4.12 MINERAL RESOURCES

This section evaluates the potential mineral resources impacts of the proposed Plan.

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 make economic extraction potentially feasible (SMGB 2024). 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 the importance of aggregate materials 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, which is on land governed by the Pala Band of Mission Indians (Hudson Institute of Mineralogy 2024); 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 periods 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 (Dudek 2020).

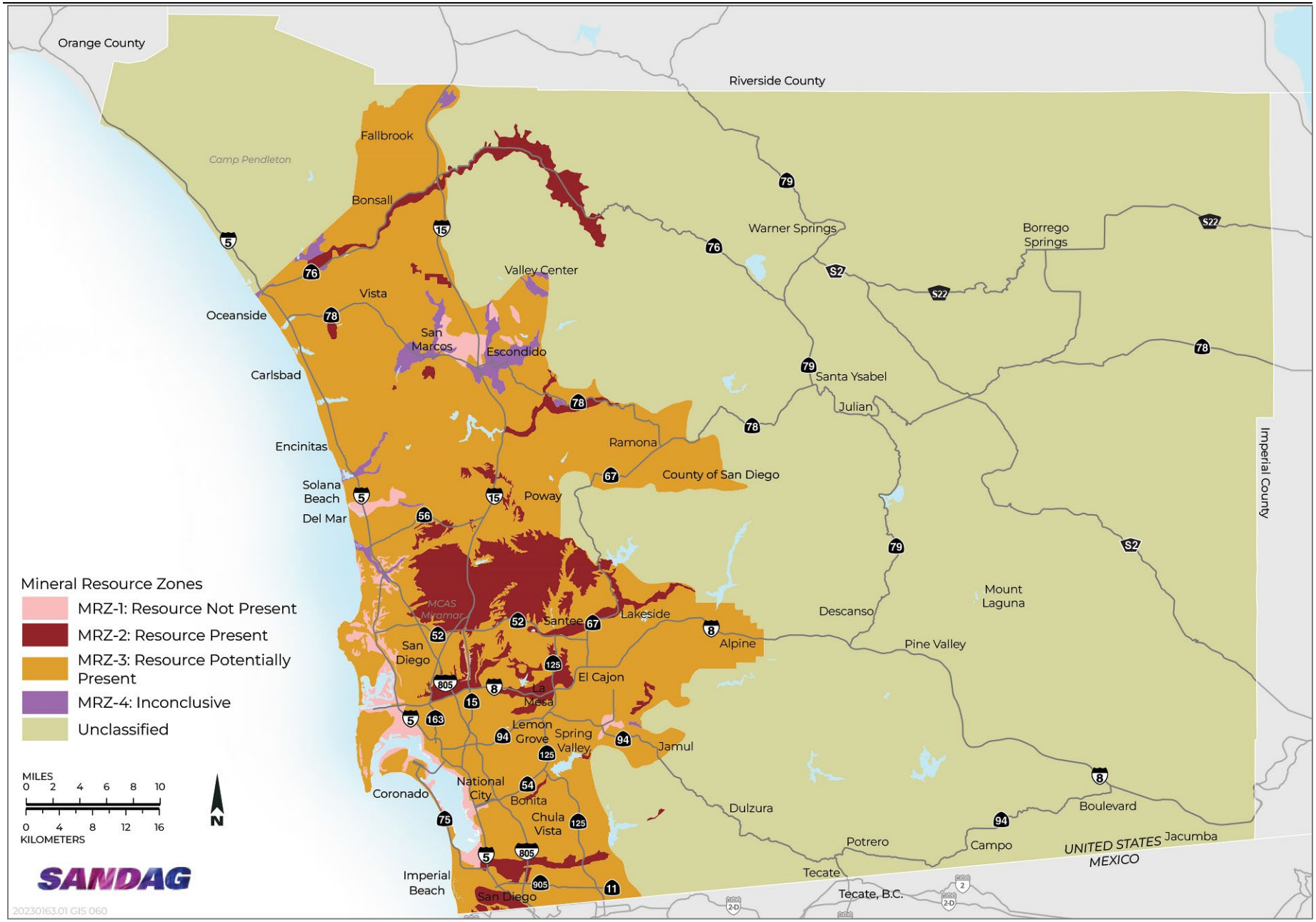
MINERAL RESOURCE ZONES

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 Mineral Resource Zones (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. MRZs are described in Table 4.12-1. Resource recovery sites are areas where mineral resources could be extracted for use and may be designated in local land use plans. The MRZs depicted in Figure 4.12-1 only classifies the western portion of the County and is the most complete information currently available.

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 that 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 2024.



Source: SANDAG, 2025.

Figure 4.12-1 Mineral Resource Zones

As shown in Figure 4.12-1, the majority of the western portion of the San Diego region is categorized as MRZ-3, which is a category 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. 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 for 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 SR 76 between 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 (CGS 2018). Aggregate materials include sand, gravel, and crushed stone, and are key ingredients in concrete and asphalt, which are 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. California Geological Survey completed the Aggregate Sustainability in California report in 2018 to provide general information about the current availability of, and future demand for, California's permitted aggregate reserves, which includes the San Diego region. According to the report, the Western San Diego region is projected to have a high demands for aggregate with a projection to need more than 500 million tons of aggregate in the next 50 years (CGS 2018). Figures 4.12-2 and 4.12-3 shows the locations of potential aggregate supply sites in the San Diego region.

4.12.2 Regulatory Setting

FEDERAL LAWS, REGULATIONS, PLANS, AND POLICIES

Indian Mineral Development Act of 1982

The Indian Mineral Development Act (25 U.S. Code 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 SMGB (2024) and are used to communicate information concerning the location of mineral resources.

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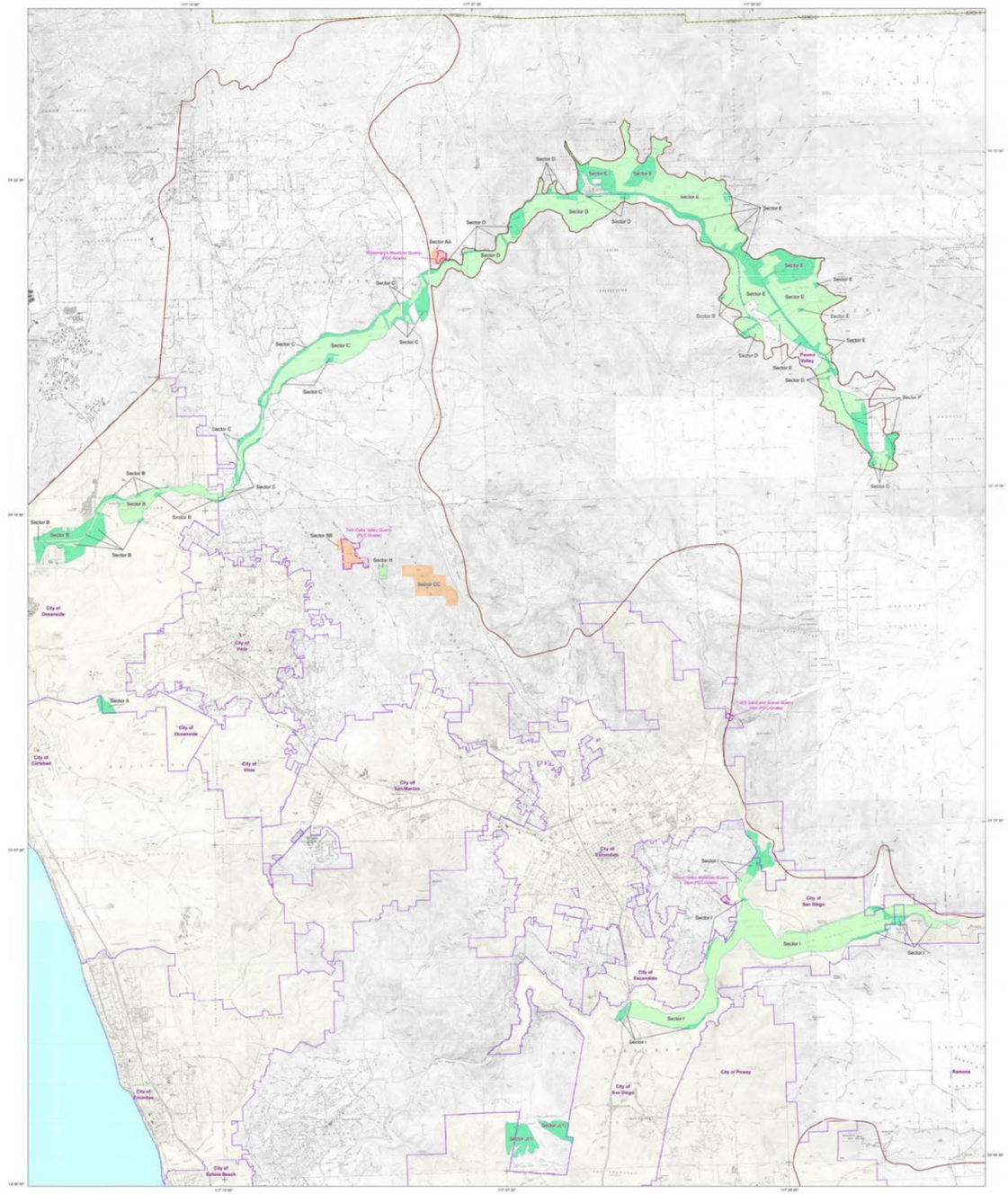

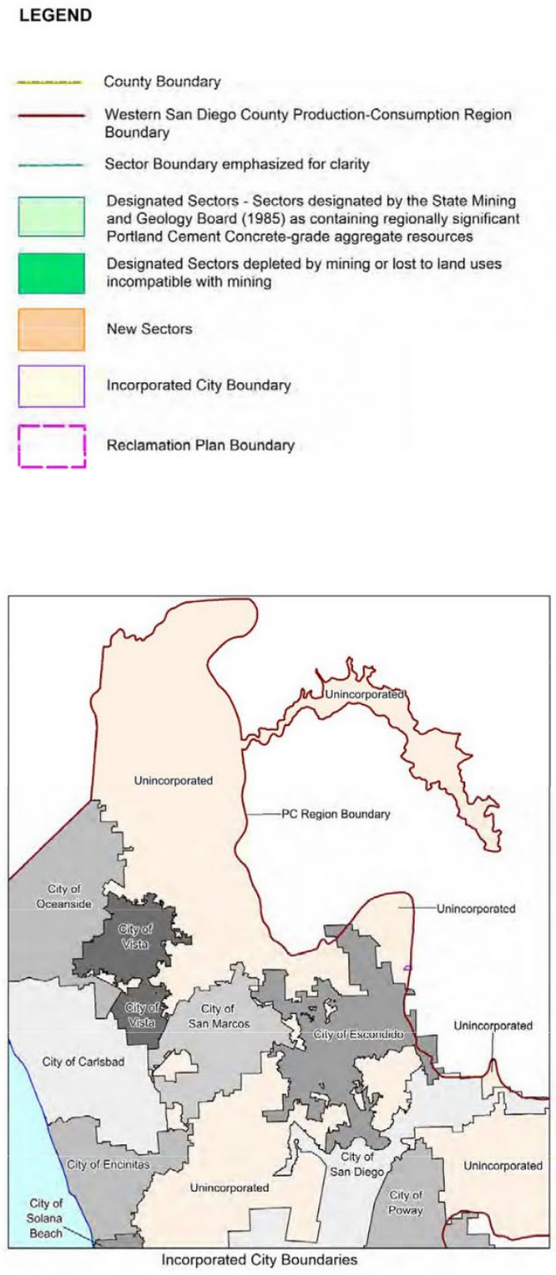

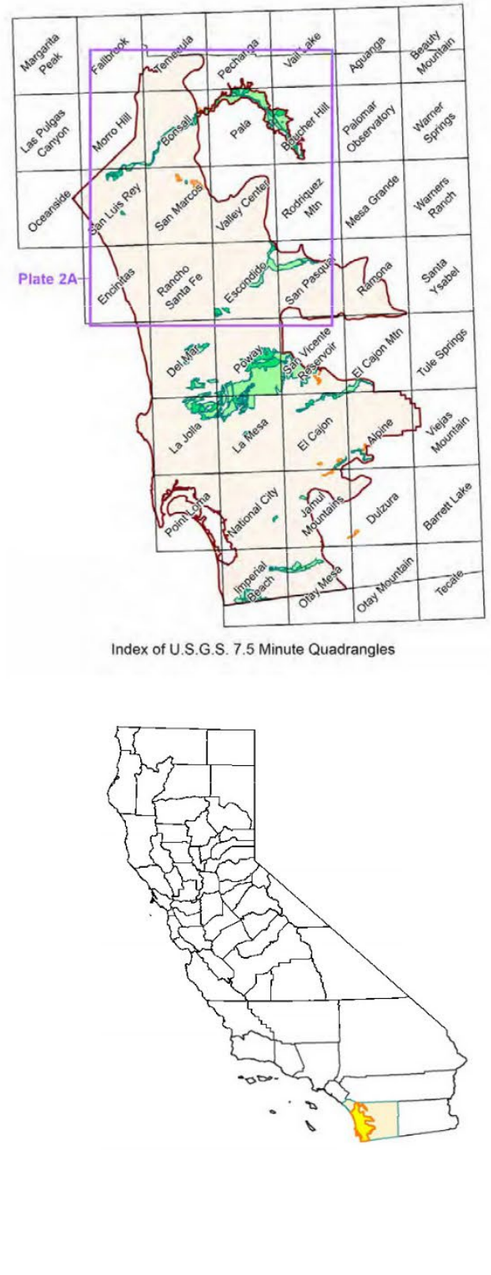

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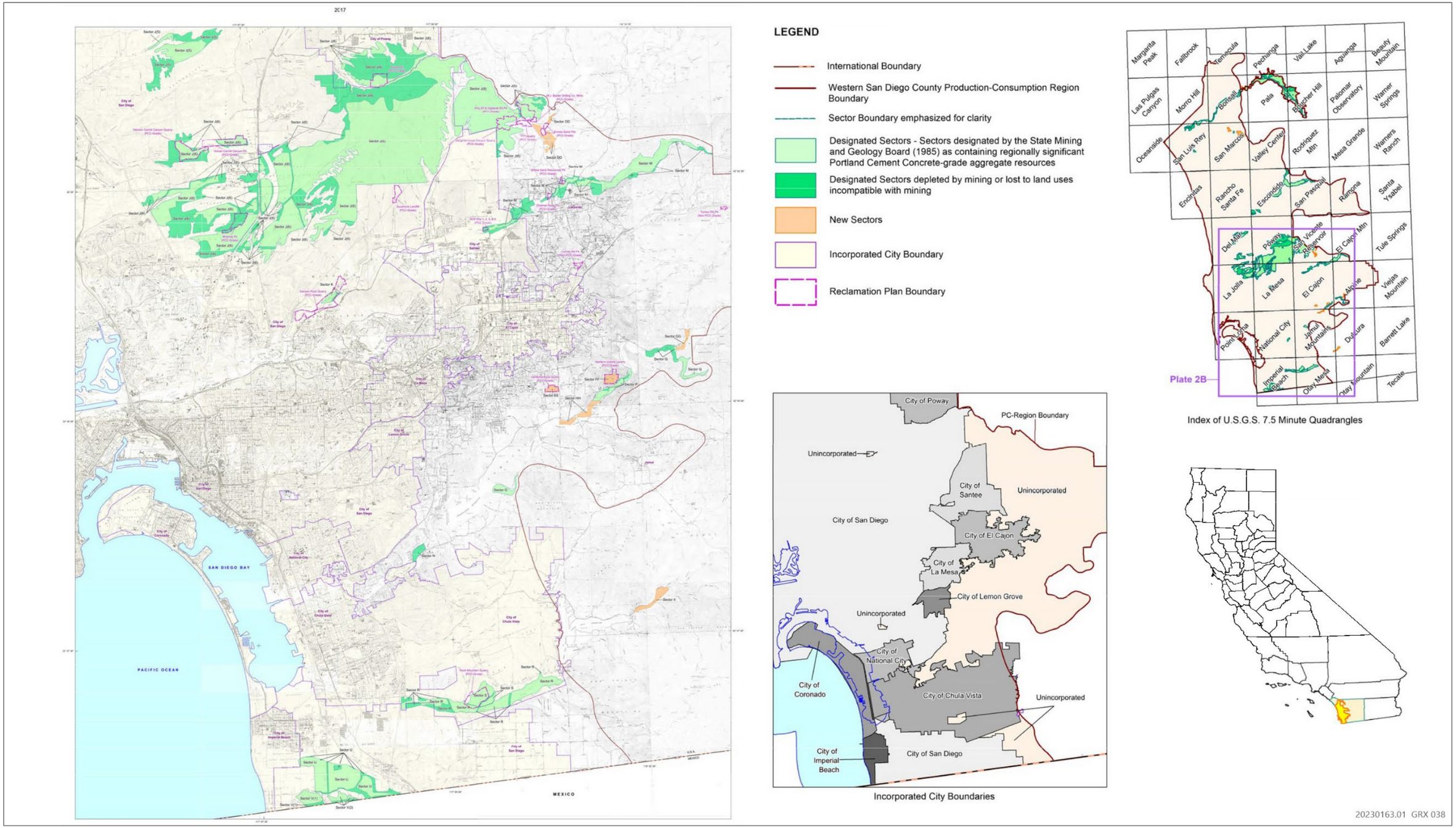
Source: Image produced and provided by California Geologic Survey in 2018; Adapted by Ascent in 2025.

Figure 4.12-2 Potential Aggregate Supply Sites – Northern



Source: Image produced and provided by California Geologic Survey in 2018; Adapted by Ascent in 2025.

Figure 4.12-3 Potential Aggregate Supply Sites – Southern

Mineral lands are mapped according to jurisdictional boundaries (e.g., counties, groups of counties, or major parts of counties), and all mineral commodities in the area are mapped, 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 requirements for notifying the lead agency 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 on 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.

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). According to the San Diego County General Plan, locally important resource recovery sites or areas where important resource recovery sites could potentially be located, are designated by the CGS as MRZ-2 or MRZ-3, or as being underlain by Quaternary alluvium. Important mineral resource recovery sites are not identified in the San Diego County General Plan Update; however, areas designated as MRZ-2 by the CGS are areas where mines currently operate and other areas where resources are known or likely to be present (County of San Diego 2011). Per the guidance in the San Diego County General Plan, 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 2024). 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 2024).
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).

Jurisdiction	Policy or Regulation on Mineral Resources
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 2024).
Escondido	The current City of Escondido General Plan 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 and Local Coastal Plan do not include policies regarding mineral resources (City of Imperial Beach 2024).
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, 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 1996).
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 2002).
Poway	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. 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 and mineral extraction) should be retained as open space and in some cases increased to serve the region's expanding needs (City of Poway 1991). Chapter 16.54 of the City of Poway's Municipal Code contains regulations on surface mining and reclamation.
City of San Diego	The City of San Diego General Plan includes policies to balance mineral extraction with habitat conservation. These policies include: ▶ CE-K.1: Promote the recycling and reclamation of construction materials to provide for the City's current and future growth and development needs ▶ 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 2024) Section 141.1004 of the City's Municipal Code covers regulations pertaining to mining and extractive industries.
San Marcos	According to the San Marcos General Plan, the City currently does not have active mines or quarries, although two historical mining/quarry locations exist within city limits. The City will maintain awareness of and comply with state policies regarding protection and extraction of these resources (City of San Marcos 2012). City of San Marcos Zoning Ordinance Chapter 20.460 covers regulations pertaining to surface mining.
Santee	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:

Jurisdiction	Policy or Regulation on Mineral Resources
	▶ 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). Title 15, Chapter 15.58, Article VI of the City's Municipal Code covers regulations pertaining to surface mining and reclamation.
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; 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 2011).
County of San Diego	San Diego County Zoning Ordinance Section 2820 et seq., known as the S82 Extractive Use Regulations, is intended to identify and create areas within the county where mining, quarrying, or oil extractive uses are permitted (County of San Diego 2011). 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. San Diego County Zoning Ordinance Section 6550 et seq. (Extractive Use Regulations) provides the means for public review and regulation of mineral extraction and associated on site processing operations. County of San Diego Code of Regulatory Ordinances Sections 87.701–87.714 regulate 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: a. The continued mining of minerals will be permitted in a manner that 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.

Note: MSCP = Multiple Species Conservation Plan; SMARA = State Surface Mining and Reclamation Act.

Source: Data compiled by Circlepoint in 2025.

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.

The analysis discloses impacts on mineral resources. There is insufficient evidence to support a meaningful analysis of how the proposed Plan's mineral resources impacts would be worsened by climate change. Therefore, a climate change analysis for mineral resources impacts is not included in this section.

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 data provided by SANDAG are used for this analysis. The regional aggregate supply site information from California Geological Survey's Aggregate Sustainability in California report prepared in 2018 is depicted in Figures 4.12-2 and 4.12-3. The analysis quantifies direct impacts of regional growth and transportation network improvements that would occur on lands designated as MRZ-2 that would potentially be available for extraction of mineral resources.

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

2035

Regional Growth and Land Use Change

As shown in Table 2-1, in Section 2.0, "Project Description," of this Draft EIR, from 2022 to 2035, the region is forecasted have an increase of 117,056 people (4%), 137,242 housing units (11%), and 67,297 jobs (4%). The 2035 regional SCS land use pattern is shown in Figure 2-4. Approximately 93.3% of the forecasted regional population increases between 2022 and 2035 are in the cities of San Diego (51.3%), Chula Vista (26.1%), and San Marcos (15.8%). Those same three jurisdictions would accommodate approximately 71.4% of new housing units in the region between 2022 and 2035, while the cities of San Diego, San Marcos, and Oceanside would accommodate more than 69.5% of new jobs in the region between 2022 and 2035. The cities of San Diego, Oceanside, and San Marcos both overlap areas designated as MRZ-2. The city of Chula Vista does not contain overlap areas designated as MRZ-2.

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 United States–Mexico 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 CGS as MRZ-2 or MRZ-3, as shown on Figure 4.12-1.

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 2035, 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 Figures 4.12-2 and 4.12-3.

In 2035, 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. As identified in Table 4.12-3, from 2022 to 2035, regional growth and land use changes would result in the loss of approximately 644 acres of undeveloped MRZ-2 land. These impacts would result in the loss of known mineral resources.

Table 4.12-3 Conversion of Undeveloped MRZ-2 Lands under the Proposed Plan 2035 Regional Growth and Land Use Change

2022 Existing Undeveloped Land within MR-Z-2 Lands	Acres to be Converted 2022 - 2035
42,963	644

Source: Compiled by Ascent in 2025.

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 as identified in the San Diego County General Plan which areas designated as MRZ-2 (County of San Diego 2011). As a result, this impact would be significant.

Transportation Network Improvements and Programs

Major transportation network improvements by 2035 include new Managed Lanes and Managed Lane Connectors on SR 15, SR 52, SR 78, SR 125, I-5, I-15, and I-805. The proposed Plan also includes ~~Reversible Managed Lane improvements on SR-75,~~ improvements to rural corridors on SR 67, SR 76, SR 79, SR 94, and I-8, as well as interchange and arterial operational improvements on SR 94 and SR 125. In addition, the proposed Plan includes increased roadway and transit connections to the United States–Mexico border, as well as tolling equipment and Regional Border Management System investments on SR 11. Upgrades at certain locations on the Los Angeles–San Diego–San Luis Obispo (LOSSAN) Rail Corridor would be implemented during this period. Other major network improvements include grade separations at certain locations on the SPRINTER, Green line, Blue Line, and Orange Line. Double-tracking is also proposed on the SPRINTER. See Tables 2-7 through 2-10 for a full list of proposed projects by subregion.

As identified in Table 4.12-4, in 2035, transportation network improvements and programs would result in the loss of approximately 260 acres of undeveloped MRZ-2 land between 2022 and 2035. New impacts between 2022 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, and SR 52 Complete Corridor Managed Lanes. MRZ-2 overlap would not be encountered within the City of Chula Vista; however, in the cities San Marcos, Oceanside, and San Diego have areas where MRZ-2 overlap

would occur due to the ~~Next Gen~~ Rapid, Active Transportation, Flexible Fleet, Managed Lanes and ~~Next Gen~~ Rapid projects. These projects would result in the loss of known mineral resources and mineral resource recovery sites.

Table 4.12-4 Conversion of Undeveloped MRZ-2 Lands under the Proposed Plan 2035 Transportation Network Improvements and Programs

2022 Existing Undeveloped Land within MR-Z-2 Lands	Acres to be Converted 2022 - 2035
42,963	260

Source: Compiled by Ascent in 2025.

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. The San Diego County General Plan defines locally important mineral resource recovery sites as MRZ-2 designated areas (County of San Diego 2011). As a result, this impact would be significant.

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 the loss of loss of 904 acres of MRZ-2 lands as a result of transportation network improvements. Therefore, this impact (MR-1) is significant in the year 2035.

2050

Regional Growth and Land Use Change

As shown in Table 2-1 in Section 2.0 "Project Description," of this Draft EIR, from 2036 to 2050, the region is forecasted to decrease by 4,112 people (-0.1%), increase by 65,577 housing units (4.8%), and increase by 103,460 jobs (6.2%). The 2050 regional SCS land use pattern is shown in Figure 2-5. The majority of the forecasted regional population decrease between 2036 and 2050 is attributed to the unincorporated jurisdictions, the City of Carlsbad, and the City of El Cajon. Approximately 78.8% of new housing units would be developed in the City of San Diego (51.6%), City of Chula Vista (17.1%), and unincorporated jurisdictions. Similarly, these same three jurisdictions would accommodate approximately 70.3% of new jobs between 2036 and 2050. The cities of Carlsbad, El Cajon, San Diego, and unincorporated jurisdictions overlap with areas designated as MRZ-2. The City of Chula Vista does not overlap with areas designated as MRZ-2.

In 2050, 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. As identified in Table 4.12-5, from 2036 to 2050, regional growth and land use change would result in the loss of approximately 356 acres of undeveloped MRZ-2 land. Nevertheless, these impacts would result in the loss of known mineral resources and mineral resource recovery sites. 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. Additionally, the development would 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 as identified in the San Diego County General Plan which designates these areas as MRZ-2 (County of San Diego 2011). As a result, this impact would be significant.

Table 4.12-5 Conversion of Undeveloped MRZ-2 Lands under the Proposed Plan 2050 Regional Growth and Land Use Change

2035 Undeveloped Land within MR-Z-2 Lands	Acres to be Converted 2036 - 2050
42,319	356

Source: Compiled by Ascent in 2025.

Transportation Network Improvements and Programs

Major transportation network improvements by 2050 include new Managed Lanes and Managed Lane Connectors on SR 52, SR 56, ~~SR 75,~~ SR 94, SR 125, SR 163, I-15, and I-805, several of which will be a continuation of improvements from 2035. In addition, the proposed Plan includes increased roadway and transit connections to the United States–Mexico border, as well as expansion of and improvements to existing port of entry facilities, which will continue during this period. Upgrades at certain locations on the LOSSAN Rail Corridor would continue during this period. Grade separations on the SPRINTER, Blue Line, Green Line, and Orange Line, as well as double-tracking on the SPRINTER would also continue during this period. See Tables 2-7 through 2-10 for a full list of proposed projects by subregion.

As identified in Table 4.12-6, in 2050, transportation network improvements and programs would result in the loss of 317 acres of 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. MRZ-2 overlap would not be encountered within the City of Chula Vista; however, in the cities of Carlsbad, El Cajon, San Diego, and unincorporates areas, MRZ-2 overlap would occur due to implementation projects such as Active Transportation, Managed Lanes, and Operational Improvements. These projects would result in the loss of known mineral resources and mineral resource recovery sites. This impact would be significant.

Table 4.12-6 Conversion of Undeveloped MRZ-2 Lands under the Proposed Plan 2050 Transportation Network Improvements and Programs

2036 Undeveloped Land within MR-Z-2 Lands	Acres to be Converted 2036 - 2050
42,963	317

Source: Compiled by Ascent in 2025.

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 673 acres of MRZ-2 lands. Therefore, this impact (MR-1) is significant in the year 2050.

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.

2035, 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 designations and zoning 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

2035, 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.

4.12.5 Cumulative Impacts Analysis

C-MR-1 MAKE A CUMULATIVELY CONSIDERABLE CONTRIBUTION TO ADVERSE EFFECTS RELATED TO MINERAL RESOURCES

The area of geographic consideration for cumulative impacts to mineral resources is the Southern California and Northern Baja region. While some mineral resources can be distinct to certain locations, they are not confined by jurisdictional boundaries. Thus, it is necessary to consider the availability of mineral resources in Southern California and Northern Baja as a whole.

A projection approach for cumulative analysis of mineral resources allows for an overarching discussion of regional and cross-border loss of availability of mineral resources associated with general patterns of regional urbanization, growth, and land use changes. A significant cumulative impact on mineral resources would occur if the proposed Plan would result in incremental effects that are considered cumulatively significant when considered in combination with the effects on mineral resources resulting from implementation of approved regional planning documents. Significant cumulative impacts would occur if there were cumulative risks of loss of availability of valuable mineral resources or locally important recovery sites in Southern California and Northern Baja.

This cumulative impact assessment considers and relies on the impact analysis within this EIR for the proposed Plan, and SCAG 2024-2050 RTP/SCS EIR (SCAG 2024b) for the Southern California region. There are generally no regional plans pertaining to such resources for the Northern Baja California region.

Impacts of the Proposed Plan

Regional growth and land use changes and transportation network improvements associated with the proposed Plan would cause loss of availability of known mineral resources, because regional growth, land development to accommodate this growth, and transportation network improvements would encroach into MRZs and locally important resource recovery sites, resulting in the total loss of 458 acres of MRZ-2 lands by 2050. Therefore, mineral resources impacts would be significant for 2035 and 2050 (Impact MR-1).

Impacts of Projections in Adopted Plans

The EIR prepared for the SCAG 2024-2050 RTP/SCS analyzed impacts on the SCAG region up to 2050 and identified significant and unavoidable impacts related to the loss of availability of known mineral resources. The EIR also found that the updated 2024-2050 RTP/SCS would contribute to cumulatively considerable impacts on mineral resources (SCAG 2024a). Adopted land use plans for local jurisdictions in Southern California and

Northern Baja would support the construction of new development and redevelopment through policy changes, general plan updates, and zoning amendments that encourage and facilitate population growth and land use changes. Development associated with the implementation of regional planning documents would in some cases also impact availability of known mineral resources, because development would likely occur in some locations within MRZs or resource recovery sites.

Cumulative Impacts and Impact Conclusions

2035

A significant cumulative impact in the year 2035 would result if the proposed Plan's incremental effect would be cumulatively considered when considered along with the effects from adopted plans within the Southern California and Northern Baja region.

The proposed Plan would significantly impact the availability of known mineral resources due to development in locations within MRZs or resource recovery sites. Combined with the loss of the availability of mineral resources from implementation of adopted regional planning documents, such as the San Diego County's General Plan, and City of San Diego's General Plan where development from these plans have the potential to impact the availability of mineral resources, impacts from the proposed Plan would also result in significant cumulative impacts on the availability of known mineral resources in 2035.

Because cumulative mineral resources impacts throughout the Southern California and Northern Baja region by 2035 would be significant, and because the proposed Plan's incremental impacts on these resources are significant, the proposed Plan's impacts on mineral resources are also cumulatively considerable and therefore significant (Impact C-MR-1).

2050

The proposed Plan would significantly impact the availability of known mineral resources due to development in locations within MRZs or resource recovery sites. When added to the loss of the availability of mineral resources from implementation of adopted regional planning documents, such as the San Diego County's General Plan, and City of San Diego's General Plan where development from these plans have the potential to impact the availability of mineral resources, the incremental impacts from the proposed Plan would result in significant cumulative impacts on the availability of known mineral resources in 2050.

Because cumulative mineral resource impacts throughout the Southern California and Northern Baja region by 2050 would be significant, and because the proposed Plan's incremental impacts on these resources are significant, the proposed Plan's impacts on mineral resources are cumulatively considerable and therefore significant (Impact C-MR-1).

MITIGATION MEASURES

C-MR-1 MAKE A CUMULATIVELY CONSIDERABLE CONTRIBUTION TO ADVERSE EFFECTS RELATED TO MINERAL RESOURCES

2035, 2050

Mitigation measures MR-1a and MR-1b would conserve aggregate and mineral resources through avoidance of aggregate and mineral resources or through incorporation of appropriate design features to reduce impacts on resources when avoidance is not feasible. However, as outlined above, this mitigation measure would not guarantee that all proposed Plan impacts on the availability of known mineral resources would be less than significant. Therefore, the proposed Plan's incremental contributions to cumulative impacts on the availability of known mineral resources in years 2035 and 2050 would remain cumulatively considerable post mitigation.

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