils in this locale given that 70% of these soils have LCC higher than I or II and 88% have SI ratings below 80. Details regarding the soil criteria that determine the applicability of a soil for the respective Farmland designation is included in Attachment C, Soil Candidate Criteria and Candidate Listing for Prime Farmland and Farmland of Statewide Importance.

Table 8, Soil Quality Matrix Interpretation, identifies high, moderate, or low importance ratings based on the soil quality matrix score from Table 7. The maximum possible soil quality matrix score is one and the minimum is zero because the score is based on the amount of the agricultural resources onsite that are Prime and Statewide Importance soil candidates. A site with a soil quality matrix score of 0.66 or higher means that two-thirds of the agricultural resources onsite have soils that meet the soil quality criteria for Prime Farmland or Farmland of Statewide Importance. A minimum of 10 contiguous acres is required for a site to be assigned the highest soil quality rating to reflect the need for high quality soils to be contiguous in order for them to be considered useful

agriculturally. If the site has a soil quality score from 0.33 to 0.66 or has 10 acres or more of contiguous soils that meet the soil quality criteria for Prime Farmland or Farmland of Statewide Importance, the site is assigned the moderate importance rating. If less than one-third of the site or less than 10 contiguous acres of the agricultural resources onsite have soils that meet the Prime or Statewide Importance soil criteria, the site is assigned the low importance rating for soil quality. A ten acre threshold is included in the ratings to capture the potential for a large project site to have a substantial quantity of high quality soils and still receive a low importance rating due to the project's size in relation to the acreage of quality soils. Ten acres is an appropriate acreage to use in this context because ten acres would typically be able to support a wide range of agricultural uses in San Diego County. Furthermore, to be eligible for a Williamson Act Contract in an Agricultural Preserve, the County of San Diego Board of Supervisor's Policy I-38 (Agricultural Preserves) recommends various minimum ownership sizes, with ten acres being the minimum, to be eligible for a contract. Ten acres is listed as the minimum size for various agricultural activities including poultry, tree crops, truck crops, and flowers. The requirement that the land be contiguous recognizes that small, scattered pockets of high quality soils are less valuable for agricultural use than an area of contiguous high quality soils.

3.1.4 Surrounding Land Use

Surrounding land use is a factor in determining the importance of an agricultural resource because surrounding land uses that are compatible with agriculture make a site more attractive for agricultural use due to lower expectations of nuisance issues and other potential impacts from non-farm neighbors. This factor also accounts for the degree to which an area is primarily agricultural, assigning a higher rating to areas dominated by agricultural uses than an area dominated by higher density, urban development. Surrounding land use is a complementary factor in the LARA model because the presence of compatible surrounding land uses can support the viability of an agricultural operation; however a lack of compatible surrounding land uses would not usually prohibit productive agriculture from taking place (depending on the type of production). Similarly, agriculture can be viable among urban uses, but its long term viability would generally be less than an agricultural operation conducting operations in an area dominated by agricultural uses because of lesser economic pressures to convert to urban uses. To determine the surrounding land use rating, the following information must be determined:

Step 1.

Calculate the total acreage of lands compatible with agricultural use¹⁰ within the defined Zone of Influence (ZOI).¹¹ The location of agricultural lands can be determined using information from the DOC's Important Farmland Map Series, agricultural land use data available from the DPLU, aerial photography, and/or direct site inspection. Land within a ZOI that is observed to be fallow or with a history of agricultural use will usually be considered agricultural land, unless there is evidence that it has been committed to a non-agricultural use (such as having an approved subdivision map). The Department of Planning and Land Use may consult the Department of Agriculture, Weights and Measures if there are disputed interpretations.

Step 2.

Calculate the percentage of the acreage within the project's ZOI that is compatible with agricultural use.

Step 3.

Based on the proportion of lands within the ZOI that are compatible with agricultural use, identify the appropriate surrounding land use rating in accordance with Table 9, Surrounding Land Use Rating.

Table 9. Surrounding Land Use Rating

Percentage of Land within ZOI that is Compatible with Agriculture	Surrounding Land Use Rating
50% or greater	High
Greater than 25% but less than 50%	Moderate
25% or less	Low

Considering surrounding land uses within the ZOI is intended to provide a measurement of the long term sustainability of agriculture at the project site. Agriculture is generally

¹⁰ Lands compatible with agricultural uses include existing agricultural lands, protected resource lands, and lands that are primarily rural residential. Protected resource lands are those lands with long-term use restrictions that are compatible with or supportive of agricultural uses including but not limited to Williamson Act contracted lands; publicly owned lands maintained as park, forest, open space, or watershed resources; and lands with agricultural, wildlife habitat, open space, or other natural resource easements that restrict the conversion of such land to urban or industrial uses. For the purposes of this factor rating, rural residential lands include any residential development with parcel sizes of two acres or greater and that contain elements of a rural lifestyle such as equestrian uses, animal raising, small hobby type agricultural uses, or vacant lands. Residential parcels with swimming pools, children's play areas, second dwelling units, or other accessory uses that occupy a majority of the usable space of a residential parcel should not be identified as land compatible with agriculture.

¹¹ Attachment F details the steps required to determine the Zone of Influence (ZOI). The ZOI methodology is taken from the Department of Conservation's Land Evaluation Site Assessment (LESA) model and includes a minimum area of ¼ mile beyond project boundaries and includes the entire area of all parcels that intersect the ¼ mile boundary. The ZOI developed by the Department of Conservation is the result of several iterations during development of the LESA model for assessing an area that would generally be a representative sample of surrounding land use. For example, a 160 acre project site would have a ZOI that is a minimum of eight times greater (1280 acres) than the project itself.

compatible with other agricultural land uses because they are more likely be tolerant of the typical activities and nuisances associated with agricultural operations than urban land uses would be. Primarily rural residential lands are included as a land use compatible with agriculture because rural residential lands are already common among agricultural uses and most active farms also have residences on the site. Although not all types of agriculture are compatible with rural residential land uses (i.e. confined animal facilities); many typical San Diego County farming operations are compatible with rural residential land uses as is evidenced by the existing viability of agricultural operations that are located among rural residential land uses. For example, in many North County communities, small parcels (two acres, for example) with a single family residence and a small orchard or other farming or equestrian use are common. These residential uses, due to their direct involvement in agriculture or a rural lifestyle, would tend to be more compatible with agriculture than a high density development where homeowners would be less likely to be directly involved in rural lifestyle activities (e.g. agriculture, equestrian, animal raising, etc.). Occupants of higher density residential uses are more likely to be disturbed by noise, dust, pesticides or other nuisances that do not fit with the peaceful perceptions of living in the countryside.

3.1.5 Land Use Consistency

The median parcel size associated with the project site compared to the median parcel size of parcels located within the ZOI is a complementary factor used in the LARA model. In order to determine the land use consistency rating for the project, the following information must be determined:

Step 1.

Identify the median parcel size associated with the proposed project if the proposed project consists of at least three parcels. If the proposed project consists of two parcels, use an average. If the proposed project consists of only one parcel, then no median or average is needed.

Step 2.

Identify the median parcel size of the parcels located within the project's ZOI.

Step 3.

Considering the project's median parcel size and the ZOI median parcel size, identify the land use consistency rating in accordance with Table 10.

Table 10. Land Use Consistency Rating

Project's median parcel size compared to ZOI median parcel size	Land Use Consistency Rating
The project's median parcel size is smaller than the median parcel size within the project's ZOI	High
The project's median parcel size is up to ten acres larger than the median parcel size within the project's ZOI	Moderate
The project's median parcel size is larger than the median parcel size within the project's ZOI by ten acres or more	Low

Land use consistency is used as a measure of importance to recognize the effect that surrounding urbanization has on the viability of ongoing agricultural uses and to recognize that as urbanization surrounds agricultural lands, opportunity costs¹² for agricultural operators increase, thus reducing the viability of an agricultural operation. A site surrounded by larger parcels indicates that the site is located in an area that has not already been significantly urbanized and the area is more likely to continue to support viable agricultural uses. On the other hand, a site surrounded by smaller parcels indicates a lower likelihood of ongoing commercial agriculture viability considering the greater expectations of land use incompatibilities that the site is likely to experience and the reduction in economic viability when considering forgone opportunity costs. The median parcel size is used instead of an average to account for the potential for a very large or very small parcel to exist that would skew the result if using an average.

3.1.6 Slope

To determine the Slope Rating for the site, the average slope for the area of the site that is available for agricultural use must be determined. Refer to Column D of Table 7, Soil Quality Rating Matrix, for the areas of the site considered available for agricultural use. When the average slope of the areas of the site that is available for agricultural use is determined, identify the corresponding topography rating as outlined in Table 11, below.

Table 11. Slope Rating

Average Slope	Topography Rating
Less than 15% slope	High
15% up to 25% slope	Moderate
25% slope and higher	Low Importance

¹² Opportunity cost is an economic term. It means the cost of something in terms of an opportunity foregone (and the benefits that could be received from that opportunity), or the most valuable foregone alternative. For example, if a land owner decides to farm his land, the opportunity cost is the value of one or more alternative uses of that land, such as a residential subdivision. If he continues to farm the land, the opportunity cost is the revenue that he does not receive from building houses. Thus, as opportunity costs rise, the viability of continuing the current action (i.e. agricultural use) decreases. This conclusion is based on the fact that agricultural use of land is primarily an economic decision. When factors, such as increased opportunity costs, make use of the land for agriculture less profitable than other uses, the long term viability of agriculture decreases.

Slope is included as a complementary factor in the LARA model to account for the importance that slope plays in the viability of a piece of land for agricultural production, a flat site allowing a greater range of potential agricultural uses and facilitating mechanization of operations. Gentle topography has other benefits such as reduced difficulty in managing irrigation runoff and reduced soil erosion as compared to more steep sites. Topography is not a required factor for a determination of importance because topography limitations can be overcome at a cost if the expected return on investment is high enough to warrant the expense (i.e. container based production, mass grading).

4.0 TYPICAL ADVERSE EFFECTS AND GUIDELINES FOR DETERMINING SIGNIFICANCE

4.1 Typical Adverse Effects

Typical adverse effects to agricultural resources are best considered in relation to the various types of impacts that are considered under CEQA: direct, indirect and cumulative. Direct impacts are straightforward: important agricultural resources are converted to a non-agricultural use, significantly reducing or eliminating the productive capacity of the land. Indirect effects are widely varied and require careful analysis of particular site conditions and farming operations. Indirect effects include significant impacts to active agricultural operations, Williamson Act Contracts, or to the viability of important agricultural resources. Indirect effects can result from growth inducement and the associated extension of infrastructure that can change rural character and increase the likelihood of agriculture urban interface conflicts. Indirect impacts can be caused by significant economic impacts to active agricultural operations that compromise their on-going viability and result in increased likelihood of conversion. Significant cumulative impacts result when a project's impacts are considerable when viewed in connection with the effects of past, present and probable future projects. Cumulative impacts are difficult to assess given the market driven and adaptable nature of agriculture. For example, a loss of agricultural land may occur in one area, while new land is converted to agriculture use elsewhere. Similarly, changes in agricultural commodity market prices could result in a shift in the type of agricultural commodities produced locally. Changes in the agricultural industry that result from external market factors could appear to be significant cumulative impacts to agriculture when they may only be a result of market adaptation to external economic conditions.

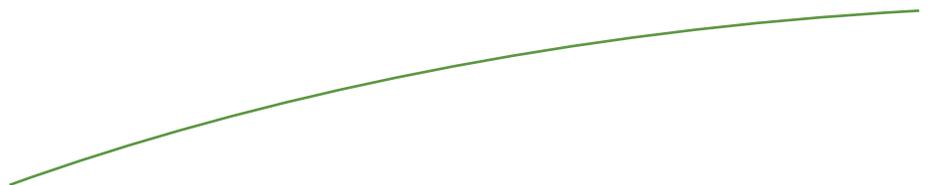
4.1.1. Direct Impacts

Direct impacts occur when a project would adversely impact locally important agricultural soils on a site that is determined to be important pursuant to the County LARA model. In San Diego County, important agricultural soils include not only soils with the USDA LCC ratings of I and II or Storie Index ratings of 80 or higher, but also includes soils of lesser quality as defined by the soil candidate listing for Prime Farmland and Farmland of Statewide Importance compiled by the USDA NRCS for San



Appendix B

SOIL QUALITY MATRIX WORKSHEET



**Table B-1
SOIL QUANTITY MATRIX WORKSHEET**

	Column A	Column B	Column C	Column D	Column E	Column F	Column G
	Soil Type	Size of project site (acreage)	Unavailable for agricultural use	Available for agricultural use	Proportion of project site	Is soil candidate for prime farmland or farmland of statewide significance? (Yes = 1, No = 0)	Multiply Column E x Column F
Row 1	CID2	12.15	CLOW - 0.79 EW - 1.21 FWM - 0.01 HW - 0.02 MFS - 0.01 SMC - 0.25 SWS - 0.05 U/D - 0.44 Total = 2.78	9.37	0.06	0	0.00
Row 2	CmE2	74.07	C - 0.31 C-D - 0.2 CLOW - 1.32 CLOW-D - 0.03 DCSS - 0.1 EW - 0.04 FWM - 0.07 HW - 0.02 MFS - 0.02 SMC - 3.36 SRF - 0.45 SRW - 0.06 SWS - 0.04 U/D - 3.12 Total = 9.14	64.93	0.40	0	0.00
Row 3	CmrG	20.12	C - 0.15 FWM - 0.001 SMC - 0.13 SRF - 0.23 U/D - 0.1 Total = 0.61	19.51	0.12	0	0.00
Row 4	EsE2	7.57	CLOW-D - 2.59 DCSS - 0.14 U/D - 2.24 Total = 4.96	2.61	0.02	0	0.00

**Table B-1 (cont.)
SOIL QUANTITY MATRIX WORKSHEET**

	Column A	Column B	Column C	Column D	Column E	Column F	Column G
	Soil Type	Size of project site (acreage)	Unavailable for agricultural use	Available for agricultural use	Proportion of project site	Is soil candidate for prime farmland or farmland of statewide significance? (Yes = 1, No = 0)	Multiply Column E x Column F
Row 5	EsD2	11.05	CLOW-D - 0.54 DCSS - 0.03 EW - 0.03 U/D - 2.86 Total = 3.46	7.59	0.05	0	0.00
Row 6	FvE	14.36	DCSS - 1.22 SRF - 0.51 U/D - 0.96 Total = 2.69	11.67	0.07	0	0.00
Row 7	FvD	11.67	CLOW - 2.03 DCSS - 0.04 SRF - 0.27 SWS - 0.03 U/D - 0.22 Total = 2.58	9.09	0.06	0	0.00
Row 8	HrC	1.03	EF - 0.04 U/D - 0.7 Total = 0.74	0.29	0.00	1	0.00
Row 9	LpD2	1.49	U/D - 0.54 Total = 0.54	0.95	0.01	0	0.00
Row 10	PfC	0.67	EF - 0.67 Total = 0.67	0.00	0.00	1	0.00
Row 11	VaB	32.71	CLOW - 1.58 CLOW-D - 0.89 DCSS - 0.12 EF - 6.47 FWM - 0.03 HW - 0.01 SRF - 1.04 SRW - 0.24 U/D - 3.76 Total = 14.13	18.58	0.11	1	0.11

**Table B-1 (cont.)
SOIL QUANTITY MATRIX WORKSHEET**

	Column A	Column B	Column C	Column D	Column E	Column F	Column G
	Soil Type	Size of project site (acreage)	Unavailable for agricultural use	Available for agricultural use	Proportion of project site	Is soil candidate for prime farmland or farmland of statewide significance? (Yes = 1, No = 0)	Multiply Column E x Column F
Row 12	VsC	20.19	CLOW - 1.25 CLOW-D - 0.04 DCSS - 0.1 DCSS-D - 0.03 EW - 0.88 FWM - 0.004 HW - 0.23 SRW-D - 0.05 U/D - 0.5 Total = 3.09	17.10	0.10	1	0.10
Row 13	VsD	0.30	DCSS - 0.02 U/D - 0.02 Total = 0.04	0.26	0.00	0	0.00
Row 14	WmB	1.87	U/D - 0.96 Total = 0.96	0.91	0.01	1	0.01
Total		209.25		162.86			0.23*
Soil Quality Matrix Score							

*This total is different from the sum of this column due to rounding.

Soil Types

CID2 Cieneba coarse sandy loam, 5 to 15 percent slopes, eroded
 CmE2 Cieneba rocky coarse sandy loam, 9 to 30 percent slopes, eroded
 CmrG Cieneba very rocky coarse sandy loam, 30 to 75 percent slopes
 EsE2 Escondido very fine sandy loam, 15 to 30 percent slopes, eroded
 EsD2 Escondido very fine sandy loam, 9 to 15 percent slopes, eroded
 FvE Fallbrook-Vista sandy loams, 15 to 30 percent slopes
 FvD Fallbrook-Vista sandy loams, 9 to 15 percent slopes
 HrC Huerhuero loam, 2 to 9 percent slopes
 LpD2 Las Posas fine sandy loam, 9 to 15 percent slopes, eroded
 Pfc Placentia sandy loam, thick surface, 2 to 9 percent slopes
 VaB Visalia sandy loam, 2 to 5 percent slopes
 VsC Vista coarse sandy loam, 5 to 9 percent slopes
 VsD Vista coarse sandy loam, 9 to 15 percent slopes
 WmB Wyman loam, 2 to 5 percent slopes

Vegetation/Development Type

C Chaparral
 C-D Chaparral - Disturbed
 CLOW Coast Live Oak Woodland
 CLOW-D Coast Live Oak Woodland - Disturbed
 DCSS Diegan Coastal Sage Scrub
 DCSS-D Diegan Coastal Sage Scrub - Disturbed
 EF Eucalyptus Forest
 EW Eucalyptus Woodland
 FWM Freshwater Marsh
 HW Herbaceous Wetland
 MFS Mule Fat Scrub
 SMC Southern Mixed Chaparral
 SRF Southern Riparian Forest
 SRW Southern Riparian Woodland
 SRW-D Southern Riparian Woodland - Disturbed
 SWS Southern Willow Scrub
 U/D Urban/Developed (roads, structures, transmission line right-of-way, etc.)