

4.12 MINERAL RESOURCES

This section evaluates the mineral resources impacts of the proposed Plan. Some of the information in this section is summarized from the data included in Appendix M of this EIR.

4.12.1 EXISTING CONDITIONS

SAN DIEGO REGION MINERAL RESOURCES

Mineral resources in the San Diego region serve various public, commercial, scientific, and recreational purposes. The term “mineral resources” refers to a concentration of naturally occurring minerals in a form and amount that makes economic extraction potentially feasible (SMGB 2018). Locally important mineral resources in the San Diego region include construction aggregate materials (sand, gravel, and crushed rock), industrial and chemical mineral materials (limestone, dolomite, and marble), and metallic and rare materials (precious metals, gemstones, iron and other ferro-alloy metals, copper, lead, zinc, and optical-grade calcite) (County of San Diego 2011). These finite resources are each important to the region’s economy, but due to their importance in construction of vital infrastructure, aggregate materials are the most economically important mineral category. Other mineral resources in the San Diego region include the Pala Gem Mining District on land governed by the Pala Band of Mission Indians (BIA 1982), granite and marble dimension stone used for buildings and countertops, and a variety of industrial and chemical minerals such as ash, boron and clay.

The location of mineral resources is related to the geologic environments in which certain mineral deposits were formed. In the San Diego region, deposits formed during the Quaternary, Tertiary, and Cretaceous Ages can be the source of mineral resources (County of San Diego 2011). For example, Quaternary alluvium is a source of sand and gravel that can be mined and processed to produce construction aggregate (City of San Diego 2011).

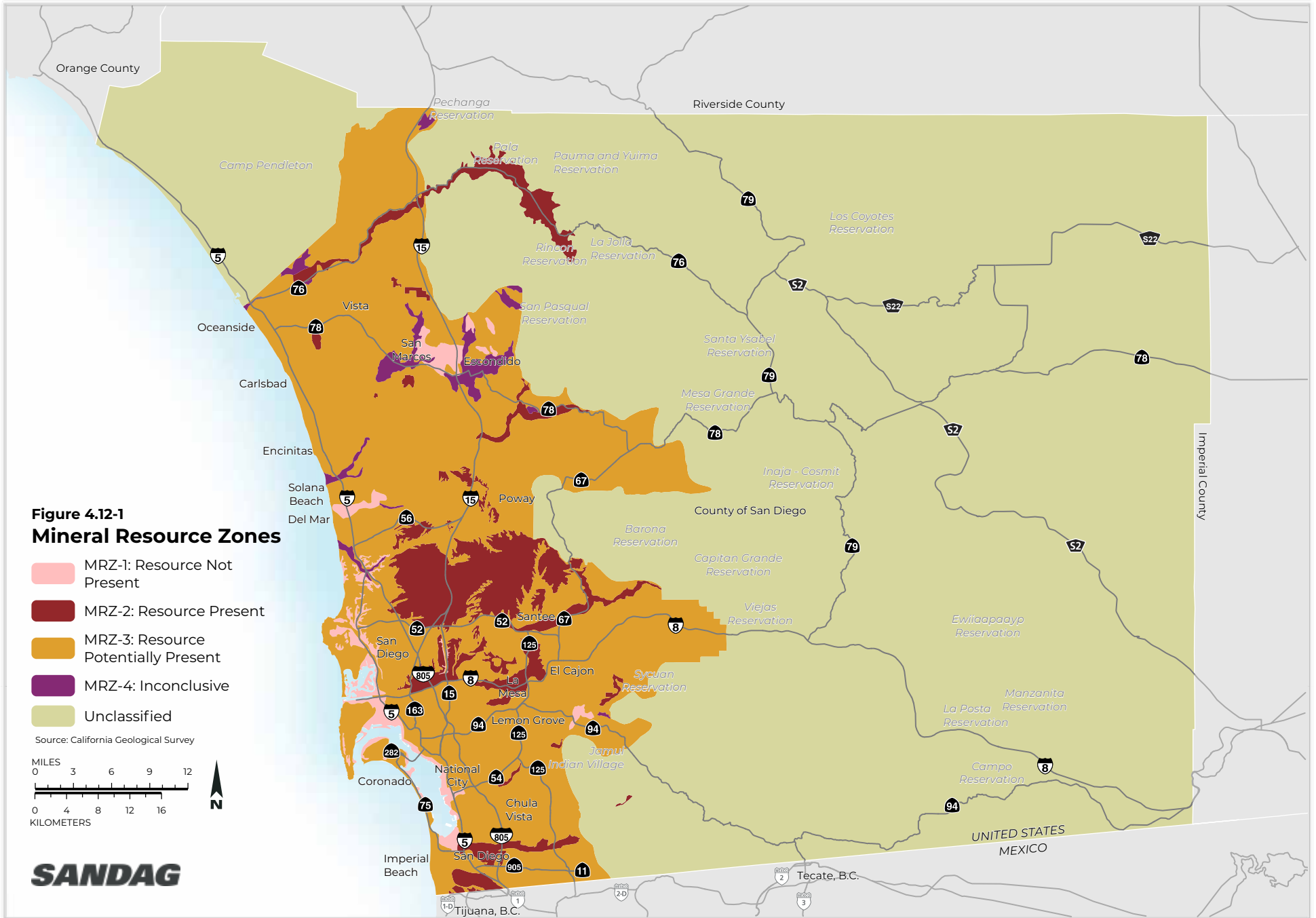
MINERAL RESOURCE ZONES

The State Surface Mining and Reclamation Act of 1975 (SMARA, Public Resources Code Sections 2710-2796) establishes policies for the conservation, development, and reclamation of valuable mineral resources, and requires cities and counties to incorporate in their general plans the mapped locations of lands categorized by the State Mining and Geology Board (SMGB) as MRZs. The primary objective of the classification and designation processes is to ensure, through appropriate lead agency policies and procedures, that mineral deposits of statewide or regional significance are available when needed (SANDAG 2011). MRZs are described in Table 4.12-1. *Resource recovery sites* are areas where mineral resources could be extracted for use and are designated in local land use plans. MRZs in the San Diego region are depicted in Figure 4.12-1.

**Table 4.12-1
Description of Mineral Zones**

Zone	Description
MRZ-1	Areas where available geological information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.
MRZ-2	Areas underlain by mineral deposits where geological data show that significant measured or indicated resources are present or where geological information indicates that significant inferred resources are likely to be present.
MRZ-3	Areas containing known mineral deposits that may qualify as mineral resources. These areas are considered to have a moderate potential to qualify as mineral resources or they occur in geologic settings which appear to be favorable environments for specific mineral deposits.
MRZ-4	Areas where geologic information does not rule out either the presence or absence of mineral resources.

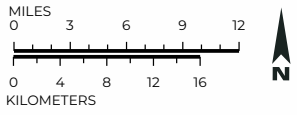
Source: SMGB 2018.



**Figure 4.12-1
Mineral Resource Zones**

- MRZ-1: Resource Not Present
- MRZ-2: Resource Present
- MRZ-3: Resource Potentially Present
- MRZ-4: Inconclusive
- Unclassified

Source: California Geological Survey



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As shown in Figure 4.12-1, the majority of the western portion of the San Diego region is categorized as MRZ-3. As described in Table 4.12-1, the MRZ-3 category is given to areas containing known mineral deposits that have a moderate potential to qualify as mineral resources or that occur in geologic settings that appear to be favorable environments for specific mineral deposits.

The MRZ-1 and MRZ-4 areas make up a small portion of the San Diego region. It is important to note that there is a distinction between MRZ-1 and MRZ-4 categories, which is relevant for land-use considerations. As indicated in Table 4.12-1, the MRZ-1 category is given to areas where the available geological information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence. The MRZ-4 category, however, does not imply that there is a low likelihood for the presence of mineral resources; rather, the MRZ-4 category indicates that there is a lack of knowledge regarding the presence of mineral resources. Further exploration would be required in the reclassification of MRZ-4 lands if there is evidence that a mineral resource is present.

Areas designated as MRZ-2 are those underlain by mineral deposits where geological data show that significant measured or indicated resources are present, or where geological information indicates that significant inferred resources are likely to be present. Of the four MRZ categories, MRZ-2 has the highest potential to contain known significant mineral resource deposits. The existing MRZ-2 areas in the San Diego region are concentrated along major drainages such as the San Luis Rey River (along State Route [SR] 76 between Interstate [I-] 15 and SR 78), Otay River, the Tijuana River, the San Diego River, Carroll Canyon, Sweetwater River, and the San Dieguito River. As a result, many of the region's existing mining operations are located along rivers and water courses.

AGGREGATE SUPPLY AND DEMAND

Construction aggregate is the largest nonfuel mineral commodity produced in California (SANDAG 2011). Aggregate materials include sand, gravel, and crushed stone, and are key ingredients in concrete and asphalt essential for constructing and maintaining the physical framework of buildings and infrastructure. Aggregate is used for the construction of roads and rails, parking lots, buildings, homes, schools, hospitals, shopping centers, and other essential facilities. SANDAG, in cooperation with California Department of Transportation (Caltrans) District 11, completed the *San Diego Region Aggregate Supply Study* in January 2011 to examine supply issues related to aggregate in the San Diego region (SANDAG 2011). According to the study, the San Diego region has geologic sources of the necessary rock types to meet anticipated future aggregate demand, but urban development has reduced or eliminated access to these resources, causing mining to become infeasible in many areas where prime deposits of sand, gravel, and stone are located. Active aggregate supply sources within the San Diego region declined from 48 mines in 1980 to 16 by 2011, and this decline is likely to continue over the next two decades as mining permits expire and resources are depleted. As of 2011, aggregate was also being imported to the region by truck from nearby counties, and by truck and barge from Mexico to provide needed materials. Figure 4.12-2 shows the locations of potential aggregate supply sites in the San Diego region.

ANTICIPATED EFFECTS FROM CLIMATE CHANGE

Climate impacts such as wildfires, flooding, and sea-level rise, may affect mineral resources by damaging mining sites (ICMM 2013); however, studies have not quantified the extent of these effects in the San Diego region. The San Diego region is likely to experience a longer and less predictable fire season, wetter winters and more intense precipitation that can lead to increased flooding, and sea-level rise of up to 1.2 feet by 2050. More details on future climate projections are available in Appendix C.

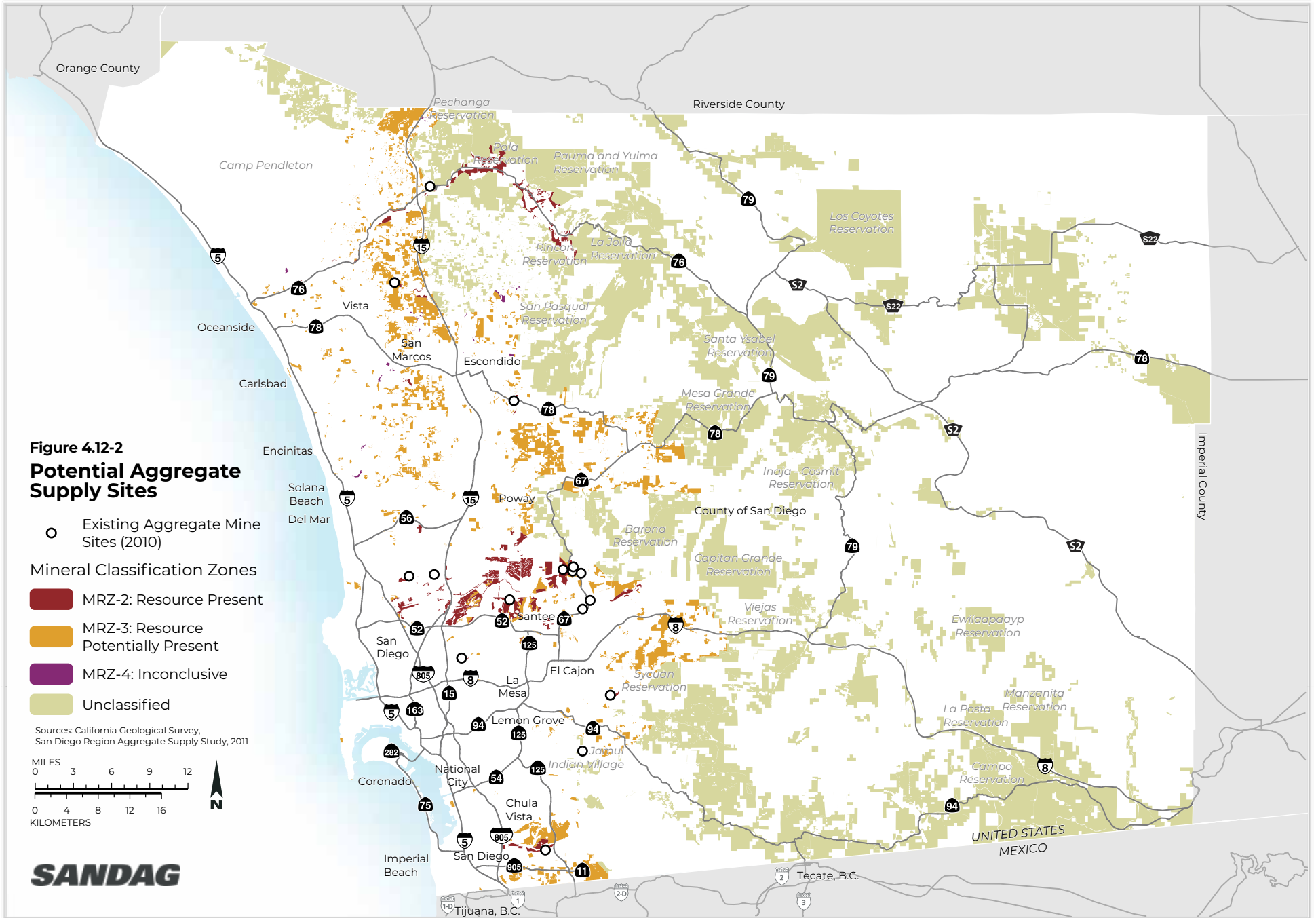
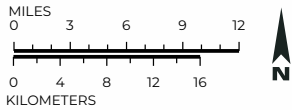


Figure 4.12-2
Potential Aggregate Supply Sites

- Existing Aggregate Mine Sites (2010)
- Mineral Classification Zones**
- MRZ-2: Resource Present
- MRZ-3: Resource Potentially Present
- MRZ-4: Inconclusive
- Unclassified

Sources: California Geological Survey, San Diego Region Aggregate Supply Study, 2011



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4.12.2 REGULATORY SETTING

FEDERAL LAWS, REGULATIONS, PLANS, AND POLICIES

Indian Mineral Development Act of 1982

The Indian Mineral Development Act (25 United States Code [USC] Sections 2101–2108) outlines provisions for Minerals Agreement contracts for tribal nations. Subject to the approval of the Secretary of the Bureau of Indian Affairs (BIA), and any limitation or provision contained in its constitution or charter, tribes may enter into certain agreements providing for the exploration for, or extraction, processing, or other development of, energy and nonenergy mineral resources for which tribes own a beneficial or restricted interest, or providing for the sale or other disposition of the production or products of tribal mineral resources.

STATE LAWS, REGULATIONS, PLANS, AND POLICIES

Surface Mining and Reclamation Act of 1975

SMARA requires cities and counties to incorporate in their general plans certain mapped designations, including lands categorized as MRZs. MRZ classifications are set forth in guidelines developed by the SMGB (2018) and are used to communicate information concerning the location of mineral resources. Mineral lands are mapped according to jurisdictional boundaries (e.g., counties, groups of counties, or major parts of counties), mapping all mineral commodities in the area, including aggregate. Priority is given to areas where future mineral resource extraction could be precluded by incompatible land use or to mineral resources likely to be mined during the 50-year period following their classification.

Section 2762(d) of SMARA establishes specific lead agency noticing requirements prior to permitting a use that would threaten the potential for future extraction of identified mineral resources from either (1) MRZ-2 lands, or (2) land designated in a lead agency’s general plan as having important minerals to be protected. Prior to permitting a use that would threaten the potential to extract minerals in lands with either of these two designations, the lead agency must prepare a statement specifying its reasons for permitting the proposed use and provide public notice of the statement. The statement must be forwarded to the State Geologist and SMGB for review and is required to comply with the public review requirements of CEQA.

REGIONAL AND LOCAL LAWS, REGULATIONS, PLANS, AND POLICIES

General Plans

To comply with California Government Code Section 65302, a general plan must include “[a] conservation element for the conservation, development, and utilization of natural resources including water and its hydraulic force, forests, soils, rivers and other waters, harbors, fisheries, wildlife, minerals, and other natural resources” (Section 65302 (d)). Sand, gravel, and crushed rock provide construction aggregate materials and are economically the most important mineral resource in the San Diego region (County of San Diego 2011). The locations of mineral resources, if any, are identified in each general plan; policies and regulations for extraction activities are addressed in general plans and local codes as shown in Table 4.12-2.

**Table 4.12-2
Policies or Regulations by Jurisdiction**

Jurisdiction	Policy or Regulation on Mineral Resources
Carlsbad	The City of Carlsbad classifies Open Space for Managed Production of Resources, including major mineral resources. (City of Carlsbad 2015).
Chula Vista	City of Chula Vista Municipal Code Section 19.69 covers surface mining regulations (City of Chula Vista 2018). The Chula Vista General Plan policies concerning mineral resources include: E 5.1 Ensure that permit applications for proposed mineral resource extraction are consistent with the Chula Vista MSCP Subarea Plan. E 5.2 Consider and minimize impacts from mining operations to existing and future surrounding land uses. E 5.3 Ensure that approved mining reclamation plans fully comply with requirements of the Chula Vista MSCP Subarea Plan; Chula Vista Greenbelt Master Plan; Otay Valley Regional Park Concept Plan; and all other applicable plans regarding the restoration of biological habitats and the creation of trails and parkland (City of Chula Vista 2005).
Coronado	The City of Coronado identifies Open Space for the managed production of resources including areas that contain mineral deposits such as bedrock, clay sand silts, and salt. The City recognizes salt ponds as a valuable resource not only for salt evaporation purposes, but also for providing habitat for birds and marine wildlife (City of Coronado 2003).
Del Mar	The City of Del Mar Municipal Code Chapter 23.32 contains provisions on excavating and grading permits (City of Del Mar 2018).
El Cajon	The City of El Cajon General Plan states that the City of El Cajon does not have any commercial deposits of ores or minerals (City of El Cajon 2001).
Encinitas	The City of Encinitas General Plan contains a policy allowing mineral resource extraction within the Coastal Zone, except in environmentally sensitive areas (City of Encinitas 2011).
Escondido	The City of Escondido General Plan Update does not include any goals or policies that specifically address mineral resources or mineral extraction (City of Escondido 2012).
Imperial Beach	The City of Imperial Beach General Plan does not include policies regarding mineral resources (City of Imperial Beach 2019).
La Mesa	The Conservation Element of the La Mesa General Plan states that La Mesa does not have any of the resources typically discussed in a conservation element, including mineral resources. The General Plan EIR does not discuss Mineral Resources (City of La Mesa 2013), and the City of La Mesa does not have policies pertaining to mineral resources (City of La Mesa 2013).
Lemon Grove	The City of Lemon Grove does not have any known mineral deposits; therefore, there are no policies pertaining to mineral resources (City of Lemon Grove 2006).
National City	The City of National City's General Plan contains language on the salt ponds of the San Diego National Wildlife Refuge. The U.S. Fish and Wildlife Service has prepared a Comprehensive Conservation Plan that includes a holistic habitat restoration plan for the existing salt works property (City of National City 2012).
Oceanside	The City of Oceanside General Plan's long-range policies include regulating mineral extraction activities to minimize hazards and conflicts with other land uses as well as to preserve and enhance the appearance of the area (City of Oceanside 2018).

Jurisdiction	Policy or Regulation on Mineral Resources
Poway	<p>The City of Poway's General Plan states that the City's only known valuable mineral resource is construction-quality sand and gravel that is located in the southern area of the city. Currently, one sand and gravel extraction operation is located in Beeler Canyon on the southernmost portion of this area.</p> <p>The City's General Plan also states that areas designated as Region-Serving Open-Space (areas that are lightly developed with activities or facilities that serve the region as unique or outstanding recreational, safety, or managed production such as agriculture, mineral extraction) should be retained as open space and in some cases increased to serve the region's expanding needs (City of Poway 1991).</p> <p>Chapter 16.54 of the City of Poway's Municipal Code contains regulations on surface mining and reclamation.</p>
City of San Diego	<p>The City of San Diego General Plan includes policies to balance mineral extraction with habitat conservation.</p> <p>These policies include:</p> <ul style="list-style-type: none"> CE-K.1. Promote the recycling and reclamation of construction materials to provide for the City's current and future growth and development needs (see also Public Facilities). Policy PF-I.1 and Conservation Element, Policy CE-A.8. CE-K.2. Permit new or expanding mining operations within the Multi-Habitat Planning Area (MHPA) in accordance with MSCP policies and guidelines. CE-K.3. Produce sand and gravel with minimal harm and disturbance to adjacent property and communities. CE-K.4. Plan rehabilitation of depleted mineral areas to facilitate reuse consistent with state requirements, the Surface Mining and Reclamation Act (SMARA), and local planning goals and policies, including the MSCP. CE-K.5. Consider local evaporative salt production for future economic value, open space use, and for important ecological habitat. (City of San Diego 2008) <p>Section 141.1004 of the City's Municipal Code covers regulations pertaining to mining and extractive industries.</p>
San Marcos	<p>According to the San Marcos General Plan, the City currently does not have active mines or quarries, though two historical mining/quarry locations exist within City limits. The City will maintain awareness and comply with State policies regarding protection and extraction of these resources (City of San Marcos 2012). City of S.an Marcos Zoning Ordinance Chapter 20.460 covers regulations pertaining to surface mining.</p>
Santee	<p>According to the City of Santee's General Plan, Santee includes a number of areas containing valuable mineral (primarily sand and gravel) resources. These include areas along the San Diego River, within hilly areas north of Carlton Hills, south of Prospect Avenue between Mesa Road and Fanita Drive, and at the north end of Magnolia Avenue. In view of the potential environmental and flooding problems associated with the mining of these resources, the City of Santee needs to carefully review and regulate all sand mining and mineral recovery proposals (City of Santee 2003). The City's General Plan contains specific policies concerning mineral resources:</p> <ul style="list-style-type: none"> Policy 5.1 The City shall require that all proposed mining operations are adequately reviewed during the project and environmental review processes to minimize to the greatest degree possible, all identified environmental impacts, especially water quality, habitat preservation and bridge undermining. Policy 6.1: The City shall require the planned reclamation of mined lands following extraction of mineral resources with consideration of the land's potential for recreational, wildlife habitat, and scenic uses as well as for residential, industrial or commercial development (City of Santee 2003). <p>Title 15, Chapter 15.58, Article VI of the City's Municipal Code covers regulations pertaining to surface mining and reclamation.</p>

Jurisdiction	Policy or Regulation on Mineral Resources
Solana Beach	The Conservation and Open Space Element of the City of Solana Beach General Plan states that open space is used for the managed production of resource including areas containing mineral deposits (City of Solana Beach 2014).
Vista	The City of Vista General Plan does not have policies regarding the extraction of mineral resources (City of Vista 2012); however, the General Plan Update EIR states that all future development associated with the General Plan Update would undergo individual review to ensure that significant mineral resources are protected (City of Vista 2012).
County of San Diego	<p>San Diego County Zoning Ordinance, Section 2820 et seq., known as the S82 Extractive Use Regulations (County of San Diego 1978), are intended to identify and create areas within the County where mining, quarrying, or oil extractive uses are permitted. Typically, the S82 Extractive Use Regulations would be applied to areas of mineral deposits to signify the presence of such deposit and notify adjacent or affected properties of the intention to allow extraction of minerals within the zone. These regulations are used to preserve areas with valuable mineral deposits until extraction can take place.</p> <p>San Diego County Zoning Ordinance, Section 6550 et seq. (Extractive Use Regulations) provide the means for public review and regulation of mineral extraction and associated on-site processing operations.</p> <p>County of San Diego Code of Regulatory Ordinances Section 87.701-87.714 regulates all surface mining operations in the unincorporated area of the County of San Diego as authorized by the San Diego County Zoning Ordinance and SMARA. The objectives of these regulations are:</p> <ol style="list-style-type: none"> a. The continued mining of minerals will be permitted in a manner which will protect the public health and safety and will provide for the protection and subsequent beneficial use of mined and reclaimed land; and b. The possible adverse effects of surface mining operations on the environment, including air pollution, impedance of groundwater movement, water quality degradation, damage to aquatic or wildlife habitat, flooding, erosion and sedimentation, will be prevented or minimized; and c. The production and conservation of minerals will be encouraged while giving consideration to values relating to recreation, watershed, wildlife, range and forage, and aesthetic enjoyment.

Source: Data compiled by ICF in 2018.

4.12.3 SIGNIFICANCE CRITERIA

Appendix G of the CEQA Guidelines provides criteria for determining the significance of a project's environmental impacts in the form of Initial Study checklist questions. Unless otherwise noted, the significance criteria specifically developed for this EIR are based on the CEQA Guidelines Appendix G checklist questions. In some cases, SANDAG has combined checklist questions, edited their wording, or changed their location in the document in an effort to develop significance criteria that reflect the programmatic level of analysis in this EIR, the unique nature of the proposed Plan's mineral resources impacts, and the unique characteristics of the proposed Plan.

Checklist questions for mineral resources are provided in Section XII of CEQA Guidelines Appendix G. To streamline the analysis, the two separate mineral resources criteria (a) and (b) in CEQA Guidelines Appendix G, which are closely related, have been combined as MR-1 for the purposes of this EIR, implementation of the proposed Plan would have a significant mineral resources impact if it would:

- MR-1** Result in the loss of availability of known aggregate and mineral resources supply sites that would be of value to the region and the residents of the state, or result in the loss of availability of a locally-important mineral resource recovery site delineated in a local general plan, specific plan, or other land use plan.

4.12.4 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

- MR-1** **RESULT IN THE LOSS OF AVAILABILITY OF KNOWN AGGREGATE AND MINERAL RESOURCES SUPPLY SITES THAT WOULD BE OF VALUE TO THE REGION AND THE RESIDENTS OF THE STATE, OR RESULT IN THE LOSS OF AVAILABILITY OF A LOCALLY-IMPORTANT MINERAL RESOURCE RECOVERY SITE DELINEATED IN A LOCAL GENERAL PLAN, SPECIFIC PLAN, OR OTHER LAND USE PLAN**

ANALYSIS METHODOLOGY

A significant impact on mineral resources would occur if implementation of regional growth and land use change or transportation network improvements and programs would result in the loss of availability of known aggregate supply sites and mineral resources that would be of value to the region and the residents of the state. Mapped MRZ-2 lands from the California Geological Survey (CGS 1996) are used for this analysis because this is the only MRZ classification defined by the SMGB that identifies known mineral resources. In addition to mapped MRZ-2 data, regional aggregate supply site information from SANDAG's 2011 *San Diego Region Aggregate Supply Study* is used in this impact analysis. The analysis quantifies direct impacts of regional growth and transportation network improvements that would occur on lands designated as MRZ-2, or identified as potential aggregate supply sites by SANDAG, that would potentially be available for extraction of mineral resources. Direct impacts on MRZ-2 and aggregate supply sites are quantified separately for each horizon year using data compiled from CGS and SANDAG. Tables M-1 through M-4 of Appendix M list the total acres of undeveloped MRZ-2 and aggregate supply sites converted to developed land and transportation network improvements.

In addition, locations of locally important mineral resource recovery sites delineated in local plans are identified to determine whether they are included in MRZ-2 data and aggregate supply site data used to calculate direct impacts. If not, those sites are analyzed separately to determine if a significant impact would occur.

Indirect impacts on mineral resources are analyzed qualitatively by considering the effects of forecasted changes in land use and transportation network improvements that would be incompatible with current or future mining operations in locations where mineral resources are present. Incompatible land uses would include those such as residential, institutional (e.g., schools, hospitals) or environmentally sensitive open space areas, where social or environmental factors make it unlikely that resources would be mined nearby.

IMPACT ANALYSIS

2025

Regional Growth and Land Use Change

Lands designated as MRZ-2 locations are areas with known mineral resources. As shown in Figure 4.12-1, MRZ-2 locations exist along many of the major waterways in San Diego County, several of which are also the route of regional highways. In the north part of the county, these include SR 76 along the San Luis Rey River and along the San Dieguito River between I-15 and SR 78; in the central part of the county, MRZ-2 areas are found in the hills north of SR 52 and east of I-805, and along the San Diego River, including along I-8; in the south part of the county they occur along the Otay River in south Chula Vista and Otay Mesa, and from Imperial Beach south to the U.S./Mexican border along the Tijuana River. Resource recovery sites are areas where mineral resources could be extracted for use. Locally important resource recovery sites or areas where important resource recovery sites could potentially be located, or where mines are currently operating, are designated by the CGS as MRZ-2 or MRZ-3, as shown on Figure 4.12-1. In 2025, regional growth and land use changes would result in the loss of approximately 789 acres of undeveloped MRZ-2 land to developed land throughout the region, resulting in the loss of known mineral resources and mineral resource recovery sites over 2016 conditions (CGS 1996).

Permanent loss of availability to land containing mineral resources in the region is caused by the development of incompatible uses, which directly or indirectly makes the resource inaccessible for future extraction. To accommodate regional growth and land use change by 2025, portions of vacant and undeveloped land in MRZ-2 locations would be developed for land uses considered incompatible with mining operations.

Although there are several places in the San Diego region where active mining operations have functioned in proximity to urban development, such as Mission Valley or Carroll Canyon in the City of San Diego, residential development typically restricts the availability of lands for mining operations. Noise from quarry and mining activities is typically the largest environmental impact on nearby noise-sensitive land uses (such as residential developments, industrial developments, commercial developments, and major public facilities). Residents can be concerned about potential dust, noise, blasting vibrations, truck traffic, unsightly scars on the land, and loss of habitat caused by aggregate mining. Aggregate, a regionally important mineral resource, is found in portions of MRZ-2 locations, as seen in Figure 4.12-2. In 2025, aggregate mining along river or creek corridors could coincide with development in Mobility Hubs that include waterways.

Therefore, regional growth and land use change under the proposed Plan would result in the loss of availability of known aggregate and mineral resources that would be of value to the region and the residents of the state, and result in the loss of availability of a locally important mineral resource recovery site delineated in a local general plan, specific plan, or other land use plan. This impact would be significant.

Transportation Network Improvements and Programs

In 2025, transportation network improvements and programs would result in loss of approximately 11 acres of undeveloped MRZ-2 lands, primarily due to the Carlton Oaks Segment of the San Diego River Trail in the Cities of San Diego and Santee and the Heritage Road Bridge Project in the City of Chula Vista, resulting in the loss of known mineral resources and mineral resource recovery sites over 2016 conditions (CGS 1996). This impact would be significant.

2025 Conclusion

Implementation of regional growth and land use change, as well as transportation network improvements and programs would result in the loss of availability of known aggregate or other mineral resources, as well as the loss of availability of locally important mineral resource recovery sites, including the loss of 800 acres of MRZ-2 lands. Therefore, this impact (MR-1) is significant in the year 2025.

2035

Regional Growth and Land Use Change

Additional vacant and undeveloped land in MRZ-2 locations would be developed for uses considered incompatible with mining operations. Development to accommodate regional growth and land use change would be constructed throughout the region. Up to 2035, regional growth and land use changes would result in the loss of approximately 803 acres of undeveloped MRZ-2 land, with only 14 acres of new impacts scattered around the region over 2025. Nevertheless, these impacts would result in the loss of known mineral resources and mineral resource recovery sites (CGS 1996). Therefore, regional growth and land use change under the proposed Plan would result in the loss of availability of known aggregate and mineral resources that would be of value to the region and the residents of the state, and result in the loss of availability of a locally important mineral resource recovery site delineated in a local general plan, community plan, specific plan, or other land use plan. This impact would be significant.

Transportation Network Improvements and Programs

In 2035, transportation network improvements and programs would result in the loss of approximately 23 acres of undeveloped MRZ-2 land. New impacts between 2025 and 2035 are primarily due to the Mast Park to Lakeside baseball park section of the San Diego River Trail in the City of Santee, SR 52 Complete Corridor Managed Lanes, and Commuter Rail 582. These projects would result in the loss of known mineral resources and mineral resource recovery sites over 2016 conditions (CGS 1996, 2006). The development of the Central Mobility Hub and San Ysidro Mobility Hub is located in the established communities of the City of San Diego and is not expected to impact known mineral resources. Therefore, this impact (MR-1) is significant in the year 2035.

2035 Conclusion

Implementation of regional growth and land use change, as well as transportation network improvements and programs, would result in the loss of availability of known aggregate or other mineral resources, as well as the loss of availability of locally important mineral resource recovery sites, including loss of 826 acres of MRZ-2 lands. Therefore, this impact (MR-1) is significant in the year 2035.

2050

Regional Growth and Land Use Change

Additional vacant and undeveloped land in MRZ-2 locations would be developed for uses considered incompatible with mining operations. Development to accommodate regional growth and land use change would be constructed throughout the region. Up to 2050, regional growth and land use change would result in the loss of approximately 817 acres of undeveloped MRZ-2 land, with only 14 additional acres of new impacts scattered across the region over those of 2035. Nevertheless, these impacts would result in the loss of known

mineral resources and mineral resource recovery sites (CGS 1996, 2006). Therefore, regional growth and land use change under the proposed Plan would result in the loss of availability of known aggregate and mineral resources that would be of value to the region and the residents of the state, and result in the loss of availability of a locally important mineral resource recovery site delineated in a local general plan, specific plan, or other land use plan. This impact would be significant.

Transportation Network Improvements and Programs

In 2050, transportation network improvements and programs would result in loss of 36 acres of undeveloped MRZ-2 land. New impacts to mineral resources between 2035 and 2050 are primarily due to the I-5 to Santo Road segment of the SR 52 Bikeway, and the San Luis Rey River Trail. These projects would result in the loss of known mineral resources and mineral resource recovery sites over 2016 conditions (CGS 1996, 2006). This impact would be significant.

2050 Conclusion

Implementation of regional growth and land use change, as well as transportation network improvements and programs, would result in the loss of availability of known aggregate or other mineral resources, as well as the loss of availability of locally important mineral resource recovery sites, including the loss of 853 acres of MRZ-2 lands. Therefore, this impact (MR-1) is significant in the year 2050.

Exacerbation of Climate Change Effects

Implementation of the proposed Plan is not expected to exacerbate climate change effects on mineral resources. While climate change may affect mineral resources through potential damage to mining sites, the proposed Plan is not expected to interact with climate change in a way that would exacerbate these climate change effects.

MITIGATION MEASURES

MR-1 RESULT IN THE LOSS OF AVAILABILITY OF KNOWN AGGREGATE AND MINERAL RESOURCES SUPPLY SITES THAT WOULD BE OF VALUE TO THE REGION AND THE RESIDENTS OF THE STATE, OR RESULT IN THE LOSS OF AVAILABILITY OF A LOCALLY-IMPORTANT MINERAL RESOURCE RECOVERY SITE DELINEATED IN A LOCAL GENERAL PLAN, SPECIFIC PLAN, OR OTHER LAND USE PLAN

2025, 2035, and 2050

MR-1a Conserve Aggregate and Mineral Resources During Planning and Design of Development Projects. During planning, design, and project-level CEQA review of development projects, the County of San Diego, cities, and other local jurisdictions can and should avoid or reduce impacts on known aggregate and mineral resources and locally important mineral resource recovery sites through the evaluation and selection of project sites and design features (e.g., buffers) that minimize direct and indirect impacts on these lands. Aggregate and mineral resource areas, especially MRZ-2 areas, should be maintained in open space or other general plan land use and zoning designations that allow for extraction of mineral resources.

MR-1b Conserve Aggregate and Mineral Resources During Planning and Design of Transportation Network Improvements. During planning, design, and project-level CEQA review of transportation network improvements, SANDAG shall, and other transportation project sponsors can and should, avoid loss of known aggregate and mineral resources and locally important mineral resource recovery sites, where feasible. Where

avoidance is infeasible, SANDAG shall, and other transportation project sponsors can and should, minimize direct and indirect impacts on the availability of known resources and recovery sites through measures that include, but are not limited to, the following:

- Designing transportation network improvements in a manner (such as buffer zones or the use of screening) that do not preclude adjacent or nearby extraction of aggregate and mineral resources following completion of the improvement and during long-term operations.

SIGNIFICANCE AFTER MITIGATION

2025, 2035, and 2050

Implementation of the proposed Plan would result in the loss of availability of known aggregate or other mineral resources, as well as the loss of availability of locally important mineral resource recovery sites. Mitigation measures MR-1a and MR-1b would reduce the impact associated with the loss of availability of known mineral resources and mineral resource recovery sites, but not to less-than-significant levels because they would not prevent impacts on all MRZ-2 zoned lands. Additionally, design features that reduce the impact associated with the loss of availability of known mineral resources and mineral resource recovery sites may not reduce impacts to less than significant for all projects. Therefore, this impact (MR-1) remains significant and unavoidable.