

4.15 MINERAL RESOURCES

The purpose of this section is to identify and evaluate the potential for the project to adversely affect the availability of known mineral resources. Mineral resources of concern include metals, industrial minerals (e.g., aggregate, sand and gravel), oil and gas, and geothermal resources that would be of value to the region and residents of the State of California. Biomass resources are also addressed in this section, specifically waste energy generated at the Prima Deshecha Landfill.

4.15.1 Existing Environmental Setting

There are no known aggregate or other mineral deposits within the disturbance limits of, or adjacent to, the proposed project.

In 1994, the California Department of Conservation, Division of Mines and Geology (CDMG), published an updated report identifying significant sand and gravel resources for the Orange County region. These resources are generally located in portions of the Santa Ana River, Santiago Creek, San Juan Creek, Arroyo Trabuco, and other areas depicted on Figure VI-3 of the Orange County (County) Resources Element of the General Plan. The closest area to the project site is San Juan Creek, located approximately 0.33 mile northwest of the northern project limits. The 1994 updated report found that the San Juan Creek contained 120 million short tons of aggregate resources, or approximately one-fourth of the County's resources.¹

As of March 1994, the aggregate study area had four permitted active mines operated by four different companies:²

- **Blue Diamond Company:** Blue Diamond Company, a Beazer West, Inc. Company, has been mining aggregate from the Santiago Creek channel, located upstream of Irvine Lake, since 1976. The Blue Diamond Company is also presently mining in the Silverado Creek channel.
- **El Toro Materials Company:** El Toro Materials Company has been mining sandstone from the Oso Member of the Capistrano Formation, located along Aliso Creek in south-central Orange County, since 1965.
- **New Owl Rock Products, Inc:** New Owl Rock Products, Inc. has been mining Portland Cement Concrete (PCC) aggregate from a conglomerate unit in the Sespe Formation, located on the south side of Santa Ana Canyon, since 1967.
- **Triangle Rock:** Triangle Rock, a CalMat Inc. company, was permitted for mining. Triangle Rock mines aggregate resources underlying Irvine Lake.

The permitted mining activities described above are not located in the San Juan Creek or near the proposed project site. No updates to mineral land classifications for Orange County have been published since December 21, 1995.

¹ California Department of Conservation, Division of Mines and Geology, Updated Special Report 143, 1994, as summarized in the County of Orange Resources Element.

² California Department of Conservation Division of Mines and Geology. Update of Mineral Land Classification of Portland Cement Concrete Aggregate in Ventura, Los Angeles, and Orange Counties, CA, Part III – Orange County. December 21, 1995.

The Resources Element of the County General Plan also identified energy resources in the County. The Prima Deshecha Landfill is identified as a biomass resource from which methane is recovered. The proposed project transects the landfill in an area reserved for the La Pata Avenue extension in the Landfill General Development Plan (GDP). The Resources Element does not identify any petroleum resource areas or geothermal resources in the vicinity of the project site.

4.15.2 Regulatory Setting

4.15.2.1 Surface Mining and Reclamation Act

The State adopted the Surface Mining and Reclamation Act (SMARA) in 1975, with the objectives of assuring adequate supplies of mineral resources important to California's economy and promoting the reclamation of mined lands. These objectives are implemented through land use planning and regulatory programs administered by local governments, with the assistance of the State. The CDMG and the State Mining and Geology Board are the agencies responsible for administering this program at the State level.

The mineral resource conservation objective of SMARA is achieved through a mineral inventory and land use planning process termed "classification/designation." Information regarding the location of important mineral deposits is developed by the CDMG through a process of mineral land classification. The classification report is used by the State Mining and Geology Board in designating deposits that are of economic significance to a region, the State, or the nation. The first Classification Report for Orange County was adopted in 1982, and an updated report was issued in 1994.

The CDMG and the State Mining and Geology Board are responsible for administration of a mineral lands inventory process termed "classification/designation." Areas are classified on the basis of geologic factors, without regard to existing land use and land ownership.

The areas are categorized into four Mineral Resource Zones (MRZs):

- **MRZ-1:** An area 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:** An area where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood exists for their presence.
- **MRZ-3:** An area containing mineral deposits, the significance of which cannot be evaluated.
- **MRZ-4:** An area where available information is inadequate for assignment to any other MRZ zone.

Of the four categories, lands classified as MRZ-2 are of the greatest importance. Such areas are underlain by demonstrated mineral resources or are located where geologic data indicate that significant measured or indicated resources are present. MRZ-2 areas are designated by the Mining and Geology Board as being "regionally significant." Such designations require that a Lead Agency's land use decisions involving designated areas be made in accordance with its mineral resource management policies and that it consider the importance of the mineral resource to the region or the State as a whole, not just to the Lead Agency's jurisdiction. There are some areas located within the County of Orange that have not been surveyed for aggregate material.

4.15.2.2 General Plans

Important mineral resource areas are recognized at the federal and State levels through environmental resource management plans and adopted mineral resource mapping, and at the local level through land use planning documents such as general plans that incorporate such information. The County of Orange and City of San Clemente use policies requiring future development to preserve and protect natural resources so as to retain the aesthetic quality of the community. The following Natural Resource Goal from the Orange County General Plan, Natural Resource Element (2005) is applicable to the proposed project:

- **Natural Resource Goal 2:** Promote the wise management of agricultural and mineral resources in order to protect these resources and future needs.

The City of San Clemente's General Plan Natural and Historic/Cultural Resources Element (1993 with updates up to 2003) outlines goals and policies to protect mineral resources. These include the protection of major mineral deposits against development, which would impact the availability and extraction of these resources and balancing mineral production and development. The following Natural Resource Goal from the City of San Clemente General Plan, Natural and Historic Cultural Resources Element, is applicable to the proposed project.

- **Mineral Resource Goal:** Maintain proper management of designated areas for mineral extraction to meet the needs of the City while ensuring adequate reclamation of mineral extraction areas.

Please see Appendix N of this Environmental Impact Report (EIR) for a summary of the project's General Plan consistency pursuant to California Environmental Quality Act (CEQA) Guidelines, California Code of Regulations (CCR) Section 15125(d).

4.15.3 Methodology

This section identifies and evaluates issues related to mineral resources in the context of the project. This section also evaluates the potential loss of availability of known mineral resources due to land use conversions based on information, maps, and data made available by the CDMG publication of Mineral Land Classification, the Department of Oil, Gas, and Geothermal Resources (DOGGR), and as contained in the County of Orange General Plan.

4.15.4 Thresholds of Significance

For this project, the following thresholds of significance are used. The impacts of the proposed project to mineral resources may be considered to be significant if the proposed project would:

- Threshold 4.15.1:** Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State.
- Threshold 4.15.2:** Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

4.15.5 Impacts and Mitigation

4.15.5.1 No Impact.

Threshold 4.15.1: Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State.

Threshold 4.15.2: Results in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

Construction Impacts. No known valuable mineral resources exist on or near the project site. A portion of the project site is classified by the CDMG as MRZ-1, indicating that no known significant mineral deposits are present on site, and a portion of the site is not classified (see Figure 4.15.1).¹ As described above, MRZ-1 is an area where there is sufficient information to determine that no significant mineral deposits are present and that the likelihood for their presence is low. The reasons why CDMG did not survey the unclassified portions of the County and project are not known; however, given their location near existing urbanization and MRZ-1 areas, it appears that the likelihood of occurrence for significant mineral resources is low in these areas as well.

Based on Figure 4.7-2 of the Final Program Environmental Impact Report for the 2001 Prima Deshecha Landfill GDP, a portion of the Prima Deshecha Landfill property located immediately east of the 150-foot San Diego Gas and Electric (SDG&E) pole and pipeline easement and the 200-foot Southern California Edison (SCE) easement, was leased by private entities for oil and gas exploration from the mid-1970s to the mid-1990s. However, based on the DOGGR Online Mapping System, no former or existing wells were identified within the portion of the Landfill that was leased for oil and gas exploration purposes. In addition, the Phase I Environmental Site Assessment (ESA) did not identify oil or gas wells, or oil fields present within the project limits.

The widening and extension of La Pata Avenue and the extension of Camino Del Rio will not preclude access to mineral resources as no mineral aggregate or petroleum resources are known or anticipated to occur on site. *Therefore, construction of the proposed project would not result in the loss of availability of known mineral resources that would be considered valuable to the region or the residents of the State. In addition, the project will not result in significant impacts related to availability of mineral resources or mineral resource recovery sites, and no mitigation is required.*

Methane gas is a by-product of landfilling municipal solid wastes. Methane can be captured and utilized as a landfill biogas, a renewable energy source, to generate electricity or heat. Orange County Waste and Recycling (OCWR) operates Prima Deshecha Landfill for municipal solid waste. The Landfill infrastructure includes a gas-to-energy plant that captures methane emissions and converts them to electrical energy. Prima Deshecha Landfill captures approximately 11 million normal cubic meters of methane each year.² The extension of La Pata Avenue will transect the Landfill in an area between Zones 1 and 4. The proposed project is located in an area designated for the roadway extension (Zone 5) in the Prima Deshecha Landfill GDP. Current grading plans do not indicate the need to relocate the landfill gas line that transmits methane to the gas-to-energy plant. *The*

¹ Figures are placed at the end of this section.

² Themelis, Nickolas J., and Priscilla A. Ulloa. 2006. "Methane generation in landfills," http://www.seas.columbia.edu/earth/wtert/Themelis_Ulloa_Landfill.pdf, accessed March 31, 2010.

construction of the proposed project will not impede or interfere with the operation of the gas-to-energy plant and therefore will not result in short-term impacts to the production of energy.

Operational Impacts. As stated above, there are no known significant mineral deposits present on site. The operation of the proposed widening and extension of La Pata Avenue/Avenida La Pata and extension of Camino Del Rio will not preclude access to mineral resources as no mineral resources are known or anticipated to occur on site.

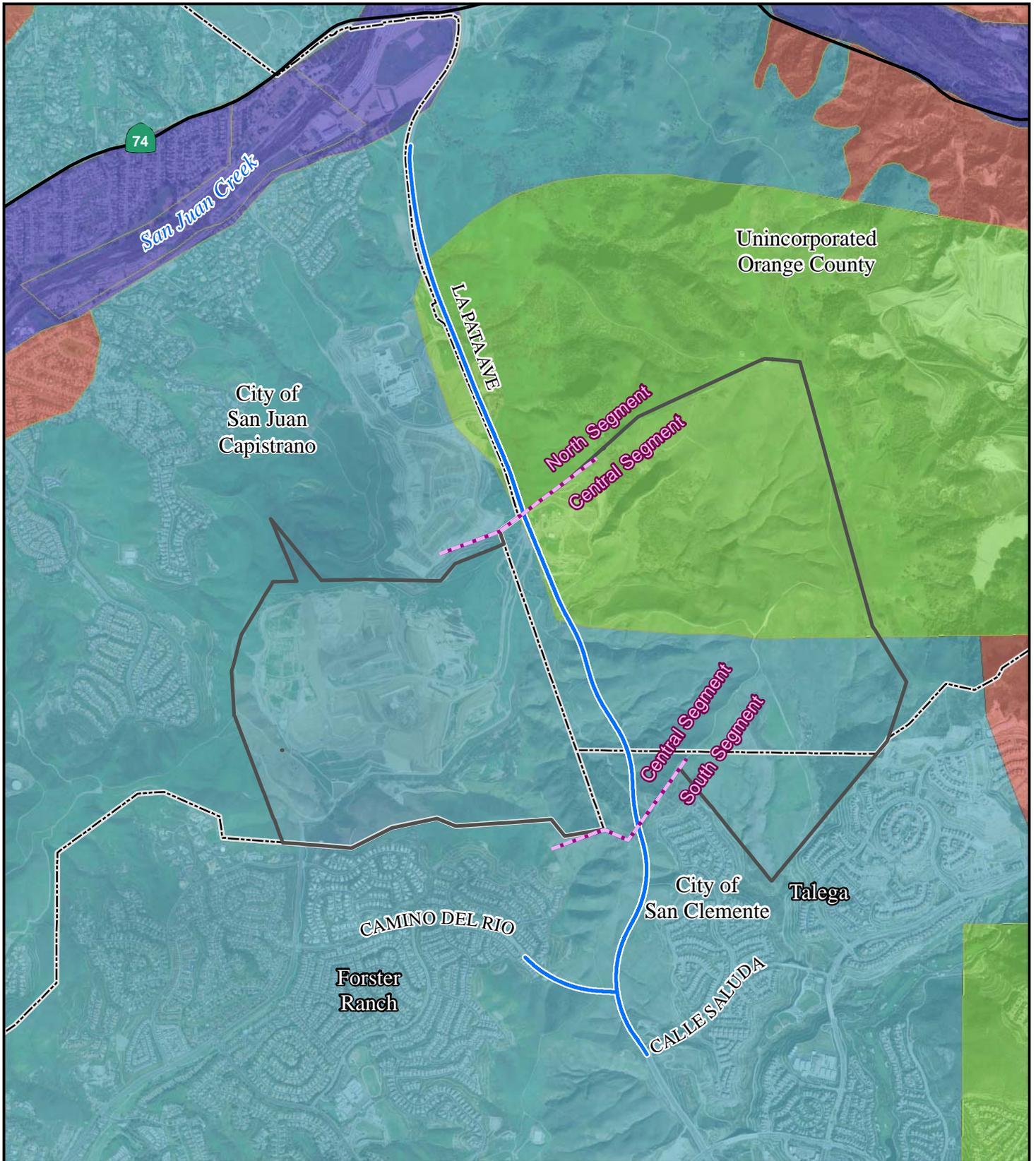
The extension of La Pata Avenue will transect the Prima Deshecha Landfill site in an area designated for the roadway extension (Zone 5) in the Prima Deshecha Landfill GDP. The operation and use of the proposed roadway will not impede or interfere with the operation of the gas-to-energy plant and therefore will not result in long-term impacts to the production of energy. *Therefore, permanent significant impacts related to the availability of mineral resources or mineral resource recovery sites will not occur after the construction of the proposed project, and no mitigation is required.*

4.15.6 Cumulative Impacts

The cumulative study area for mineral resources consists of: (1) the area that could be affected by proposed project activities; and (2) the areas affected by other projects whose activities could directly or indirectly affect the availability of a commercially valuable or locally important mineral resource on the project site. The analysis above indicated that no significant mineral deposits are located on the project site. Based on the location of and information available regarding the related projects identified in Table 4.1.3, no cumulative impacts to mineral resources are anticipated. For this reason, the project will not cause an incremental contribution to cumulative impacts related to mineral resources and therefore the project impacts are not cumulatively considerable. No mitigation is required.

4.15.7 Level of Significance after Mitigation

No significant impacts related to mineral resources have been identified.



LEGEND

- Project Limits
- Prima Deshecha Landfill Boundary
- County Boundary
- City Boundary
- MRZ-1
- MRZ-2
- MRZ-3
- Not Classified

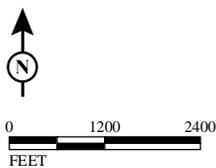


FIGURE 4.15.1

La Pata Avenue Gap Closure and Camino Del Rio Extension
Mineral Resource Zones

SOURCE: DigitalGlobe (4/08); ESRI (2008); TBM (2008); RBF (4/21/09); LAFCO (2009); California Department of Conservation (1994)
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