

2.9 Mineral Resources

This section is based on a Mineral Resource Technical Report, prepared by Leighton and Associates Inc. (2013) in accordance with the County *Guidelines for Determining Significance and Report Format and Content Requirements: Mineral Resources* (County of San Diego 2008), included in Appendix H of this EIR. Additionally, a Geological Reconnaissance conducted on the property by GEOCON (included as Appendix G to this EIR) contains detail on the geologic formations of the site.

2.9.1 Existing Conditions

2.9.1.1 Environmental Setting

Construction Materials

The Warner Ranch Project (proposed project) site has a relatively flat alluvial plain in its southern portion, with moderate-to-steep hillsides to the north. Surface drainage flows to the southerly trending alluvial valleys, toward the San Luis Rey River south of the site, across State Route 76 (SR 76). The site is primarily underlain by the Cretaceous-aged granitic rock of the southern California batholith. Elevations range from a high of approximately 500 feet above mean sea level along the eastern portion of the site to a low of approximately 350 feet above mean sea level along the site's southern boundary. Granitic rock outcrops dominate the elevated areas at the site.

The project site contains an area classified as Mineral Resource Zone 2 (MRZ-2) (Figure 2.9-1, Mineral Resource Zones). This area is generally characterized by the presence of younger river channel, floodplain, and terrace deposits which have been eroded from older bedrock units, transported, and re-deposited. They consist of naturally loose mixtures of sands and rounded gravels. This mineral resource area includes the land bound by SR 76 to the south and the elevated granitic bedrock areas to the east, west, and north. The MRZ-2 areas correspond to the areas mapped as alluvium (Qal) on Figure 2.9-2, On-Site Geology Formations. Older alluvial soils (Qoal) and colluvium (Qcol) have typically been shown to have too many fine materials to be suitable for aggregate. As shown on Figure 2.9-1, most of the area mapped as MRZ-2 in the region is associated closely with the San Luis Rey River. The MRZ-2 mapping extends onto the Warner Ranch property as two finger-like extensions, encompassing the on-site alluvial areas.

This mapping was done by the California Geological Survey (CGS 1982), as part of an effort to map the entire San Luis Rey River valley. At that scale, it is necessarily generalized. For this project, Leighton and Associates (Appendix H) has refined the mapping of the potential aggregate-quality materials of the on-site alluvium for use in impact analysis (Figure 2.9-3,

Impacted MRZ-2 Deposits). This mapping is similar to the mapping of Figure 2.9-1 in the western area. The potential minable material in the eastern area is less, due to the elimination of areas of unsuitable older alluvial soils (Qoal) and of that portion being within 1,300 linear feet of existing residential development.

Sections 2762 and 2763 of Surface Mining and Reclamation Act of 1975 (SMARA) require that jurisdictions issue a SOR for projects that include the elimination of the potential for extraction in areas of regionally significant minerals resources, as described in Section 2.9.1.2, Regulatory Setting. On the Warner Ranch site, these would be the areas mapped as MRZ-2, in which the aggregate material would not be used.

Metallic and Rare Minerals

To the east across Pala Temecula Road (S-16) is a world-famous gemstone area. This approximately 13-square-mile area is popularly known as the Pala Pegmatite District, although it is not an officially designated mining district. The rare minerals occurring here are found in pegmatite dikes. Geological dikes are a type of sheet intrusion, and pegmatite is coarse crystalline granitic rock. Pegmatite dikes are formed under conditions in which large crystals can form. These pegmatite dikes can contain gemstone and lithium minerals, with tourmaline probably the most well-known feature.

No deposits of metallic or rare minerals are reported on the project property. Minor pegmatites have been mapped in rocks adjacent to the project site, but the likelihood of significant prospects is considered very small. No known prospects have occurred on the property, despite many years of prospecting in and around the Pala Pegmatite District.

Mineral Resources in the San Diego Region

The majority of MRZ-2 zones in San Diego County are areas of alluvium, present in low-lying drainages. These areas are younger (Quaternary) river channels and their floodplains and terraces. The materials present were eroded from older (Tertiary, Cretaceous) bedrock, and redeposited to form the alluvium, generally as sands and gravels. Commercial grade aggregate from these sources is limited in the County, due in part to the environmental and regulatory constraints of permitting and extraction in these environments.

Most of western San Diego County is mapped as MRZ-3. These are generally mountain terrain, consisting of largely crystalline and metavolcanic rocks. These rocks can be crushed to yield commercial grade aggregate, depending on the chemical constituents. Despite considerable costs associated with crushing, processing, and transportation, crushed rock is the primary source of locally mined aggregate, given the constraints on use of alluvial materials (County of San Diego 2011).

2.9.1.2 Regulatory Setting

State

Surface Mining and Reclamation Act of 1975

As mandated by the Surface Mining and Reclamation Act of 1975 (SMARA), the California State Mining and Geology Board classifies the state's mineral resources with the Mineral Resource Zone (MRZ) system. This system includes identification of presence/absence conditions for meaningful sand and gravel deposits. The classification system emphasizes Portland Cement Concrete (PCC) aggregates, which are used in manufacturing strong, durable concrete, and have stricter specifications than other aggregate materials. Mineral land classification for the region is designated as follows:

- MRZ-1** Areas where adequate information indicates that no significant mineral deposits are present or where it is judged that little likelihood exists for their presence.
- MRZ-2** Areas where adequate information indicates that significant mineral deposits are present or where it is judged that there is a high likelihood for their presence.
- MRZ-3** Areas containing mineral deposits, the significance of which cannot be evaluated from available data.
- MRZ-4** Areas where available information is inadequate for assignment to any other MR zone.

Additionally, Sections 2762 and 2763 of SMARA require that jurisdictions issue a Statement of Reasons (SOR) for projects that include the elimination of the potential for extraction in areas of regionally significant minerals resources. SMARA requires the San Diego County decision makers consider this elimination of extraction potential in their decision on land use. The SOR lists potential reasons to approve the project, to include elimination of the potential for extraction of all of this resource. Decision makers may adopt or modify any of these. The SOR must be submitted to the State Geologist and California State Mining and Geology Board for their review for a period of 60 days in conjunction with the environmental review of the project.

Local

County of San Diego Zoning Ordinance

Sections 2820 and 6550, Extractive Use Regulations of the County of San Diego Zoning Ordinance are zoning designations that may be used to signify the presence of mineral deposits and/or to preserve areas with valuable mineral deposits until the deposits can be extracted. The

Special Purpose Regulation (S82), Extractive Use Designation (25), and Impact Sensitive Land Use Designation (24) are zoning and land use designations that are used by the County to group lands of known, existing, and potential mineral resources. The S82 Extractive Use Regulations identify and establish zones within the County where mining and quarrying uses are permitted. The Extractive Use Designation (25) and the Impact Sensitive Land Use Designation (24) are applied to areas containing economically extractable mineral resources. None of these zones are present on the Warner Ranch project site. An area to the southwest is zoned as S82 across State Route 76.

County of San Diego General Plan Conservation and Open Space Element

The County's General Plan Conservation and Open Space Element contains plans, goals, and policies regarding mineral resources within San Diego County. In San Diego County, there are three general categories of important mineral resources, including construction materials, industrial and chemical mineral materials, and metallic and rare materials. Although mineral resources of all types are economically important, the continued availability of construction aggregate for the development of roads, homes, buildings, and other infrastructure is essential to the economy of the County. While the County is underlain by vast quantities of mineral deposits from which aggregate can be produced, urban development has encroached upon many existing and potential future mining sites. This development and other non-compatible land uses has reduced or eliminated access to many of the local important mineral deposits. Select applicable General Plan policies are listed below:

- **COS-10, Protection of Mineral Resources.** The long-term production of mineral materials adequate to meet the local County average annual demand, while maintaining permitted reserves equivalent to a 50-year supply, using operational techniques and site reclamation methods consistent with SMARA standards such that adverse effects on surrounding land uses, public health, and the environment are minimized.
- **COS-10.1, Siting of Development.** Encourage the conservation (i.e., protection from incompatible land uses) of areas designated as having substantial potential for mineral extraction. Discourage development that would substantially preclude the future development of mining facilities in these areas. Design development or uses to minimize the potential conflict with existing or potential future mining facilities. For purposes of this policy, incompatible land uses are defined by SMARA Section 3675.
- **COS-10.2, Protection of State-Classified or Designated Lands.** Discourage development or the establishment of other incompatible land uses on or adjacent to areas classified or designated by the State of California as having important mineral resources (MRZ-2), as well as potential mineral lands identified by other government agencies. The potential for the extraction of substantial mineral resources from lands

classified by the State of California as areas that contain mineral resources (MRZ-3) shall be considered by the County in making land use decisions.

- **COS-10.3, Road Access.** Prohibit development from restricting road access to existing mining facilities, areas classified MRZ-2 or MRZ-3 by the State Geologist, or areas identified in the County Zoning Ordinance for potential extractive use in accordance with SMARA Section 2764.a.
- **COS-10.4, Compatible Land Uses.** Discourage the development of land uses that are not compatible with the retention of mining or recreational access to non-aggregate mineral deposits. See Policy COS-10.1 for a definition of incompatible land uses.

2.9.2 Analysis of Project Effects and Determination as to Significance

2.9.2.1 Construction Materials, Metallic and Rare Minerals

Guidelines for the Determination of Significance

The following guideline is based on the *County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements: Mineral Resources* (County of San Diego 2008).

The proposed project would have a significant impact to mineral resources if:

- The project is on or within the vicinity (generally up to 1,300 feet from the site) of an area classified as MRZ-2;
- The project will result in the permanent loss of availability of a known mineral resource that would be of value to the region and the residents of the state; and
- The deposit is minable, processable, and marketable under the technologic and economic conditions that exist at present or which can be estimated to exist in the next 50 years and meets or exceeds the following minimum values (in 1998 equivalent dollars):
 - Construction materials (sand and gravel, crushed rock) \$12,500,000.00
 - Metallic and rare minerals (precious metals [gold, silver, platinum], Iron and other ferro-alloy metals, copper, lead, zinc, uranium, rare Earths, gemstones, and semi-precious materials, and optical-grade calcite) \$1,250,000.00

Analysis

At this time the alluvial material has not been tested to determine if it is of PCC quality. Because most of the alluvial portions of the project area have been mapped as MRZ-2 by the State of

California, and because no testing of on-site material has been done, it is assumed at this time that the material is of PCC quality and is a significant construction material mineral resource.

Leighton and Associates (Appendix H) has refined the 1982 CGS generalized mapping of the potential MRZ-2 area on site, taking into account such factors as the required 1,300-foot buffer from existing residences, depth to groundwater, and terrain factors. The potential impacted areas of MRZ-2 are shown on Figure 2.9-3. Approximately 57.8 acres of MRZ-2 would be impacted on site: 38.2 acres on the western portion of the project site, associated with Gomez Creek and its floodplain, and 19.6 acres of the alluvial valley on the eastern portion of the project area. Off site to the south, across SR 76, approximately 41.0 acres of mapped MRZ-2 land would be within the 1,300-foot buffer of the residences proposed by the project.

The value of construction material is projected to exceed the significance threshold of \$12,500,000.00. An estimated 1,250,000 tons of MRZ-2 mineral resources are on-site, with an estimated value of \$25,000,000.00. An estimated 900,000 tons are present in the off-site area within the required buffer; this has an estimated value of \$18,000,000.00 (Appendix H).

The project will result in the loss of portions of this construction material mineral resource via three pathways:

- Project and infrastructure construction. Approximately 39.8 acres of on-site MRZ-2 mapped material area would be occupied by the buildings and associated physical infrastructure of the project.
- Creation of biological open space. Approximately 18.0 acres of on-site MRZ-2 mapped material area would be placed within biological open space.
- Residential buffer area. Approximately 41.0 acres of off-site MRZ-2 mapped material area, south of the project across SR 76, would be within the required 1,300-foot buffer between mining activities and residences.

Loss of the construction materials mineral resources would be a **significant impact (Impact MR-1)**.

While located within 1.5 miles of the Pala Pegmatite District, the project area is not a part of the Pala Pegmatite District. Only minor pegmatites have been mapped in rocks adjacent to the project site, despite many years of prospecting in the overall area. The likelihood of significant gemstone deposits is considered very small (Appendix H). Impacts to gemstone deposits would be considered **less than significant**.

2.9.2.2 Locally Important Mineral Sites

Guidelines for the Determination of Significance

The following guideline used to determine significance is based on the County of San Diego *Guidelines for Determining Significance and Report Format and Content Requirements: Mineral Resources* (County of San Diego 2008). The proposed project would have a significant impact to mineral resources if:

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

Analysis

Sections 2820 and 6550, Extractive Use Regulations of the County of San Diego Zoning Ordinance, are zoning designations that may be used to signify the presence of mineral deposits and/or to preserve areas with valuable mineral deposits until the deposits can be extracted. The Special Purpose Regulation (S82) contains zoning and land use designations that are used by the County to group lands of known, existing, and potential mineral resources. The S82 Extractive Use Regulations identify and establish zones within the County where mining and quarrying uses are permitted. The S82 Zone is not present on the Warner Ranch project site. Therefore, impacts to locally important mineral resource recovery sites would be **less than significant**.

2.9.3 Cumulative Impact Analysis

If testing shows that alluvial deposits on site are of commercial grade aggregate, the project would contribute to the cumulative consumption of that mineral resource.

Most aggregate mining done in San Diego County is, and has been, associated with the river valleys. Flowing water not only carries the materials down into the valleys for deposition, but, over time, replenishes quarried areas with upstream materials. The Greater San Luis Rey River Valley has been estimated to contain 1.6 billion tons of sand and 1.2 billion tons of coarse aggregate within the 14,607.0-acre drainage basin (CGS 1982). The project site is within that source's Sector D (Figure 2.9-1), a 3,740.0-acre corridor associated with the river between Pauma Valley to the east and Interstate 15 (I-15) to the west. Sector D has been estimated to contain 480 million tons of sand and 290 million tons of gravel (CGS 1982; Appendix H).

There have been documented successful sand and gravel mining operations located along the San Luis Rey drainage (discussion in Appendix H). These include the Acorn Park Reservoir Excavation, Pala Mine, Fenton Sand Mine, Pankey Pits/Pankey Ranch, and Pala Pegmatite

District (Figure 2.9-1). Of these documented historic aggregate operations, all but the Pankey Ranch/Rosemary Mountain site have been terminated after they ceased to be economically viable. Approximately 2 miles west of the Warner Ranch property is the site originally known as Pankey Pits (Figure 2.9-1). Permitting processes and regulatory requirements reportedly resulted in the site becoming inactive by the early 1980s. An adjacent parcel known as Pankey Ranch was acquired by Palomar Aggregates, who have since partnered with the Granite Construction Company on a project now referred to as Rosemary's Mountain. Current plans call for rock crushing, extraction of aggregate, and operation of an asphalt plant on a part of the 94.0-acre site.

Three projects are located in the general area of Sector D that could contribute to cumulative impacts. The Prominence at Pala (No. 2 on the cumulative projects exhibit) is a proposed residential subdivision on 350.0 acres. It is north of the area mapped as MZ-2, at an elevation above the alluvial deposits. The mixed-use Meadowood Project (No. 95) contains approximately 40.0 acres within the MZ-2 area, but these are within 1,300 feet of existing development, and could therefore not be mined under current regulations. The proposed Gregory Canyon Landfill overall site (No. 100) includes a portion of the San Luis Rey River, all mapped as MZ-2. This area is proposed largely as open space, which would remove it from potential mining, further contributing to the cumulative loss.

While the amount of aggregate-grade material on the project site is not large when compared to the extensive areas mapped in Sector D, it is a significant amount of material per the guidelines discussed above. As such, if the material does prove to be of aggregate-grade, its loss to the project would be considered cumulatively **significant (Impact MR-CUM-1)**.

As described in Section 2.9.2.2, Locally Important Mineral Sites, the Special Purpose Regulation (S82) contains zoning and land use designations that are used by the County to group lands of known, existing, and potential mineral resources. The S82 Extractive Use Regulations identify and establish zones within the County where mining and quarrying uses are permitted. The S82 Zone is not present on the project site or in the immediate vicinity; see Figure 2.9-2. Therefore, the project would not contribute to a cumulative considerable impact related to loss of availability of a locally important mineral resources recovery site delineated on a local general plan, specific plan, or other land use plan.

2.9.4 Significance of Impacts Prior to Mitigation

Impacts MR-1 and MR-CUM-1

MRZ-2 materials would be lost to future mining efforts once project development is complete. This would be a direct impact of the project and would contribute to a cumulative impact in Sector D of the Greater San Luis Rey River Valley.

2.9.5 Mitigation

M-MR-1 (also for M-MR-CUM-1) The alluvium on site should be used in project construction, particularly for slab underlayment and for utility trench construction, if feasible. It is estimated these uses would involve approximately 17,000 tons of material.

Since this would be only 1 percent of the potential material on site, the direct and cumulative impacts would remain **significant and unmitigable**.

2.9.6 Conclusion

The loss of the construction materials would result in both a significant direct impact and a significant cumulative impact to mineral resources.

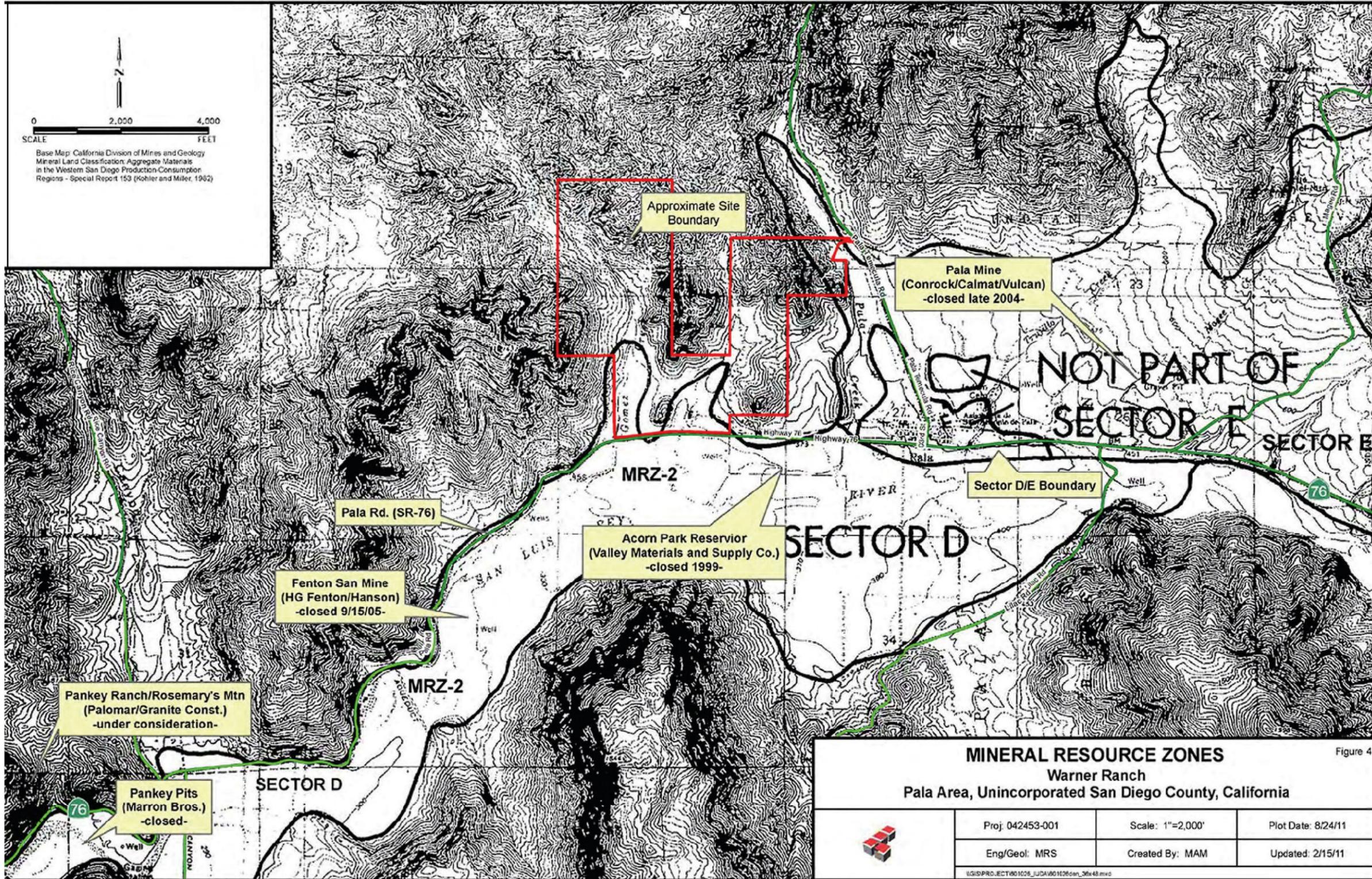
As noted in mitigation measure **M-MR-1**, some of the material could be used in project construction, but it is estimated that only 1 percent of the on-site material could be used. Given this small percentage, both direct and cumulative impacts to mineral resources would remain significant.

Three separate areas of impact were identified:

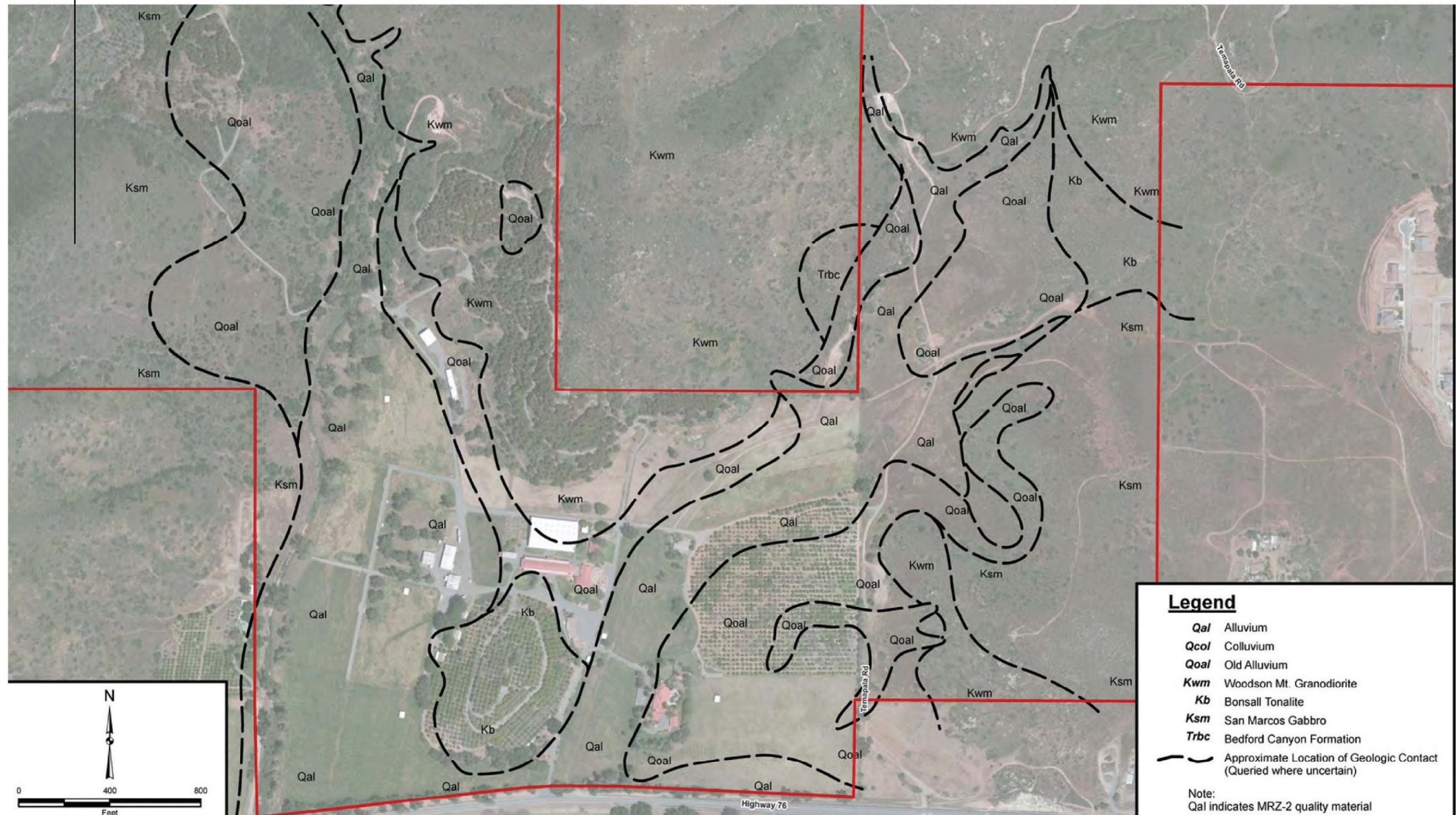
- On-site area to be developed, approximately 39.8 acres
- On-site area to be placed in biological open space, approximately 18.0 acres
- Off-site area within the required 1,300-foot buffer, approximately 41.0 acres

The combined estimated value of these resources is \$43,000,000.00, which exceeds the \$12,500,000.00 County guideline for construction material. The reason this is not mitigable is that an area of resources with a value of \$30.5 million would have to be mined or set in reserve for future mining to be less than significant. Since there are only 39.8 acres in the project area that are MRZ-2, the yield would be less than the \$30.5 million necessary to be less than significant. The project, however, has incorporated feasible mitigation that is use of on-site material for construction, which would reduce the estimated value of remaining resources to \$42,660,000.00. Impacts from the loss of the construction materials would **remain significant and unmitigated for both direct impacts and cumulative impacts** to mineral resources.

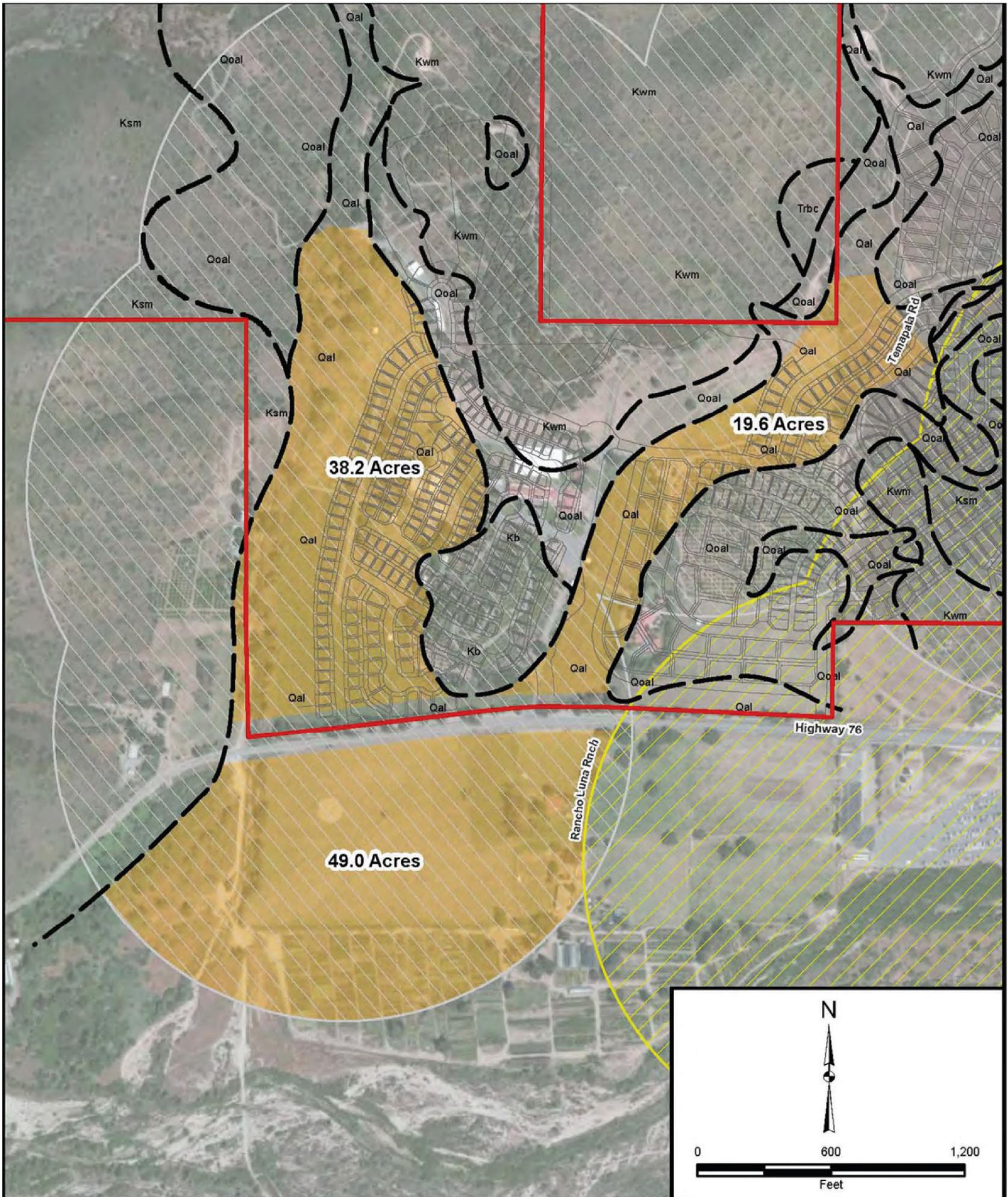
INTENTIONALLY LEFT BLANK



INTENTIONALLY LEFT BLANK



INTENTIONALLY LEFT BLANK



INTENTIONALLY LEFT BLANK