3.0 COUNTYWIDE IMPACT ANALYSIS

INTRODUCTION

Adoption of the proposed project neither requires the construction of housing nor grants site-specific development entitlement. The Housing Element, Zoning Ordinance, and zone classification amendments are intended to encourage the future development of affordable housing. The portions of the project that result in a permitted use allowing 30 units per acre will be subject to project-specific environmental analysis during consideration of the development plot plan. The process for review of development projects is discussed in Section 2.3, Regulatory Framework, of this environmental impact report (EIR).

Section 3.0 addresses the portions of the proposed project that affect all of the unincorporated areas of the County. This section also considers the cumulative effect of the proposed project on the County as a whole, in contrast to the analysis in this EIR of the impacts on each of the Area Plans. The project impacts unique to each Area Plan are discussed in Sections 4.1 through 4.10 of this EIR.

COUNTYWIDE IMPACTS ARE CUMULATIVE IMPACTS

As defined in State CEQA Guidelines Section 15355, a cumulative impact is an impact created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. A cumulative impact occurs from:

> *The change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.*

According to State CEQA Guidelines Section 15130(a), "An EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable." *Cumulatively considerable* means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects (as defined by Section 15130).

In addition, Section 15130(b) identifies the following elements as necessary for an adequate cumulative impact analysis, each of which is included in this section. This EIR follows the requirements of (1)(b) as shown.

1) *Either:*

   (A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency; or,

   (B) A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area-wide conditions contributing to the cumulative impact. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency.

2) *A definition of the geographic scope of the area affected by the cumulative effect and a reasonable explanation for the geographic limitation used;*

3) *A summary of the expected environmental effects to be produced by those projects with specific reference to additional information stating where that information is available; and*

4) *A reasonable analysis of the cumulative impacts of the relevant projects. An EIR shall examine reasonable, feasible options for mitigating or avoiding the project's contribution to any significant cumulative effects.*

METHODOLOGY AND IMPACT ANALYSIS

BASELINE CUMULATIVE PROJECTIONS

The County of Riverside General Plan contains countywide projections of growth, including population and employment projections. The projections developed for the presently adopted General Plan (also referred to as GPA 960) form the baseline projections for the impact analysis contained in this EIR. The GPA 960 projections represent estimates of the population and dwelling units that could exist at buildout of the unincorporated areas of Riverside County under GPA 960 land use designations. At the time of the writing of this Draft EIR, the County had recently adopted GPA 960[1]. However, GPA 960 is currently in active litigation with an unknown outcome. GPA 960 furthered the objectives and policies of the previously adopted 2003 RCIP General Plan by directing future development toward existing and planned urban areas where growth is best suited to occur (Chapter 2, Vision Statement of the 2003 RCIP General Plan). The proposed project continues the process initiated with the 2003 General Plan and furthered by the current General Plan by increasing density in areas where existing or planned services and existing urban development suggest that the potential for additional homes is warranted.

Because the outcome of the litigation is uncertain, and as the proposed project furthers goals of the previous and the current General Plan, policy numbers for both documents are listed in the analysis for reference purposes. Both GPA 960 and the 2003 Riverside County Integrated Plan (RCIP) General Plan anticipated urban development on the neighborhood sites affected by the proposed project. As such, the site development environmental effects and determinations below would not differ substantially from either the 2003 RCIP General Plan or the current General Plan.

The direct and indirect environmental effects of anticipated future buildout of the land uses established in the General Plan are evaluated in EIR No. 521 prepared for the Riverside County GPA 960 (State Clearinghouse Number 2009041065), as well as in EIR No. 441, which was certified for the 2003 RCIP General Plan. The analysis in this section considers the analysis in both of these EIRs.

PROPOSED PROJECT CUMULATIVE BUILDOUT ASSUMPTIONS

Buildout is defined as the development of land to its theoretical capacity as permitted under the land use designation and is determined by simply multiplying the number of acres by the maximum number of housing units allowed per acre. A key concept framing the analysis in this EIR is that projections reflect a theoretical buildout of full capacity of the proposed project, which, consistent with the Housing Element planning period, is estimated to occur around 2021. It should be remembered, however, that both the projections and the time frame are based on theoretical conditions used to anticipate the full scope and extent of potential environmental impacts

[1] *December 8, 2015*

associated with future development. The projections do not take into account site-specific constraints, economic factors, market forces, and regulatory restrictions including General Plan policies, County ordinances, and regulatory requirements imposed by state and federal agencies, all of which could constrain future development.

In addition, the proposed project is a comprehensive update of the Housing Element, which is required to occur every eight years—hence, the 2021 time frame assumed for buildout. However, the Southern California Association of Governments' (SCAG) 5th planning cycle (October 2013 to October 2021) does not represent an estimation of when growth associated with the project is actually expected to occur, but rather is a state-mandated planning period for housing needs. The actual rate of housing development will be driven by the factors described above and is not under the control of government officials.

Therefore, while the proposed project would cumulatively result in the capacity (based on buildout as defined above) for up to 73,255 more housing units and 240,805 more people in the unincorporated County in comparison to buildout of GPA 960, the reality is that this number of housing units is not likely to be built within the planning horizon of the updated Housing Element. In order for this to occur, the growth rate in the unincorporated County would need to average approximately 31 percent annually through 2021. As discussed in detail in Section 2.2, Approach to Environmental Analysis, the average annual growth rate in Riverside County during the 16 years between 2000 and 2015 was 2.55 percent, and the average growth rate in the unincorporated County during that same period (excluding years with negative growth due to the incorporation of previously unincorporated areas) was 3 percent annually (DOF 2012, 2015). Therefore, an increase in population and housing units in the magnitude of 31 percent annually through 2021 is unrealistic and is not considered a practical indicator of unincorporated County growth during the Housing Element planning period. It is not the intent of the proposed project to generate the full buildout population within the planning cycle, but to provide the capacity (i.e., land use designation and zoning) for the housing market to adequately address housing needs for all income groups and to direct that capacity where planned growth is best suited to occur.

To be conservative, however, this EIR assumes full buildout of project capacity in order to represent a "worst-case" scenario environmentally.

ELEMENTS OF PROJECT WITH NO CUMULATIVE IMPACT

Although the proposed project consists of revisions to the text of the Housing Element, General Plan, and Ordinance No. 348 as well as changes to land use designations and zone classifications, the impact analysis in this section of the EIR focuses primarily on those changes resulting in the potential for increased density or intensity compared to that accommodated under the existing General Plan. Other elements of the proposed project would not adversely affect the physical environment and are not discussed in detail herein. Those elements consist of the proposed text amendments to Ordinance No. 348, which are intended to comply with changes in state law and implementation of Housing Element programs. Generally, the text amendments would not directly result in development activities and would be implemented in the context of the County's adopted General Plan, and therefore would not result in any impacts beyond those analyzed for the General Plan in EIR No. 521 and EIR No. 441. **Table 3.0-1** lists the proposed amendments to the text of the Housing Element and Ordinance No. 348 and gives an explanation for the determination that no environmental impact would occur.

TABLE 3.0-1
SUMMARY OF ELEMENTS OF PROJECT WITH NO CUMULATIVE IMPACT

Amendments to Housing Element Policies/Ordinance No. 348	No Impact – Rationale
Action 1.3b: For the purpose of all local ordinances, employee housing shall not be deemed a use that implies that the employee housing is an activity that differs in any other way from an agricultural use. No conditional use permit, zoning variance, or other zoning clearance shall be required of this employee housing that is not required of any other agricultural activity in the same zone. The permitted occupancy in employee housing in an agricultural zone shall include agricultural employees who do not work on the property where the employee housing is located.	California Health and Safety Code Section 17021.5 generally requires employee housing for six or fewer persons to be treated as a single-family structure and residential use. Section 17021.6 generally requires employee housing consisting of not more than 36 beds in group quarters or 12 units or less designed for use by a single family or household to be treated as an agricultural use. Amending the Zoning Ordinance to be consistent with these code sections would not result in environmental impacts not already analyzed in the County's General Plan EIR. Residential uses are already allowed in agricultural zones (one single-family residence allowed per 10 acres). In addition, GPA 960 Policy LU 20.3 (RCIP GP Policy 16.3) permits farmworker housing as an interim land use (5–10 years) under certain circumstances. Furthermore, as envisioned by the code, employee housing is considered an agricultural use and therefore one is already anticipated in agriculturally designated areas.
Action 1.5g: Amend Ordinance 348 to include use and occupancy requirements for transitional and emergency shelters as follows: Allow for emergency shelter in the I-P zone by right without discretionary review Add the current definition of transitional housing and supportive housing and to permit transitional and supportive housing types as residential uses and subject only to those restrictions that apply to other residential uses of the same type in the same zone.	This change would either affect an existing building that has already complied with CEQA or a proposed building that would need to comply with CEQA. Therefore, the impacts would have been addressed prior to construction of the building(s).
Action 2.1h: Consider the adaptive reuse of small older motels to transitional housing facilities, emergency shelters or Single Resident Occupancy (SROS) in conjunction with qualified non-profit organizations. In addition, the County will amend the Zoning Ordinance to define single-room occupancy units (SROs) and allow them to be permitted in the General Commercial Zone (C-1/C-P) with a conditional use permit.	This amendment would allow SROs in the C-1/C-P zone with approval of a conditional use permit. This change is essentially administrative in nature, as SROs would be consistent (in the context of the developed environment) with other land uses already allowed and analyzed for development in the General Commercial zone. Furthermore, the development review process would trigger the need to comply with CEQA, which would determine and mitigate any impacts.
Action 3.3b: Ensure that persons with disabilities have increased access/placement in residential units rehabilitated or constructed through County programs. Continue to cooperate with non-profit agencies that provide placement or referral services for persons with disabilities. The County will amend Ordinance 348 to include a formal procedure for reviewing and approving requests for modifications to building or zoning requirements in order to ensure reasonable accommodations for persons with disabilities.	This amendment provides for a review procedure in the County's planning process and will result in no impacts to the physical environment. The physical impacts of the building(s) being modified would either be part of a separate approval process with CEQA or would already be constructed and likely subject to an exemption. Regardless, the structure would either be evaluated for impacts or would have already been evaluated.

Amendments to Housing Element Policies/Ordinance No. 348	No Impact – Rationale
Action 1.2q: The County will continue to allow reduced parking requirements for senior and affordable housing projects as well as pursue the following revisions to the County's parking standards to more easily accommodate higher densities on multifamily and mixed-use sites. Further study of these revisions shall be conducted before changes to the Zoning Ordinance are made: • Reductions in the number of spaces required for affordable or senior housing projects, if it can be demonstrated that the expected tenants will own fewer cars than the regular standards anticipate—or if spaces will not be "preassigned" to specific units in the project. • Allowances for some of the spaces to be tandem or uncovered, provided that none of the spaces extend into the front yard setback. • Standards for "shared parking" when uses with different peaking characteristics (such as offices and apartments) are combined in a single structure. • Reductions to the space requirements for studio and one-bedroom apartments (presently two spaces per unit). • In addition, the County should explore the feasibility of an ordinance which would prohibit the long-term storage of cars in designated parking spaces in multifamily complexes, thereby ensuring that the spaces remain available for tenant use. The County will also evaluate the associated costs with the current parking requirements to ensure they are not a constraint on development.	This amendment encourages further study of additional amendments to Ordinance No. 348 in order to ensure current parking requirements are not a constraint on development. Encouraging further study of future amendments to Ordinance No. 348 would have no environmental impact. Any future change will be required to comply with CEQA.
Action 4.1b: Update the definition of family so that it does not limit the number of persons per household, and does not require that persons are related by blood.	Formalizing the definition of family is administrative in nature and will result in no impacts to the physical environment.

RESOURCES EVALUATED

The impact analysis is based on the CEQA Guidelines Appendix G thresholds of significance, and as such, includes the following topics:

3.1 Aesthetics
3.2 Agriculture and Forestry Resources
3.3 Air Quality
3.4 Biological Resources
3.5 Cultural Resources
3.6 Geology and Soils
3.7 Greenhouse Gas Emissions
3.8 Hazards and Hazardous Materials
3.9 Hydrology and Water Quality
3.10 Land Use and Planning
3.11 Mineral Resources
3.12 Noise
3.13 Population and Housing
3.14 Public Services
3.15 Parks and Recreation
3.16 Transportation/Traffic
3.17 Utilities and Service Systems
3.18 Energy Consumption

3.1 AESTHETICS

SETTING

Visual Character

Riverside County encompasses over 7,200 square miles extending roughly 200 miles in width from the Colorado River (Arizona border) to within 14 miles of the Pacific Ocean. Riverside County shares borders with Orange, San Diego, Imperial, and San Bernardino Counties. In Riverside County, 26 incorporated cities with individual identities are set among a mixture of rural communities, small towns, deserts, and open space areas. The various communities in the unincorporated area are defined by the built environment and the surrounding topography, which includes river valleys, lakes, low desert, mountains, foothills, and rolling plains. In terms of visual character, Riverside County is divided into eastern and western regions by the San Jacinto Mountains. A deep valley known as the San Gorgonio Pass, formed by the San Jacinto and San Gorgonio mountains, serves as a natural link between these two areas. The San Bernardino, Little San Bernardino, and Pinto Mountains form a portion of the County's northern boundary, while numerous mountain ranges, including those in the Santa Rosa Wilderness and the Cleveland National Forest, serve as boundaries along the southern and western edges of the County (County of Riverside 2015).

Western Riverside County

Topography in western Riverside County varies dramatically, ranging from low-lying valleys to rolling hillsides and steep mountainous terrain with large rock outcroppings. Major features of this area include the Santa Ana River basin, Lake Mathews, Lake Perris, Lake Elsinore, Lake Skinner, Vail Lake, Hemet Lake, the San Jacinto River, Murrieta Creek, the Santa Rosa Plateau, the Santa Margarita River, and the vineyard/citrus region near Temecula. The Diamond Valley Reservoir south of Hemet is the largest reservoir in Southern California. Western Riverside County includes numerous unincorporated communities as well as the cities of Corona, Riverside, Beaumont, Banning, Norco, Lake Elsinore, Perris, Hemet, San Jacinto, Moreno Valley, Calimesa, Canyon Lake, Murrieta, Wildomar, Menifee, and Temecula (County of Riverside 2015). In western Riverside County, scenic vistas and viewsheds generally consist of open views of local foothills or mountains.

Eastern Riverside County

Eastern Riverside County is loosely bounded by the Colorado River on the east and the Santa Rosa and San Jacinto Mountains on the west. The area includes the San Gorgonio Pass, part of Joshua Tree National Park, Whitewater River, the Palo Verde Mesa, and the northern end of the Salton Sea. The most urbanized areas in this portion of the County are in the Coachella Valley. The valley includes the incorporated cities of Desert Hot Springs, Palm Springs, Cathedral City, Rancho Mirage, Indian Wells, Palm Desert, La Quinta, Indio, and Coachella. Blythe, near the Arizona border, is the easternmost city in Riverside County. The area around Palm Springs is noted for its golf resorts nestled among the Santa Rosa Mountains. The Coachella Valley is also a major source of date palms in the United States. The San Gorgonio Pass, noted for its high winds, is a key source of wind power for Southern California. The vast mountainous terrain of Joshua Tree National Park and the desert topography of the Chuckwalla Valley lie between the Coachella Valley, Blythe, and the Colorado River (County of Riverside 2015). In eastern Riverside County, scenic vistas and viewsheds generally consist of open, trackless desert or hills.

Scenic Highways

Due to the visual significance of scenic vistas and natural features visible via many of Riverside County's roadways, many have been officially recognized as either eligible or designated state or county scenic highways. As discussed in Section 2.3, Regulatory Framework, the California Department of Transportation (Caltrans) State Scenic Highway Program provides for the designation of scenic or eligible scenic highways as well as scenic corridors. Caltrans's scenic highway considerations are based on how much of the natural landscape a traveler sees and the extent to which visual intrusions impact the scenic corridor. **Table 3.1-1** identifies the state- and county-designated and eligible scenic highways in Riverside County. Development along the designated scenic highways and roadways is managed to preserve the area's scenic qualities. These highways and roadways are shown in **Figure 3.1-1**.

TABLE 3.1-1
SUMMARY OF STATE AND COUNTY ELIGIBLE AND DESIGNATED SCENIC HIGHWAYS

Designation	Highway/Roadway	Region/Areas Affected
State Designated	State Route (SR) 243 and SR 74	San Gorgonio Pass, Western Coachella Valley, and San Jacinto Mountains: Banning city limit to SR 74, SR 74 from San Bernardino National Forest to SR 111 in Palm Desert
State Designated	SR 62	Western Coachella Valley: Interstate 10 to San Bernardino County line
State Eligible	SR 74	From San Jacinto Mountains through San Jacinto Valley, Harvest Valley/Winchester, Sun City, Menifee, and Elsinore Valley: Orange County line to El Cariso and continuing east toward Hemet
State Eligible	Interstate 15 (I-15), SR 91, and SR 71	Temescal Valley, Lake Elsinore, and southwestern Riverside County: south from north of Corona to the San Diego County line
State Eligible	Interstate 10 (I-10)	San Gorgonio Pass and Western Coachella Valley: San Bernardino County line to Calimesa, through to Indian Wells
State Eligible	SR 111	Eastern Coachella Valley: Salton Sea (Bombay Beach) to SR 195 near Mecca
State Eligible	SR 79	San Jacinto Mountains: from the SR 371 intersection in the Aguanga area south to the San Diego County line
County Eligible	US Highway 95	Palo Verde: from I-10 to the San Bernardino County line
County Eligible	I-10	Palo Verde, Desert Center, eastern desert area, and eastern and western Coachella Valley: from the Arizona border at the Colorado River to the SR 62 junction
County Eligible	Dillon Road	Western Coachella Valley: north from I-10
County Eligible	Oak Glen Road/Beaumont Avenue	San Gorgonio Pass: San Bernardino County line to Beaumont Avenue to the Beaumont city limit
County Eligible	San Timoteo Canyon Road/ Redlands Boulevard	San Gorgonio Pass and Reche Canyon/Badlands: from the Beaumont city limit to the Moreno Valley city limit to SR 60
County Eligible	Gilman Springs Road/SR 79	Reche Canyon/Badlands and San Jacinto Valley: Moreno Valley city limit to Lamb Canyon Road (SR 79), south of the Beaumont city limit to the Gilman Springs Road intersection, and continuing south toward SR 74 and the City of San Jacinto

Designation	Highway/Roadway	Region/Areas Affected
County Eligible	Ramona Expressway	Reche Canyon/Badlands, Lakeview/Nuevo, San Jacinto Valley: I-215 east toward the City of San Jacinto to SR 74
County Eligible	Interstate 215 (I-215)	Southwestern Riverside County, Sun City, and Menifee Valley: SR 74, Menifee Road, McCall Boulevard, I-215 south to I-15
County Eligible	SR 79	Southwestern Riverside County and San Jacinto Mountains: I-215 from Temecula east to SR 371 at Aguanga
County Eligible	Cajalco Road, El Sobrante Road, Mockingbird Canyon Road, and La Sierra Avenue	Lake Mathews/Woodcrest: I-15 to Lake Elsinore, around Lake Mathews

Source: County of Riverside 2015

Nighttime Lighting – Palomar Observatory

The Palomar Observatory, a major scientific resource for astronomical observation and research, is located in San Diego County approximately 5.5 miles south of the Riverside County border. In general, astronomic observatories need to be sited at least 30 to 40 miles away from large, brightly lit areas, such as cities and other urban concentrations, in order to ensure adequate nighttime darkness of the sky. When established in 1908, the Palomar Observatory was located in a remote, undeveloped region. However, in the last century, growth and urban development have spread tremendously throughout Southern California, particularly in western Riverside County and the cities of Temecula and Murrieta, as well as in the Coachella Valley. The County enforces two zones for specific lighting controls based on distance from the observatory: Zone A encompasses a sphere with a 15-mile radius; Zone B encompasses a 45-mile radius from the observatory (County of Riverside 2015).

THRESHOLDS OF SIGNIFICANCE

The impact analysis is based on the State CEQA Guidelines Appendix G thresholds of significance. An aesthetic or visual resource impact is considered significant if implementation of the project would:

1) Have a substantial adverse effect on a scenic vista.

2) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

3) Substantially degrade the existing visual character or quality of the site and its surroundings.

4) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

T:_GIS\Riverside_County\MXD\sr\Riverside_County_HEIE\RScenic Highways.mxd (11/20/2015)

San Bernardino County

Jurupa Valley
Eastvale
Norco
Riverside
Corona
Moreno Valley
Calimesa
San Bernardino National Forest
Banning
Beaumont
Desert Hot Springs
Joshua Tree National Park
Palm Springs
Cathedral City
Rancho Mirage
Palm Desert
Indian Wells
Indio
La Quinta
Coachella
San Jacinto
Perris
Menifee
Hemet
Lake Elsinore
Canyon Lake
Wildomar
Murrieta
Temecula
Cleveland National Forest
Santa Rosa San Jacinto Mountains National Monument
Salton Sea
Orange County
San Diego County

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Legend

- Officially Designated State Scenic Highway
- Eligible State Scenic Highway
- Proposed HHDR/MUA Neighborhoods

Eastern Coachella Valley Area Plan
- A - Mecca Town Center
- B - North Shore Town Center
- C - Oasis Town Center
- D - Thermal Town Center

Elsinore Area Plan
- E - Lee Lake Community
- F - Meadowbrook Town Center

Harvest Valley/Winchester Area Plan
- G - Winchester Town Center
- H - Winchester Community (Western Area)

Highgrove Area Plan
- I - Highgrove Town Center

Lakeview/Nuevo Area Plan
- J - Lakeview Town Center
- K - Nuevo Community (Western Area)

Meade Valley Area Plan
- L - Good Hope Community
- M - Mead Valley Town Center
- N - Mead Valley Community (I-215/Nuevo Rd Vicinity)

Southwest Area Plan
- O - French Valley Airport Vicinity

Temescal Canyon Area Plan
- P - Home Gardens Town Center

The Pass Area Plan
- Q - Cabazon Town Center

Western Coachella Valley Area Plan
- R - Thousand Palms Town Center
- S - Thousand Palms Community (I-10/Cook St Vicinity)
- T - Desert Edge/SE Desert Hot Springs Communities
- U - Rushmore/Kimdale Community
- V - I-10/Haugen Lehmann Ave Community
- W - North Palm Springs Community

Source: Caltrans (2015); Riverside County (2015).

N

0 2 4 Miles

Figure 3.1-1
Riverside County Scenic Highways

Michael Baker INTERNATIONAL

METHODOLOGY

General Plan EIR No. 521 determined that mitigation and regulatory compliance measures would reduce to below the level of significance any potential adverse impacts to scenic vistas, scenic resources within state scenic highways, and the existing visual character and aesthetic quality of the County resulting from buildout of land uses designated in GPA 960. EIR No. 521 also determined that mitigation and regulatory compliance measures would ensure impacts associated with light and glare adversely affecting day or nighttime views, as well as nighttime use of the Palomar Observatory, would be less than significant (County of Riverside 2015). EIR No. 441 identified that implementation of mitigation and regulatory compliance measures would reduce aesthetic resource and light/glare impacts resulting from buildout of the 2003 RCIP GP to a less than significant level (County of Riverside 2002).

The proposed project would result in an increase in density/intensity potential on sites throughout the unincorporated County as a result of redesignation and rezoning. In addition, the text revisions included in the proposed project in order to adopt and implement the new Highest Density Residential (HHDR) and Mixed Use Area (MUA) land use designations and zone classifications would allow such development to be proposed in other areas throughout the County. Therefore, the proposed project would increase the amount of high-density residential development and mixed-use development in the County in comparison to those conditions anticipated under the approved General Plan. Furthermore, the new R-7 and Mixed Use zone classifications would allow increased height and decreased setbacks between uses in comparison to current zoning requirements (see Section 2.1, Project Description). The visual resource analysis below considers the potential for these changes in General Plan and zoning requirements to collectively affect aesthetic resources in the County beyond impacts already considered in EIR No. 521 and EIR No. 441.

IMPACT ANALYSIS

Impact Analysis 3.1.1 Future development resulting from the project could have adverse effects to scenic vistas by altering panoramic views to more urban, higher-density development with views partially obscured by structures. This impact is **potentially cumulatively considerable**. (Threshold 1)

The new R-7 and Mixed Use zone classifications allow buildings and structures up to 50 feet in height, which would represent an increase in height beyond that previously considered for development in Riverside County, and could thus create adverse effects to scenic vistas by altering panoramic views to more urban, higher-density development with views partially obscured by structures. This impact would be considered **potentially cumulatively considerable.**

All future development under the proposed project would be subject to General Plan policies governing the visual impact of new development, such as GPA 960 Policy LU 4.1 (RCIP GP Policy LU 4.1), which requires new developments to be located and designed to visually enhance and not degrade the character of the surrounding area, and GPA 960 Policy LU 14.8 (RCIP GP Policy LU 13.8), which prohibits the blocking of public views by solid walls. During the County's development review process, the applicant would be required to provide substantial evidence of compliance with these policies as part of the project application materials. In addition, mitigation measure **MM 3.1.1** below would be required as a condition of approval for future development projects during development review process.

Mitigation Measures

MM 3.1.1 Development projects shall be subject to the requirements of all relevant guidelines, including the community center guidelines, Riverside County supervisorial district guidelines and all applicable standards, policies, and/or regulations of the County of Riverside or other affected entities pertaining to scenic vistas and aesthetic resources. Factors considered in these guidelines include the scale, extent, height, bulk or intensity of development; the location of development; the type, style and intensity of adjacent land uses; the manner and method of construction, including materials, coatings, and landscaping; the interim and/or final use of the development; the type, location, and manner of illumination and signage; the nature and extent of terrain modification required; and the potential effects to the established visual characteristic of the project site and identified scenic vista or aesthetic resource.

Timing/Implementation: *Prior to and during construction activities*

Enforcement/Monitoring: *County of Riverside*

The measure confirms that development projects would be subject to standards regulating the scale, extent, height, bulk, or intensity of development, as well as the location of development and the nature and extent of terrain modification required in consideration of identified scenic vistas and/or aesthetic resources. Analyzing and addressing these issues during the development review process would ensure that buildings would be sited and set back such that identified scenic vistas would be protected to the extent feasible. Therefore, this impact would be reduced to a **less than cumulatively considerable** level.

Impact Analysis 3.1.2 Future development resulting from the project could damage scenic resources within a state scenic highway. This impact is **potentially cumulatively considerable**. (Threshold 2)

Future development under the HHDR or MUA designations/zone classifications would include apartments and condominiums, multistory (3+) structures, and mixed-use development located primarily along major transportation corridors. As such, this development could cumulatively impact scenic resources within a state scenic highway and is considered a **potentially cumulatively considerable** impact**.** Specific land use changes within state- or County-designated or eligible scenic highways are disclosed and analyzed in the applicable Area Plan sections (4.1 through 4.10) of this EIR.

All future development under the proposed project would be subject to General Plan policies governing the visual impact of new development, such as GPA 960 Policy LU 4.1 (RCIP GP Policy LU 4.1), which requires new developments to be located and designed to visually enhance and not degrade the character of the surrounding area. In addition, General Plan GPA 960 Policies OS 22.1 and OS 22.4 (RCIP GP Policies OS 22.1 and OS 22.4) directly regulate development within scenic highway corridors, requiring that developments within designated scenic highway corridors be designed to balance the objectives of maintaining scenic resources with accommodating compatible land uses and that conditions be placed on development within scenic highway corridors requiring dedication of scenic easements when necessary to preserve unique or special visual features. These policies provide protection for scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway. During the County's development review process, the applicant would be required to provide substantial evidence of compliance with these policies as part of the project application materials.

In addition, **MM 3.1.1** as identified above would be required as a condition of approval for future development projects during development review process and would ensure that potential effects to identified aesthetic resources, including those within a scenic highway corridor, would be addressed during that process.

Compliance with these regulatory measures would ensure that scenic resources within the County's scenic highway corridors would be protected during future development activities. Therefore, this impact would be reduced to a **less than cumulatively considerable** level.

Mitigation Measures

MM 3.1.1

Impact Analysis 3.1.3 Future development facilitated by the project would represent an increase in density, massing, and height beyond that originally considered and could thus alter the existing visual character of Riverside County. This impact would be considered **potentially cumulatively considerable.** (Threshold 3)

Future development under the HHDR or MUA designations/zone classifications could include apartments and condominiums, multistory (3+) structures, and mixed-use development. The new R-7 and Mixed Use zone classifications allow buildings and structures up to 50 feet in height, minimum front and rear setbacks of 10 feet for buildings that do not exceed 35 feet in height, and side yard setbacks of 5 feet for buildings that do not exceed 35 feet in height. This development would represent an increase in density, massing, and height beyond that originally considered by EIR No. 521 and EIR No. 441 and could thus alter the existing visual character of Riverside County. This impact would be considered **potentially cumulatively considerable.**

All future development under the proposed project would be subject to General Plan policies governing the visual impact of new development, such as GPA 960 Policy LU 4.1 (RCIP GP Policy LU 4.1), which requires new developments to be located and designed to visually enhance and not degrade the character of the surrounding area. During the County's development review process, the applicant would be required to provide substantial evidence of compliance with these policies as part of the project application materials. Future development project would also require Design Review to ensure compliance with General Plan policies and the Countywide Design Standards and Guidelines (County of Riverside 2004), which include requirements that address scale, intensity, architectural design, landscaping, sidewalks, trails, community logo, signage, and other visual design features, as well as standards for backlighting and indirect lighting to promote "night skies." Typical design modifications would include stepped setbacks for multistory buildings, increased landscaping, decorative walls and roof design, and themed signage.

In addition, mitigation measure **MM 3.1.1** as identified above would be required as a condition of approval for future development projects during the County's development review process. The measure confirms that development projects are subject to County requirements pertaining to aesthetic resources, including regulations on the scale, extent, height, bulk, or intensity of development; the location of development; the type, style, and intensity of adjacent land uses; the manner and method of construction, including materials, coatings, and landscaping; the interim and/or final use of the development; the type, location, and manner of illumination and signage; the nature and extent of terrain modification required; and the potential effects to the established visual characteristic of the project site and identified scenic vista or aesthetic resource.

Regardless of a development's specific location in the County, these regulatory compliance measures would ensure that the potential aesthetic impacts of all new development proposals would be analyzed and addressed during the development review process. As such, this impact would be reduced to a **less than cumulatively considerable** level.

Mitigation Measures

MM 3.1.1

Impact Analysis 3.1.4 The increase in density/intensity potential proposed by the project would introduce new sources of light and glare and contribute incrementally to the cumulative light pollution levels and skyglow experienced in Riverside County and Southern California. This impact is **less than cumulatively considerable**. (Threshold 4)

The increase in density/intensity potential proposed by the project would result in future HHDR and MUA development that would increase urbanization throughout the unincorporated County. This development would introduce new sources of light and glare that would adversely affect day and/or nighttime views in some areas and contribute incrementally to the cumulative light pollution levels and skyglow experienced in Riverside County and Southern California.

Riverside County has adopted several ordinances that include requirements intended to prevent the adverse effects of increased light and glare. Ordinance No. 461, Road Improvement Standards and Specifications, includes standards for residential lighting as well as lighting for highways, roadways, intersections, and traffic signage, requiring that all lighting standards, including private residential lighting, comply with Ordinance No. 655. Ordinance No. 655 addresses standards for acceptable nighttime lighting in Riverside County and measures related to development within 15 to 45 miles of the Palomar Observatory by requiring the use of low-pressure sodium lamps for outdoor lighting fixtures and regulating the hours of operation for commercial/industrial uses in order to reduce lighting impacts on the observatory. Ordinance No. 915, Regulating Outdoor Lighting, establishes a countywide standard for outdoor lighting that applies to all future development under the project. The ordinance regulates light trespass in areas that fall outside of the 45-mile radius of Ordinance No. 655 and requires all outdoor luminaries to be located, adequately shielded, and directed such that no direct light falls outside the parcel of origin or onto the public right-of-way.

GPA 960 Policy LU 4.1 (RCIP GP Policy LU 4.1) would further prevent significant impacts associated with light and glare effects. It requires that new developments be located and designed to visually enhance and not degrade the character of the surrounding area through consideration of a number of concepts, including mitigating lighting and other impacts on surrounding properties. This policy would ensure that potential light and glare impacts from new development are reviewed and addressed early during the entitlement process.

During the County's development review process, the applicant would be required to provide substantial evidence of compliance with County regulations pertaining to light and glare as part of the project application materials, including the provisions of Ordinances 461 and 655 and all applicable General Plan policies. With the implementation of and compliance with these ordinances and policies, potential adverse impacts with regard to light and glare would be avoided, minimized, or reduced. As a result, light and glare impacts associated with the proposed project would be **less than cumulatively considerable**.

Mitigation Measures

None required.

3.2 AGRICULTURE AND FORESTRY RESOURCES

SETTING

Riverside County Agricultural Production

Agricultural resources include lands cultivated for crops for both human and animal use, providing livestock forage, or providing a source of fiber or other raw materials. Commercial agricultural activities also include noncultivation (ranch) activities, such as the raising of livestock for production of meat, milk, and dairy products, as well as fiber and other nonedible products (wool, leather, etc.). Also in this category are aquaculture (fish farms) and the poultry industry, which produces poultry meat, eggs, chicks, and other products (County of Riverside 2015).

According to the Riverside County Agricultural Commissioner's Office (ACO) Riverside County Agricultural Production Report 2014, crops in Riverside County in 2014 had a total gross valuation of $1,362,016,000, an increase of $34.2 million (2.6 percent) over the previous year. The 2014 report includes more than 120 different commodities exported to more than 50 countries throughout the world. The ten leading crops (in terms of value) were milk, nursery stock, table grapes, hay, lemons, bell peppers, eggs, grapefruit, dates, and avocados (ACO 2014). Total planted acreage in the County was 204,250 acres, with 115,727 acres of that planted with field and seed crops. Agricultural statistics are maintained by the ACO for four districts: Riverside/Corona, San Jacinto/ Temecula Valley, Coachella Valley, and Palo Verde Valley. Since 2010, the Coachella Valley District has recorded the highest total crop valuation (ACO 2014).

Farmland Resources

The California Department of Conservation (DOC) runs the Farmland Mapping and Monitoring Program (FMMP), which produces maps and statistical data on California's agricultural resources. The FMMP rates agricultural lands in each county on their production value according to soil quality and irrigation status. The farmland and other land categories used by the FMMP are described briefly below (DOC 2015). Additional information can be found on the DOC's website at http://www.conservation.ca.gov/dlrp/fmmp/mccu/Pages/map_categories.aspx.

- **Prime Farmland** – Farmland with the best combination of physical and chemical features able to sustain long term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

- **Farmland of Statewide Importance** – Farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

- **Unique Farmland** – Farmland of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated, but may include nonirrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.

- **Farmland of Local Importance** – In Riverside County, soils that would be classified as Prime Farmland and Farmland of Statewide Importance but lack available irrigation water. Lands planted to dryland crops of barley, oats, and wheat. Lands producing major crops

for Riverside County but that are not listed as unique crops. These crops are identified as returning one million or more dollars in the 1980 Riverside County Agriculture Crop Report. Crops identified are permanent pasture (irrigated), summer squash, okra, eggplant, radishes, and watermelons. Dairylands, including corrals, pasture, milking facilities, and hay and manure storage areas if accompanied with permanent pasture or hayland of 10 acres or more. Lands identified by city or county ordinance as agricultural zones or contracts, which includes Riverside City "Proposition R" lands. Lands planted to jojoba that are under cultivation and are of producing age.

FMMP maps reflect changes in farmland resources resulting from conversion of irrigated farmland, dryland or idle farmland, and other uses to urban uses. Information on these changes is developed from air photos, local comments, and field reconnaissance by FMMP staff. According to the FMMP report for 2010–12, approximately 2,761 acres of Important Farmland were converted to nonagricultural use in Riverside County (including cities) during the two-year mapping cycle (see **Table 3.2-1**). During that same time frame, the amount of Urban and Built-Up Land in the County increased by 3,852 acres (DOC 2012).

TABLE 3.2-1
2010–12* FARMLAND CONVERSION TABLE – RIVERSIDE COUNTY

Land Use Category	Total Acreage Inventoried		2010–12 Acreage Changes			
	2010	2012	Acres Lost (-)	Acres Gained (+)	Total Acreage Changed	Net Acreage Changed
Prime Farmland	119,635	119,309	2,421	2,095	4,516	-326
Farmland of Statewide Importance	44,085	43,919	750	584	1,334	-166
Unique Farmland	35,392	33,340	2,790	738	3,528	-2,052
Farmland of Local Importance	229,875	229,658	5,460	5,243	10,703	-217
Important Farmland Subtotal	**428,987**	**426,226**	**11,421**	**8,660**	**20,081**	**-2,761**
Grazing Land	110,842	110,385	487	30	517	-457
Agricultural Land Subtotal	**539,829**	**536,611**	**11,908**	**8,690**	**20,598**	**-3,218**
Urban and Built-Up Land	321,555	325,407	445	4,297	4,742	3,852
Other Land	1,020,717	1,020,083	2,834	2,200	5,034	-634
Water Area	62,361	62,361	0	0	0	0
Total Area Inventoried	**1,944,462**	**1,944,462**	**15,187**	**15,187**	**30,374**	**0**

Source: DOC 2012
** Most recent time period for which data was available.*

Forestry Resources

There is no commercial forestry or timber production industry in Riverside County other than Christmas tree farms or nursery stock production (that is, cultivated rather than wild-harvested) (County of Riverside 2015). The County includes parts of two major forests of the Sierra Nevada range: the Cleveland and San Bernardino National Forests, both managed by the US Forest Service. These forests occupy the higher mountain ranges of the Pacific Coast region and are generally characterized by large conifers (pine and fir trees) and a great diversity of animal species. At lower elevations (generally below 5,000 feet), these forests commonly border mixed

evergreen forest, oak woodland, and chaparral. Portions of the Cleveland National Forest occur in the southwestern-most corner of Riverside County and cover roughly 90,750 acres. Stands of mixed hardwood and other tree species in these areas are generally not subject to intensive fixed site timber operations due to their sparseness, species, and locations. The portions of the San Bernardino National Forest in Riverside County provide elevations and climates sufficient to support old growth forests and other forest resources. The largest Riverside County portion of the San Bernardino National Forest is the Santa Rosa/San Jacinto Mountains National Monument, located in the central mountains that separate western and eastern Riverside County. This area contains the largest expanse of mountainous lands above 5,000 feet in which conifer forest-type vegetation occurs in Riverside County (County of Riverside 2015).

Riverside County also includes portions of Joshua Tree National Park, located northeast of the Coachella Valley in the Mojave Desert bioregion. This national park, managed by the Bureau of Land Management (BLM), encompasses a total of approximately 1,017,750 acres spanning Riverside and San Bernardino Counties, with approximately 794,000 of those acres in Riverside County. Although much of this national park is located above 4,000 feet in elevation, it does not offer extensive stands of forests of the types generally suitable for the timber industry. The dryness, temperature extremes, slow growth rates, and sparseness of the vegetation make commercial timber uses generally unlikely (County of Riverside 2015).

THRESHOLDS OF SIGNIFICANCE

The impact analysis provided below is based on the following State CEQA Guidelines Appendix G thresholds of significance. A significant impact to agriculture or forestry resources would occur if implementation of the project would result in any of the following:

1) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resource Agency, to nonagricultural use.

2) Conflict with existing agricultural zoning, agricultural use or with land subject to a Williamson Act contract or land within a Riverside County Agricultural Preserve.

3) Conflict with existing zoning for, or cause rezoning of, forestland (as defined in Public Resources Code [PRC] Section 12220(g)), timberland (as defined by PRC Section 4526), or timberland zoned timberland production (as defined by California Government Code Section 51104(g)).

4) Result in the loss of forestland or conversion of forestland to non-forest use.

5) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to nonagricultural use or conversion of forestland to non-forest use.

METHODOLOGY

The County's General Plan EIR No. 521 anticipated significant and unavoidable impacts to agricultural uses as well as conflicts with existing zoning, agricultural uses, and lands subject to a Williamson Act contract or within a Riverside County agricultural preserve as a result of land uses planned for in the General Plan (County of Riverside 2015). EIR No. 521 also determined that impacts would be less than significant with respect to forestland and forestry impacts. Further, the 2003 RCIP General Plan EIR No. 441 determined that no reasonable or feasible mitigation existed

to reduce to less than significant the impacts resulting from the loss of agricultural land associated with development, and the conversion of state-designated farmland and/or actively utilized agricultural land to nonagricultural uses would remain a significant and unavoidable impact (County of Riverside 2002).

The majority of sites proposed for redesignation/rezoning as part of the proposed project are designated by GPA 960 and the RCIP GP for urban uses. Although the text revisions included in the proposed project in order to adopt and implement the new HHDR and MUA land use designations/zone classifications would allow such development to be proposed in other areas throughout the County, entitlements would be required that would trigger project-specific environmental analysis. Therefore, the impact analysis focuses on the potential for project-related changes to indirectly affect agricultural resources on a cumulative level.

IMPACT ANALYSIS

Impact Analysis 3.2.1 The project could indirectly affect agricultural resources as a result of proposed changes to land use designations and zone classifications, as well as changes to General Plan policies, resulting in increased development potential on individual sites throughout the County. This impact would be **less than cumulatively considerable**. (Thresholds 1 and 5)

The proposed project does not include site-specific development proposals, entitlements, or other project components that would directly result in the conversion of farmland. The project could indirectly affect agricultural resources as a result of proposed changes to land use designations and zone classifications, as well as changes to General Plan policies, resulting in increased development potential on individual sites throughout the County. These indirect impacts could occur where the project proposes to change the land use designation on sites with Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as well as on sites adjacent to such farmland where residential and mixed-use development would be incompatible or encourage additional conversion via the extension of roadways or public service/utility infrastructure into an undeveloped area.

Generally, the sites included in the proposed project are infill development sites, sites located along major transportation corridors, and/or sites in the vicinity of future urban development and public service/utility infrastructure anticipated by the County's General Plan. The siting of the proposed land use changes are intended to direct future development away from agricultural and other sensitive resource areas and toward existing and planned development consistent with the direction of both GPA 960 and the 2003 RCIP GP. Both EIR No. 521 and EIR No. 441 anticipated significant and unavoidable impacts to agricultural uses as a result of future development of land uses planned for in the General Plan. The proposed project would not result in significant cumulative adverse effects to agricultural resources beyond those previously identified in EIR No. 521 and EIR No. 441 as the majority of sites included in the proposed project have been previously designated for development. Furthermore, all future development facilitated by the proposed project would be required to comply with Riverside County Ordinance No. 625, Right-to-Farm Ordinance, the intent of which is to reduce the loss of agricultural resources by limiting the circumstances under which agricultural operations may be deemed to constitute a nuisance. The ordinance protects existing agricultural uses from nuisance complaints often generated by encroaching nonagricultural uses and reduces legal nuisance liabilities by requiring new properties within 300 feet of any land zoned primarily for agricultural purposes to be given notice of the preexisting use and its rights to continue.

It should be noted that while impacts to agriculture resources are not considered significant on a cumulative level, approximately 525 acres in the Eastern Coachella Valley Area Plan are currently zoned for agricultural uses and are proposed for redesignation and rezoning as part of the proposed project. Of those, approximately 472 acres are Prime Farmland, with the remaining 52 acres being a mixture of Prime Farmland, Farmland of Statewide Importance, Farmland of Local Importance, Urban and Built-Up Land, and lands designated as Other. This represents less than 1 percent (0.39%) of the total amount of Prime Farmland inventoried in the County in 2012. The direct and indirect effects associated with localized impacts to agricultural resources are disclosed and analyzed in Section 4.8, Eastern Coachella Valley Area Plan of this EIR.

Given that the proposed project facilitates future development primarily in existing or planned urban areas and that future development would be required to comply with the County's Right-to-Farm Ordinance, impacts associated with conversion of farmland would be **less than cumulatively considerable**.

Mitigation Measures

None required.

Impact Analysis 3.2.2 The proposed project includes zone classification changes to land currently zoned for agricultural uses. This would be a **less than cumulatively considerable** impact. (Threshold 2)

The proposed project includes zone classification changes to 525 acres of land currently zoned for agricultural uses in the Eastern Coachella Valley Area Plan as described in **Impact 3.2.1** above, as well as land zoned Light Agriculture within the Southwest Area Plan and the Mead Valley Area Plan. The direct and indirect effects associated with localized impacts to agricultural zoning are disclosed and analyzed in Section 4.2, Section 4.6, and Section 4.8, of this EIR. On a cumulative level, most of the sites included in the proposed project are infill development sites zoned for urban uses and the project would not result in significant conflicts with agricultural zoning, lands under a Williamson Act contract, or land within a Riverside County Agricultural Preserve.

Furthermore, all future development facilitated by the proposed project would be required to comply with Riverside County Ordinance No. 625, Right-to-Farm Ordinance, the intent of which is to reduce the loss of agricultural resources by limiting the circumstances under which agricultural operations may be deemed to constitute a nuisance. The ordinance protects existing agricultural uses from nuisance complaints often generated by encroaching nonagricultural uses and reduces legal nuisance liabilities by requiring new properties within 300 feet of any land zoned primarily for agricultural purposes to be given notice of the preexisting use and its rights to continue. Therefore, this impact would be considered less than **less than cumulatively considerable**.

Mitigation Measures

None required.

Impact Analysis 3.2.3 Riverside County does not have any commercial timber operations or any existing or proposed zoning of forestland, timberland, or timberland production zones. Furthermore, the County's forestry resources are located in national forests and parks. Therefore, **no impact** would occur. (Thresholds 3 and 4)

According to the state of California, there are no commercial timber operations or yields in Riverside County. Nor do any existing or proposed zoning of forestland, timberland, or timberland production zones exist in the County. Hence, the proposed project would not conflict with any of these. Although the County does have occasional stands of forest vegetation, such as scattered and sporadic stands of montane hardwood and/or montane hardwood-conifer forest, none of these areas or forest resources occur to the extent necessary to support industrial or commercial timber resource production (County of Riverside 2015). Furthermore, according to Figures OS-3a (Forestry Resources Western Riverside County Parks, Forests, and Recreation Areas) and OS-3b (Forestry Resources Eastern Riverside County Parks, Forests, and Recreation Areas) in the Multipurpose Open Space Element of the County's General Plan (2014), the County's forestry resources are located on state or federal lands in national forests and parks. Therefore, **no impact** would occur associated with forestry resources and the proposed land use and policy changes included in the project.

Mitigation Measures

None required.

3.3 AIR QUALITY

SETTING

The California Air Resources Board (CARB) divides the state into air basins designated/organized based on similar features throughout each specified region. Riverside County spans three air basins: the South Coast Air Basin, the Salton Sea Air Basin, and the Mojave Desert Air Basin. The portions of Riverside County in the South Coast and Salton Sea Air Basins are regulated by the South Coast Air Quality Management District (SCAQMD). The SCAQMD also governs Los Angeles and Orange Counties, plus a small portion of San Bernardino County. The easternmost third of Riverside County, within the Mojave Desert Air Basin, is under the jurisdiction of the Mojave Desert Air Quality Management District (MDAQMD), which also governs the desert portion of San Bernardino County. The three air basins in Riverside County have unique characteristics that affect the air quality in the region. The following discussion describes the climate and meteorology of each air basin and the effects these characteristics have on air quality.

South Coast Air Basin

The South Coast Air Basin (SoCAB) is on a coastal plain with connecting broad valleys and low hills and is bounded by the Pacific Ocean on the southwest, with high mountains forming the remainder of the perimeter (SCAQMD 1993). Clouds and fog that form along the coast infrequently extend as far inland as the Temecula Valley and usually burn off quickly after sunrise. Rainfall in the SoCAB is typically greatest during the winter season from December through February. Average temperatures are typically highest in August and lowest in December.

In conjunction with wind patterns that affect the rate and orientation of horizontal pollutant transport, temperature inversions control the vertical depth through which pollutants are mixed. These inversions are the marine/subsidence inversion and the radiation inversion. The height of the base of the inversion at any given time is known as the mixing height. The combination of winds and inversions is a critical determinant leading to highly degraded air quality in the summer and generally good air quality in the winter in the SoCAB (SCAQMD 1993).

Salton Sea Air Basin

Air quality conditions in the Salton Sea Air Basin (SSAB) portion of Riverside County are administered by the SCAQMD. The SSAB covers all of Imperial County and the central portion of Riverside County (the Coachella Valley area). The Riverside County portion of the basin is bordered by the San Jacinto Mountains in the west and the Little San Bernardino Mountains in the east. Similar to the Mojave Desert Air Basin, the SSAB receives little moisture from the south and averages about 2.8 inches of rain per year.

The SSAB is currently impacted by significant air pollution levels caused by the transport of pollutants from coastal air basins, primarily consisting of ozone (O_3) and coarse particulate matter (PM_{10}). As the desert heats up, it draws cooler coastal air through the narrow San Gorgonio Pass, generating strong and sustained winds that cross erosion zones. These winds suspend and transport large quantities of sand and dust, reducing visibility, damaging property, and constituting a significant health threat.

Mojave Desert Air Basin

The Mojave Desert Air Basin (MDAB) covers a large portion of easternmost Southern California. The terrain is made up of mountain ranges interspersed with long broad valleys that often contain dry

lakes. The MDAB covers most of San Bernardino County and portions of Riverside, Los Angeles, and Kern Counties. This basin is bordered in the southwest by the San Bernardino Mountains and separated from the San Gabriel Mountains by the Cajon Pass.

Prevailing winds out of the west and southwest are due to the proximity of the MDAB to coastal and central regions and the presence of the Sierra Nevada range, a natural barrier to the north. The MDAB is separated from the Southern California coastal and Central California valley regions by mountains with passes that form the main channels for offshore air masses. Most moisture in the basin arrives from infrequent warm, moist, and unstable air masses from the south. The MDAB averages about 3.9 inches of precipitation per year.

Topography of the region affects the local meteorological conditions, with wind direction primarily from the west, west-southwest, and southwest. The "orographic effect" is responsible for a large portion of the prevailing winds in the MDAB. Because of this effect, air is forced over the mountain range and loses moisture as it rises. As it descends, it also compresses and warms. Similar to the SoCAB, pollutants in the MDAB are trapped and accumulate close to ground level through frequent temperature inversions.

Air Pollutants

The emission of air pollutants by stationary and mobile sources is regulated by federal and state law. Regulated air pollutants are known as criteria air pollutants and are categorized into primary and secondary pollutants. Primary air pollutants are those that are emitted directly from sources. Primary air pollutants consist of carbon monoxide (CO), reactive organic gases (ROG), nitrogen oxides (NO_X), sulfur dioxide (SO_2), most particulate matter (PM_{10} and $PM_{2.5}$), lead, and fugitive dust (which includes PM_{10}).

Of these, CO, SO_2, PM_{10}, and $PM_{2.5}$ are criteria pollutants. ROG and NO_X are criteria pollutant precursors and go on to form secondary criteria pollutants through chemical and photochemical reactions in the atmosphere. Ozone (O_3) and nitrogen dioxide (NO_2) are the principal secondary criteria pollutants.

Table 3.3-1 provides a description of each of the primary and secondary criteria air pollutants and their known health effects.

TABLE 3.3-1
CRITERIA AIR POLLUTANTS: COMMON SOURCES AND EFFECTS

Pollutant	Major Man-Made Sources	Human Health & Welfare Effects
Carbon Monoxide (CO)	An odorless, colorless gas formed when carbon in fuel is not burned completely; a component of motor vehicle exhaust.	Reduces the ability of blood to deliver oxygen to vital tissues, affecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.
Nitrogen Dioxide (NO_2)	A reddish-brown gas formed during fuel combustion for motor vehicles and industrial sources. Sources include motor vehicles, electric utilities, and other sources that burn fuel.	Respiratory irritant; aggravates lung and heart problems. Precursor to ozone and acid rain. Contributes to global warming and nutrient overloading which deteriorates water quality. Causes brown discoloration of the atmosphere.

Pollutant	Major Man-Made Sources	Human Health & Welfare Effects
Ozone (O_3)	Formed by a chemical reaction between volatile organic compounds (VOC) and nitrous oxides (NOx) in the presence of sunlight. VOCs are also commonly referred to as reactive organic gases (ROGs). Common sources of these precursor pollutants include motor vehicle exhaust, industrial emissions, gasoline storage and transport, solvents, paints, and landfills.	Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing, and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield. Damages rubber, some textiles and dyes.
Particulate Matter (PM_{10} & $PM_{2.5}$)	Produced by power plants, steel mills, chemical plants, unpaved roads and parking lots, wood-burning stoves and fireplaces, automobiles, and others.	Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; aggravated asthma; development of chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility (haze).
Sulfur Dioxide (SO_2)	A colorless, nonflammable gas formed when fuel containing sulfur is burned; when gasoline is extracted from oil; or when metal is extracted from ore. Examples are petroleum refineries, cement manufacturing, metal processing facilities, locomotives, and ships.	Respiratory irritant. Aggravates lung and heart problems. In the presence of moisture and oxygen, sulfur dioxide converts to sulfuric acid which can damage marble, iron and steel. Damages crops and natural vegetation. Impairs visibility. Precursor to acid rain.
Lead	Metallic element emitted from metal refineries, smelters, battery manufacturers, iron and steel producers, use of leaded fuels by racing and aircraft industries.	Anemia, high blood pressure, brain and kidney damage, neurological disorders, cancer, lowered IQ. Affects animals, plants, and aquatic ecosystems.

Source: CAPCOA 2011

O_3, PM_{10}, and $PM_{2.5}$ are the primary pollutants affecting Riverside County. Existing concentrations of these pollutants in Riverside County are summarized in **Appendix 3.0-1**.

Table 3.3-2 shows the attainment status for Riverside County. Areas with air quality that exceed adopted air quality standards are designated as nonattainment areas for the relevant air pollutants. Areas that comply with air quality standards are designated as attainment areas for the relevant air pollutants. "Unclassified" is used in areas that cannot be classified on the basis of available information as meeting or not meeting the standards. The County is nonattainment for state O_3, PM_{10}, and (for SoCAB only) $PM_{2.5}$ standards and federal O_3 and $PM_{2.5}$ standards (CARB 2013).

TABLE 3.3-2
ATTAINMENT STATUS OF CRITERIA POLLUTANTS IN RIVERSIDE COUNTY

Pollutant	State Designation	Federal Designation
O_3	***Nonattainment*** – all air basins	***Nonattainment*** – SoCAB & SSAB Unclassified/Attainment – MDAB
PM_{10}	***Nonattainment*** – all air basins	Attainment – SoCAB Unclassified – MDAB Nonattainment – SSAB
$PM_{2.5}$	***Nonattainment*** – SoCAB Attainment – SSAB Unclassified – MDAB	***Nonattainment*** – SoCAB Unclassified/Attainment – SSAB & MDAB
CO	Attainment – SoCAB & SSAB Unclassified – MDAB	Unclassified/Attainment – all air basins
NO_2	Attainment – all air basins	Unclassified/Attainment – all air basins
SO_2	Attainment – all air basins	Attainment – SoCAB Unclassified – SSAB & MDAB

Source: CARB 2013

Toxic Air Contaminants

In addition to the criteria pollutants discussed above, toxic air contaminants (TACs) are another group of pollutants of concern. TACs are considered either carcinogenic or noncarcinogenic based on the nature of the health effects associated with exposure to the pollutant. For regulatory purposes, carcinogenic TACs are assumed to have no safe threshold below which health impacts would not occur, and cancer risk is expressed as excess cancer cases per one million exposed individuals. Noncarcinogenic TACs differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

There are many different types of TACs with varying degrees of toxicity. Sources of TACs include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Public exposure to TACs can result from emissions from normal operations, as well as from accidental releases of hazardous materials during upset conditions. The health effects of TACs include cancer, birth defects, neurological damage, and death.

To date, CARB has designated nearly 200 compounds as TACs. Additionally, CARB has implemented control measures for a number of compounds that pose high risks and show potential for effective control. The majority of the estimated health risks from TACs can be attributed to a relatively few compounds, one of the most important in Southern California being particulate matter from diesel-fueled engines. Most recently, CARB identified diesel particulate matter (diesel PM) as a TAC. Diesel PM differs from other TACs in that it is not a single substance but rather a complex mixture of hundreds of substances. Diesel exhaust is a complex mixture of particles and gases produced when an engine burns diesel fuel. Diesel PM is a concern because it causes lung cancer; many compounds found in diesel exhaust are carcinogenic. Diesel PM includes the particle-phase constituents in diesel exhaust. The chemical composition and particle sizes of diesel PM vary between different engine types (heavy-duty, light-duty), engine operating conditions (idle, accelerate, decelerate), fuel formulations (high/low sulfur fuel), and the year of

the engine (EPA 2002). Some short-term (acute) effects of diesel exhaust include eye, nose, throat, and lung irritation, and diesel exhaust can cause coughs, headaches, light-headedness, and nausea. Diesel PM poses the greatest health risk among the TACs. Almost all diesel exhaust particle mass is 10 microns or less in diameter. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lung. In 2008, the SCAQMD updated the study on ambient concentrations of TACs and estimated the potential health risks from air toxics. The results showed that the overall risk for excess cancer from a lifetime exposure to ambient levels of air toxics was about 1,200 in a million. The largest contributor to this risk was diesel exhaust, accounting for 84 percent of the air toxics risk (SCAQMD 2008a).

Sensitive Receptors

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardiorespiratory diseases.

Residential areas are considered to be sensitive receptors to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. Schools are also considered sensitive receptors, as children are present for extended durations and engage in regular outdoor activities. Recreational land uses are considered moderately sensitive to air pollution. Although exposure periods are generally short, exercise places a high demand on respiratory functions, which can be impaired by air pollution. In addition, noticeable air pollution can detract from the enjoyment of recreation.

THRESHOLDS OF SIGNIFICANCE

The impact analysis is based on State CEQA Guidelines Appendix G thresholds of significance. An air quality-related impact is considered significant if implementation of the project would:

1) Conflict with or obstruct implementation of the applicable air quality plan.

2) Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

3) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).

4) Expose sensitive receptors to substantial pollutant concentrations.

5) Create objectionable odors affecting a substantial number of people.

The significance criteria established by the applicable air quality management or air pollution control district (SCAQMD or MDAQMD) may be relied upon to make the above determinations. The SCAQMD has established thresholds of significance for air quality for construction and operational activities of future subsequent land use developments, which are applicable to the proposed project, as shown in **Table 3.3-3**.

TABLE 3.3-3
SCAQMD REGIONAL SIGNIFICANCE THRESHOLDS

Air Pollutant	Construction Activities	Operations
Reactive Organic Gases (ROG)	75 pounds/day	55 pounds/day
Carbon Monoxide (CO)	550 pounds/day	550 pounds/day
Nitrogen Oxides (NO_x)	100 pounds/day	55 pounds/day
Sulfur Oxides (SO_x)	150 pounds/day	150 pounds/day
Coarse Particulates (PM_{10})	150 pounds/day	150 pounds/day
Fine Particulates ($PM_{2.5}$)	55 pounds/day	55 pounds/day

Source: SCAQMD 1993 ($PM_{2.5}$ threshold adopted June 1, 2007)

The MDAQMD's established thresholds of significance are shown in **Table 3.3-4**.

TABLE 3.3-4
MDAQMD REGIONAL SIGNIFICANCE THRESHOLDS

Air Pollutant	Construction Activities	Operations
Reactive Organic Gases (ROG)	137 pounds/day	137 pounds/day
Carbon Monoxide (CO)	548 pounds/day	548 pounds/day
Nitrogen Oxides (NO_x)	137 pounds/day	137 pounds/day
Sulfur Oxides (SO_x)	137 pounds/day	137 pounds/day
Coarse Particulates (PM_{10})	82 pounds/day	82 pounds/day
Fine Particulates ($PM_{2.5}$)	82 pounds/day	82 pounds/day

Source: MDAQMD 2009

METHODOLOGY

Air quality impacts were assessed in accordance with methodologies recommended by CARB, the SCAQMD, and the MDAQMD. Where quantification was required, emissions were modeled using the California Emissions Estimator Model (CalEEMod). The CalEEMod emissions modeling is included in **Appendix 3.0-1**. CalEEMod is a statewide land use emissions computer model designed to quantify potential criteria pollutant emissions associated with both construction and operations from a variety of land use projects.

The Housing Element update does not propose to instigate new residential development on lands under the air quality regulatory jurisdiction of the MDAQMD; therefore, MDAQMD thresholds and compliance are not addressed in the impact analysis.

IMPACT ANALYSIS

Impact Analysis 3.3.1 Subsequent land use activities associated with implementation of the proposed project could conflict with or obstruct implementation of applicable air quality management plans. This impact is considered to be **cumulatively considerable**. (Threshold 1)

As part of its enforcement responsibilities, the US Environmental Protection Agency (EPA) requires each state with nonattainment areas to prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain the federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution in nonattainment areas, using a combination of performance standards and market-based programs. Similarly, under state law, the California Clean Air Act requires an air quality attainment plan to be prepared for areas designated as nonattainment with regard to the federal and state ambient air quality standards. Air quality attainment plans, developed by state air districts including the SCAQMD and the MDAQMD, outline emissions limits and control measures to achieve and maintain these standards by the earliest practical date.

Riverside County spans three air basins: the SoCAB, SSAB, and MDAB. The portions of Riverside County in the SoCAB and the SSAB are regulated by the SCAQMD and the easternmost third of Riverside County, in the MDAB, is under the jurisdiction of the MDAQMD. The proposed project does not propose to instigate new residential development on lands under the air quality regulatory jurisdiction of the MDAQMD. Therefore, the proposed project would have no impact on the MDAQMD's 2008 Federal 8-Hour Ozone Attainment Plan, 2004 Ozone Attainment Plan, the 1991 Air Quality Attainment Plan or its 1996 Triennial Revision, or the Mojave Desert Planning Area Federal Particulate Matter Attainment Plan.

The SCAQMD has drafted the 2012 Air Quality Management Plan (2012 AQMP) in order to reduce emissions for which the SoCAB is in nonattainment, and the Coachella Valley PM_{10} State Implementation Plan (CVSIP), which establishes additional controls needed to demonstrate expeditious attainment of the PM_{10} standards in the Coachella Valley, the Riverside County portion of the SSAB. These air quality attainment plans establish a program of rules and regulations directed at reducing air pollutant emissions and achieving state and national air quality standards.

The pollutant control strategies contained in the 2012 AQMP and the CVSIP include emissions reduction strategies. These pollutant control strategies are based on the latest scientific and technical information and planning assumptions, including the planning assumptions of SCAG's latest growth forecasts (SCAQMD 2013). SCAG's latest growth forecasts were defined in consultation with local governments and with reference to local general plans. As shown in **Tables 3.13-3** and **3.13-4**, buildout capacity under both the currently adopted General Plan and the proposed project exceeds SCAG's growth forecasts. Thus, the proposed project would allow for an increase in population growth that was not considered in the 2012 AQMP or considered in the CVSIP. In addition, future development under the proposed project would result in long-term operational emissions. The site selection criteria used for changes to land use designation and zone classification included sites in or very close to existing community cores and near existing or planned freeway access and public transit opportunities, schools, and other major public services, as well as the proximity of each potential site to existing or potentially available community support factors, such as jobs. The intent was to encourage development in areas with existing services that hopefully becomes a catalyst to live and work in close proximity. Ideally, this would reduce vehicle miles traveled for employment, education, and services, which would further the goals of the AQMP. Further, the adoption of the MUA ordinance is anticipated to encourage both vertical and horizontal mixes of residential, office, and commercial land uses. Development of this type could provide owner-occupant and/or workforce housing within walking or easy transit distance to services. However, while this is the intent, it is not possible to determine if the market will respond or if residents will work and shop locally. Regardless of the planning intent, when considered collectively, the combined emissions from buildout of the proposed project could exceed significance thresholds for criteria pollutants (see **Table 3.3-5**). Exceeding these thresholds

has the potential to hinder the region's compliance with the 2012 AQMP and the CVSIP. Therefore, this impact is **cumulatively considerable** and **significant and unavoidable**.

Mitigation Measures

None feasible.

Impact Analysis 3.3.2 Subsequent land use activities associated with implementation of the proposed project could result in short-term construction emissions that could violate or substantially contribute to a violation of federal and state standards for ozone and coarse and fine particulate matter. This is considered a **cumulatively considerable** impact. (Threshold 2)

The proposed project would result in an increase in density/intensity potential on approximately 4,856 acres of land located in 10 Area Plans throughout the unincorporated County, facilitating future development of high-density residential development and mixed-use development incorporating high-density residential development. A review of **Figure 2.1-1** shows that all of the land use redesignations are proposed to occur in areas of the County under the regulatory jurisdiction of the SCAQMD in terms of air quality.

Emissions commonly associated with construction activities include fugitive dust from soil disturbance and fuel combustion from mobile heavy-duty diesel- and gasoline-powered equipment, portable auxiliary equipment, and worker commute trips. During construction, fugitive dust, the dominant source of PM_{10} and $PM_{2.5}$ emissions, is generated when wheels or blades disturb surface materials. Uncontrolled dust from construction can become a nuisance and potential health hazard to those living and working nearby. Demolition and renovation of buildings can also generate PM_{10} and $PM_{2.5}$ emissions. Off-road construction equipment is often diesel-powered and can be a substantial source of nitrogen oxide (NO_x) emissions, in addition to exhaust PM_{10} and $PM_{2.5}$ emissions. Worker commute trips and architectural coatings are dominant sources of reactive organic gas (ROG) emissions.

Quantifying the air quality pollutant emissions from future, short-term, temporary construction activities allowed under the proposed project is not possible due to project-level variability and uncertainties related to future individual projects in terms of detailed site plans, construction schedules, equipment requirements, etc., which are not currently determined. However, depending on how development proceeds, construction-generated emissions associated with development could potentially exceed SCAQMD thresholds of significance.

The SCAQMD has promulgated methodology protocols for the preparation of air quality analyses and GPA 960 Policies AQ 1.1 and AQ 1.4 (RCIP GP Policies AQ 1.1 and AQ 1.4) require both participation with the regional air districts to protect and improve air quality and coordination with regional air districts to ensure that all elements of air quality plans regarding reduction of air pollutant emissions are being enforced. For instance, the SCAQMD has adopted thresholds of significance depicting the approximate level of construction-generated emissions that would result in a potentially significant impact (i.e., violation of an ambient air quality standard) for each pollutant of concern in the SoCAB (see **Table 3.3-3**). The significance criteria established by the SCAQMD may be relied upon to make a determination of impact significance level. In addition, the SCAQMD recommends appropriate emissions modeling input parameters for the SoCAB in addition to other recommended procedures for evaluating potential air quality impacts before construction.

Projects estimated to exceed SCAQMD significance thresholds are required, per GPA 960 Policy AQ 4.7 (RCIP GP Policy AQ 4.7), to implement mitigation measures in order to reduce air pollutant emissions to the greatest extent possible. Such measures could include the requirement that all construction equipment employ the use of the most efficient diesel engines available, which are able to reduce NO_x, PM_{10}, and $PM_{2.5}$ emissions by 60–90 percent (e.g., EPA-classified Tier 3 and/or Tier 4 engines[2]) and/or that construction equipment be equipped with diesel particulate filters. Furthermore, all development projects instigated by the proposed project will be subject to SCAQMD rules and regulations adopted to reduce air pollutant emissions. For example, SCAQMD Rule 403 requires all construction activities to implement best available control measures for all pollutant sources, and all forms of visible particulate matter are prohibited from crossing any property line. Such control measures could include but are not limited to the following:

- Portions of the construction site to remain inactive longer than a period of three months will be seeded and watered until grass cover is grown or otherwise stabilized in a manner acceptable to the County.

- All on-site roads will be paved as soon as feasible or watered periodically or chemically stabilized.

- All material transported off-site will be either sufficiently watered or securely covered to prevent excessive amounts of dust.

- The area disturbed by clearing, grading, earthmoving, or excavation operations will be minimized at all times.

- Where vehicles leave the construction site and enter adjacent public streets, the streets will be swept daily or washed down at the end of the workday to remove soil tracked onto the paved surface.

- A wheel washing system will be installed and used to remove bulk material from tires and vehicle undercarriages before vehicles exit the site.

Additionally, SCAQMD Rule 402 prohibits the discharge from any source whatsoever of such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. SCAQMD Rule 1113 requires manufacturers, distributors, and end-users of architectural and industrial maintenance coatings to

[2] NOx emissions are primarily associated with use of diesel-powered construction equipment (e.g., graders, excavators, rubber-tired dozers, tractor/loader/backhoes). The Clean Air Act of 1990 directed the EPA to study, and regulate if warranted, the contribution of off-road internal combustion engines to urban air pollution. The first federal standards (Tier 1) for new off-road diesel engines were adopted in 1994 for engines over 50 horsepower and were phased in from 1996 to 2000. In 1996, a Statement of Principles pertaining to off-road diesel engines was signed between the EPA, CARB, and engine makers (including Caterpillar, Cummins, Deere, Detroit Diesel, Deutz, Isuzu, Komatsu, Kubota, Mitsubishi, Navistar, New Holland, Wis-Con, and Yanmar). On August 27, 1998, the EPA signed the final rule reflecting the provisions of the Statement of Principles. The 1998 regulation introduced Tier 1 standards for equipment under 50 horsepower and increasingly more stringent Tier 2 and Tier 3 standards for all equipment with phase-in schedules from 2000 to 2008. As a result, all off-road, diesel-fueled construction equipment manufactured in 2006 or later has been manufactured to Tier 3 standards.
On May 11, 2004, the EPA signed the final rule introducing Tier 4 emission standards, which are currently phased in over the period of 2008–2015. The Tier 4 standards require that emissions of PM and NOx be further reduced by about 90 percent. All off-road, diesel-fueled construction equipment manufactured in 2015 or later will be manufactured to Tier 4 standards.

reduce ROG emissions from the use of paint, primarily by placing limits on the ROG content of various paint-type categories.

The following mitigation measures would ensure the enforcement of the above regulations, as well as additional measures to reduce construction emissions. These mitigation measures would be required as a condition of approval for future development projects during development review process.

Mitigation Measures

MM 3.3.1 All individual, future development instigated by the Housing Element are required to prepare an analyses of potential air quality impacts in accordance with SCAQMD promulgated methodology protocols. Projects estimated to exceed SCAQMD significance thresholds are required, per GPA 960 Policy AQ 4.7 (RCIP GP Policy AQ 4.7), to implement mitigation measures in order to reduce air pollutant emissions to the greatest extent possible.

Timing/Implementation: *Prior to construction activities*

Enforcement/Monitoring: *County of Riverside*

MM 3.3.2 Implement the following applicable Rule 403 measures:

- Apply nontoxic chemical soil stabilizers according to manufacturer specifications to all inactive construction areas (previously graded areas inactive for 10 days or more).
- Water active sites at least twice daily. (Locations where grading is to occur will be thoroughly watered prior to earthmoving.)
- All trucks hauling dirt, sand, soil, or other loose materials are to be covered, or should maintain at least 2 feet of freeboard in accordance with the requirements of California Vehicle Code Section 23114 (freeboard means vertical space between the top of the load and top of the trailer).
- Pave construction access roads at least 100 feet onto the site from main road.
- Traffic speeds on all unpaved roads shall be reduced to 15 mph or less.

Timing/Implementation: *During construction activities*

Enforcement/Monitoring: *County of Riverside*

MM 3.3.3 Implement the following additional SCAQMD CEQA Air Quality Handbook dust measures:

- Revegetate disturbed areas as quickly as possible.
- All excavating and grading operations shall be suspended when wind speeds (as instantaneous gusts) exceed 25 mph.
- All streets shall be swept once a day if visible soil materials are carried to adjacent streets (recommend water sweepers with reclaimed water).

- Install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash trucks and any equipment leaving the site each trip.

Timing/Implementation: *During construction activities*

Enforcement/Monitoring: *County of Riverside*

MM 3.3.4 Implement the following mitigation measures for construction equipment and vehicles exhaust emissions:

- The construction contractor shall select the construction equipment used on-site based on low emission factors and high energy efficiency.

- The construction contractor shall ensure that construction grading plans include a statement that all construction equipment will be tuned and maintained in accordance with the manufacturer specifications.

- The construction contractor shall utilize electric- or diesel-powered equipment, in lieu of gasoline-powered engines, where feasible.

- The construction contractor shall ensure that construction grading plans include a statement that work crews will shut off equipment when not in use. During smog season (May through October), the overall length of the construction period will be extended, thereby decreasing the size of the area prepared each day, to minimize vehicles and equipment operating at the same time.

- The construction contractor shall time the construction activities so as to not interfere with peak hour traffic and minimize obstruction of through traffic lanes adjacent to the site; if necessary, a flag person shall be retained to maintain safety adjacent to existing roadways.

- The construction contractor shall support and encourage ridesharing and transit incentives for the construction crew.

- Dust generated by the development activities shall be retained on-site and kept to a minimum by following the dust control measures listed below.

    a. During clearing, grading, earthmoving, excavation, or transportation of cut or fill materials, water trucks or sprinkler systems shall be used to prevent dust from leaving the site and to create a crust after each day's activities cease.

    b. During construction, water trucks or sprinkler systems shall be used to keep all areas of vehicle movement damp enough to prevent dust from leaving the site. At a minimum, this would include wetting down such areas in the late morning, after work is completed for the day and whenever wind exceeds 15 miles per hour.

    c. Immediately after clearing, grading, earthmoving, or excavation is completed, the entire area of disturbed soil shall be treated until the area is paved or otherwise developed so that dust generation will not occur.

d. Soil stockpiled for more than two days shall be covered, kept moist, or treated with soil binders to prevent dust generation.

e. Trucks transporting soil, sand, cut or fill materials and/or construction debris to or from the site shall be tarped from the point of origin.

Timing/Implementation: *During construction activities*

Enforcement/Monitoring: *County of Riverside*

MM 3.3.5 The construction contractor shall ensure that all disturbed areas and stock piles are watered at least three times per day or soil stabilizers are applied as necessary to prevent visible dust plumes from these areas. Stock piles not in use may be covered with a tarp to eliminate the need for watering or other stabilizers.

Timing/Implementation: *During construction activities*

Enforcement/Monitoring: *County of Riverside*

MM 3.3.6 All construction equipment shall have EPA-rated engines of Tier 3 or better.

Timing/Implementation: *During construction activities*

Enforcement/Monitoring: *County of Riverside*

MM 3.3.7 As soon as electric utilities are available at construction sites, the construction site shall be supplied with electricity from the local utility and all equipment that can be electrically operated shall use the electric utility rather than portable generators.

Timing/Implementation: *During construction activities*

Enforcement/Monitoring: *County of Riverside*

As previously mentioned, the quantification of air quality emissions from short-term, temporary construction activities associated with the proposed project update is not possible due to project-level variability and uncertainties related to future individual projects in terms of detailed site plans, construction schedules, equipment requirements, etc. However, all construction projects can produce ozone precursors and nuisance dust emissions. Therefore, future project-level analyses of air quality impacts, as required by mitigation measure MM 3.3.1, would be conducted on a case-by-case basis as individual, future development projects allowed under the Housing Element proceed. While the SCAQMD has promulgated methodology protocols for the preparation of air quality analyses, and future development projects allowed under the Housing Element that are projected to exceed SCAQMD significance thresholds are required to implement the above mitigation measures in order to reduce air pollutant emissions as much as feasible, SCAQMD significance thresholds may still be exceeded during project construction. Since it cannot be guaranteed that construction of future projects allowed under the Housing Element would generate air pollutant emissions below SCAQMD significance thresholds due to the programmatic and conceptual nature of the proposed project and uncertainties related to future individual projects, this is considered a **cumulatively considerable** and **significant and unavoidable** impact.

Impact Analysis 3.3.3 Subsequent land use activities associated with implementation of the proposed project could result in long-term operational emissions that could violate or substantially contribute to a violation of federal and state standards for ozone and coarse and fine particulate matter. This is considered a **cumulatively considerable** impact. (Threshold 2)

A review of **Figure 2.1-1** shows that all of the land use redesignations are proposed to occur in areas of the County under the regulatory jurisdiction of the SCAQMD in terms of air quality. **Table 3.3-5** summarizes the emissions associated with the complete buildout of the proposed project. At buildout, the proposed project would result in a maximum net increase of approximately 2,667 pounds per day (lbs/day) of ROG, 2,455 lbs/day of NO_x, 2,181 lbs/day of PM_{10}, and 705 lbs/day of $PM_{2.5}$. It is important to note that these estimates reflect combined emissions from all the potential residential units allowed under the proposed land use changes in the Housing Element and do not reflect emissions attributable to individual projects, as none are currently proposed. However, the proposed project does not include any provisions which require that its growth potential be attained. Not all of the identified land will be available for development at any given time based on site readiness, environmental constraints, market changes, and other factors. This impact analysis assumes the "worst-case" potential under the proposed project in order to present the maximum amount of pollutant emissions possible and thus a conservative analysis.

TABLE 3.3-5
CRITERIA POLLUTANT AND PRECURSOR EMISSIONS (HOUSING ELEMENT BUILDOUT)

Source	ROG	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Housing Element Buildout Conditions (Summer) – Pounds per Day						
Area Sources	1,837	67	5,805	0	117	116
Energy Sources	25	212	90	1	17	17
Mobile Sources[1]	784	2,070	8,994	30	2,047	572
Total	***2,646***	***2,349***	***14,889***	***31***	***2,181***	***705***
Potentially Significant Impact Threshold	55	55	550	150	150	55
Exceed Threshold?	**Yes**	**Yes**	**Yes**	**No**	**Yes**	**Yes**
Housing Element Buildout Conditions (Winter) – Pounds per Day						
Area Sources	1,837	67	5,805	0	117	116
Energy Sources	25	212	90	1	17	17
Mobile Sources[1]	805	2,176	8,860	29	2,047	572
Total	***2,667***	***2,455***	***14,755***	***30***	***2,181***	***705***
Potentially Significant Impact Threshold	55	55	550	150	150	55
Exceed Threshold?	**Yes**	**Yes**	**Yes**	**No**	**Yes**	**Yes**
Housing Element Buildout Conditions (Annual) – Tons per Year[2]						
Area Sources	304	8	725	0	5	5
Energy Sources	5	39	16	0	3	3
Mobile Sources[1]	139	404	1,628	5	366	103
Total	***448***	***451***	***2,369***	***5***	***374***	***111***

*Source: CalEEMod 2013.2.2 (see **Appendix 3.0-1**).*

1. Emission projections account for the trip generation rates identified in the transportation impact assessment prepared for the project, which estimates 277,025 average daily trips at Housing Element buildout.

2. There are no annual significance thresholds. Projected annual emission in tons per day provided for the purposes of disclosure only.

As shown in the table, buildout of the proposed project, assuming the most conservative land use potential and the construction and operation of every potential site, would result in emissions in excess of SCAQMD thresholds for criteria air pollutants and precursors. As previously discussed, the proposed project assumes a growth rate of approximately 31 percent annually through 2021 while the average growth rate in the unincorporated County has historically been closer to 3 percent annually. It is not the intent of the proposed project to generate the full buildout population within the planning cycle, but to provide the capacity (i.e., land use designation and zoning) for the housing market to adequately address housing needs for all income groups and to direct that capacity where planned growth is best suited to occur. Similarly, the cumulative project-related emissions assumed herein are unlikely to occur. Project-level analyses of air quality impacts, in accordance with GPA 960 Policies AQ 1.1 and AQ 1.4 (RCIP GP Policies AQ 1.1 and AQ 1.4), as well as mitigation measure **MM 3.3.1**, would be conducted for individual project proposals on a case-by-case basis as future development allowed by the Housing Element update proceeds. As previously described, the SCAQMD has promulgated methodology protocols for the preparation of air quality analyses. For instance, the SCAQMD has adopted thresholds which define the approximate level of operational emissions that would result in a potentially significant impact (i.e., violation of an ambient air quality standard) for each pollutant of concern (see **Table 3.3-3**).

The Riverside County General Plan includes a number of policies and actions that would reduce the potential impacts associated with long-term operational emissions. For instance, GPA 960 Policy AQ 4.7 (RCIP GP Policy AQ 4.7) requires the implementation of mitigation measures for all projects which exceed allowable emissions as established by air districts in order to reduce air pollutant emissions to the greatest extent possible. The General Plan includes air quality-related policy provisions that promote a reduction in air pollutant emissions by shortening commute distances and encouraging the use of alternate modes of transportation, and promote the use of renewable energy sources such as geothermal for heating. The General Plan also includes strategies to establish a transit-supportive environment by improving connections between stations and adjacent destinations, densifying and intensifying land uses at key locations in the County, and enhancing the physical design of the urban environment. The proposed project sites were chosen specifically to implement the strategies in the General Plan that encourage intensification of land use near existing services.

Riverside County Ordinances No. 706, 726, 782, and 824 are detailed in Section 2.3, Regulatory Framework, and future development allowed under the Housing Element would be required to adhere to them. These ordinances minimize impacts to air quality through the reduction of motor vehicle emissions by reducing vehicle miles traveled and vehicle idling times and by increasing vehicle fuel efficiencies. In addition, the following mitigation would be required.

Mitigation Measures

MM 3.3.8 All new development shall ensure that all interior and exterior architectural coatings used are low in reactive organic gases.

Timing/Implementation: *Prior to project approval*

Enforcement/Monitoring: *County of Riverside*

MM 3.3.9 If hearths are included in new residential developments, they shall be energy-efficient natural gas appliances. No wood-burning hearths or stoves shall be permitted in new residential developments.

Timing/Implementation: *Prior to project approval*

Enforcement/Monitoring: *County of Riverside*

Nonetheless, significance thresholds may still be exceeded during individual project operations. As shown in **Table 3.3-5**, significance thresholds are projected to be exceeded when considering the cumulative emissions resulting from buildout of the proposed project. This is considered a **cumulatively considerable** and **significant and unavoidable** impact.

Refer to **Impact Analysis 3.3.5** for an expanded analysis of the potential to expose sensitive receptors to substantial pollutant concentrations.

Impact Analysis 3.3.4 The project would be considered to have a cumulatively considerable impact if implementation of the proposed project, in combination with existing, approved, proposed, and reasonably foreseeable development in the South Coast Air Basin, could significantly contribute to cumulative increases in emissions of criteria air pollutants that could contribute to future concentrations of pollutants for which the region is currently designated nonattainment. The impact would be considered **cumulatively considerable.** (Threshold 3)

By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size, by itself, to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's individual emissions exceed its identified significance thresholds, the project would be cumulatively considerable. Projects that do not exceed significance thresholds would not be considered cumulatively considerable. As discussed previously, the proposed project could result in significance thresholds being exceeded when considering the cumulative emissions resulting from buildout of the proposed project. The County implements General Plan policies such as AQ 4.7 and Ordinances No. 706, 726, 782, and 824 as discussed above. Future development allowed under the Housing Element would be required to adhere to these regulatory measures intended to minimize impacts to air quality. Even so, future development under the project could exceed that which is anticipated in the General Plan and analyzed in EIR No. 521 or EIR No. 441. As such, impacts would be **cumulatively considerable** and **significant and unavoidable**.

Mitigation Measures

None feasible.

Impact Analysis 3.3.5 The proposed project would be considered to have a significant impact if future development could result in exposure of sensitive receptors to substantial toxic emissions. This impact is **less than cumulatively considerable**. (Threshold 4)

As previously stated, the proposed project would result in an increase in density/intensity potential on approximately 4,856 acres of land located in 10 Area Plans throughout the unincorporated County, facilitating future development of high-density residential development and mixed-use development incorporating high-density residential development. This development could potentially include short-term construction sources and long-term operational sources of TACs, including stationary and mobile sources.

Short-Term Construction Sources

Construction of future residential development would result in short-term emissions of diesel particulate matter, which CARB has identified as a TAC. Construction would result in the generation of diesel PM emissions from the use of off-road diesel equipment required for site grading and excavation, paving, and other construction activities. The amount to which the receptors are exposed (a function of concentration and duration of exposure) is the primary factor used to determine health risk (i.e., potential exposure to TAC emission levels that exceed applicable standards). Health-related risks associated with diesel-exhaust emissions are primarily linked to long-term exposure and the associated risk of contracting cancer. The calculation of cancer risk associated with exposure to TACs is typically based on a 70-year consistent period of exposure. The use of diesel-powered construction equipment, however, would be temporary and episodic and would occur over a relatively large area. For these reasons, diesel PM generated by construction activities, in and of itself, would not be expected to create conditions where the probability of contracting cancer is greater than 10 in 1 million for nearby receptors.

A review of **Figure 2.1-1** shows that all of the land use redesignations are proposed to occur in areas of the County under the regulatory jurisdiction of the SCAQMD in terms of air quality. Construction emissions are regulated by the SCAQMD, which has developed localized significance thresholds (LSTs) for several emissions generated at construction sites, including $PM_{2.5}$, which is produced when diesel fuel is burned. LSTs represent the maximum emissions at a construction site that are not expected to cause or contribute to an exceedance of the most stringent national or state ambient air quality standards. LSTs are based on the ambient concentrations of that pollutant within the project source receptor area, as demarcated by the SCAQMD, and the distance to the nearest sensitive receptor. Future construction activities under the proposed project would be required to meet SCAQMD thresholds or to implement mitigation in compliance with GPA 960 Policy AQ 4.7 (RCIP GP Policy AQ 4.7), which states that to the greatest extent possible, every project is required to mitigate any of its anticipated emissions that exceed allowable emission thresholds. Examples of feasible mitigation to address short-term construction sources of TACs include but are not limited to the requirement to keep all construction equipment in proper tune in accordance with manufacturer specifications, the use of late-model, heavy-duty, diesel-powered equipment during construction to the extent that it is readily available, the use of diesel-powered equipment that has been retrofitted with after-treatment products (e.g., engine catalysts), and the use of alternative-fuel construction equipment (i.e., compressed natural gas, liquid petroleum gas, and unleaded gasoline) to the extent that the equipment is readily available. Other examples include limiting the amount of acreage to be graded in a single day, restricting intensive equipment usage and intensive ground disturbance to hours outside of hours typically spent at home, and notifying affected sensitive receptors prior to commencing on-site construction so that any necessary precautions (such as rescheduling or relocating outdoor activities) can be implemented.

Future development-related analyses of air quality impacts, in accordance with GPA 960 Policies AQ 1.1 and AQ 1.4 (RCIP GP Policies AQ 1.1 and AQ 1.4), as well as mitigation measure **MM 3.3.1**, would be required to be conducted on a case-by-case basis as individual, future residential development projects allowed under the Housing Element proceed. At the time of specific environmental review, a site-specific air toxics pollutant analysis would be conducted in accordance with the SCAQMD (2008b) Final Localized Significance Threshold Methodology for construction activities. If SCAQMD screening thresholds would be exceeded, air toxic reduction measures are identified in order to reduce potential impacts to a level that is less than significant. If emissions remain in excess of SCAQMD localized significance screening thresholds despite the imposition of air toxic reduction measures, project-specific construction-related dispersion modeling acceptable to the SCAQMD is then used to identify potential impacts from TACs,

including diesel particulate matter. If SCAQMD risk thresholds are found to be exceeded with dispersion modeling software, additional, quantifiable pollutant reduction measures must be identified in the air toxics analysis to address potential impacts, based on site-specific information such as the distance to the nearest sensitive receptors, project site plan details, and construction schedule. The County ensures that construction contracts include all identified measures and that the measures reduce the health risk below SCAQMD risk thresholds.

Long-Term Operational Sources

Stationary TAC Sources

Portions of the area affected by the proposed project are considered more sensitive to air pollution than others because of the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardiorespiratory diseases. The proposed project allows development that would be considered sensitive since residential land uses are those allowed under the Housing Element; therefore, future sensitive receptors could potentially be exposed to TAC emissions from stationary sources, depending on location. The degree of impact would depend on the type of operation, distance from sensitive receptors, and the level of activity at each site.

Riverside County GPA 960 Policy AQ 2.2 (RCIP GP Policy AQ 2.2) requires site plan designs to protect people and land uses sensitive to air pollution through the use of barriers and/or distance from emissions sources when possible. Similarly, Policy AQ 4.5 requires stationary pollution sources to minimize the release of toxic pollutants through design features, operating procedures, preventive maintenance, operator training, and emergency response planning. GPA 960 Policy AQ 4.6 (RCIP GP Policy AQ 4.6) requires stationary air pollution sources to comply with applicable air district rules and control measures.

Stationary sources are regulated by SCAQMD Rule 1401, which provides for the review of TAC emissions in order to evaluate potential public exposure and health risk, to mitigate potentially significant health risks resulting from these exposures, and to provide net health risk benefits by improving the level of control when existing sources are modified or replaced. Pursuant to SCAQMD Rule 1401, stationary sources having the potential to emit TACs are required to obtain permits from the SCAQMD. Permits may be granted to these operations provided they are operated in accordance with applicable SCAQMD rules and regulations. The issuance of SCAQMD air quality permits and compliance with all SCAQMD, state, and federal regulations regarding stationary TACs reduce potential stationary sources of TAC emissions such that sensitive receptors would not be exposed to substantial air pollutant concentrations. The SCAQMD limits public exposure to TACs through a number of programs, and reviews the potential for TAC emissions from new and modified stationary sources through the SCAQMD permitting process for stationary sources. TAC emissions from existing stationary sources are limited by:

- SCAQMD Rule 1401, which requires that construction or reconstruction of a major stationary source emitting hazardous air pollutants listed in Section 112(b) of the Clean Air Act be constructed with best available control technology and comply with all other applicable requirements.

- Implementation of the Air Toxics "Hot Spot" (AB 2588) program.

- Implementation of the federal Title III Toxics program.

Facilities and equipment that require permits from the SCAQMD are screened from risks from toxic emissions and can be required to install Toxic Best Available Control Technology (T-BACT) to reduce the risks to below significant if deemed necessary by the SCAQMD. T-BACTs are the most up-to-date methods, systems, techniques, and production processes available to achieve the greatest feasible emission reductions for TACs.

In addition, the following mitigation would be required.

Mitigation Measures

MM 3.3.10 New developments shall include the following requirements to reduce emissions associated with toxic air contaminants (TACs):

a. Electrical outlets shall be included in the building design of any loading docks to allow use by refrigerated delivery trucks. Signage shall also be installed, instructing commercial vehicles to limit idling times to five minutes or less. If loading and/or unloading of perishable goods would occur for more than five minutes and continual refrigeration is required, all refrigerated delivery trucks shall use the electrical outlets to continue powering the truck refrigeration units when the delivery truck engine is turned off.

b. Electrical outlets shall be installed on the exterior of new structures for use with electrical landscaping equipment. Further, the property owner(s) shall ensure that the hired landscape companies use electric-powered equipment where available to a minimum of 20 percent of the equipment used.

Timing/Implementation: *Prior to project approval*

Enforcement/Monitoring: *County of Riverside*

MM 3.3.11 The County of Riverside shall require minimum distances between potentially incompatible land uses, as described below, unless a project-specific evaluation of human health risks defines, quantifies, and reduces the potential incremental health risks through site design or the implementation of additional reduction measures to levels below applicable standards (e.g., standards recommended or required by CARB, SCAQMD or MDAQMD).

SCAQMD Jurisdiction:

a. Proposed dry cleaners and film processing services that use perchloroethylene must be sited at least 500 feet from existing sensitive land uses including residential, schools, day care facilities, congregate care facilities, hospitals, or other places of long-term residency for people.

b. Proposed auto body repair services shall be sited at least 500 feet from existing sensitive land uses.

c. Proposed gasoline dispensing stations with an annual throughput of less than 3.6 million gallons shall be sited at least 50 feet from existing sensitive land uses. Proposed gasoline dispensing stations with an annual throughput at or above 3.6 million gallons shall be sited at least 300 feet from existing sensitive land uses.

d. Other proposed sources of TACs, including furniture manufacturing and repair services that use methylene chloride or other solvents identified as a TAC, shall be sited at least 300 feet from existing sensitive land uses.

e. Proposed sensitive land uses shall be sited at least 500 feet from existing freeways, major urban roadways with 100,000 vehicles per day or more, and major rural roadways with 50,000 vehicles per day or more.

f. Proposed sensitive land uses shall be sited at least 500 feet from existing dry cleaners and film processing services that use perchloroethylene.

g. Proposed sensitive land uses shall be sited at least 500 feet from existing auto body repair services.

h. Proposed sensitive land uses shall be sited at least 50 feet from existing gasoline dispensing stations with an annual throughput of less than 3.6 million gallons and 300 feet from existing gasoline dispensing stations with an annual throughput at or above 3.6 million gallons.

i. Proposed sensitive land uses shall be sited at least 300 feet from existing land uses that use methylene chloride or other solvents identified as a TAC.

MDAQMD Jurisdiction:

a. Proposed industrial projects must be sited at least 1,000 feet from existing sensitive land uses.

b. Proposed distribution centers with 40 or more trucks per day shall be sited at least 1,000 feet from existing sensitive land uses.

c. Proposed dry cleaners using perchloroethylene shall be sited at least 500 feet from existing sensitive land uses.

d. Proposed gasoline dispensing facilities shall be sited at least 300 feet from existing sensitive land uses.

e. Proposed sensitive land uses shall be sited at least 500 feet from existing freeways, major urban roadways with 100,000 vehicles per day or more, and major rural roadways with 50,000 vehicles per day or more.

f. Proposed sensitive land uses shall be sited at least 1,000 feet from existing industrial facilities or distribution centers with more than 40 trucks per day.

g. Proposed sensitive land uses shall be sited at least 500 feet from existing dry cleaners using perchloroethylene.

h. Proposed sensitive land uses shall be sited at least 300 feet from existing gasoline dispensing stations.

Timing/Implementation: *Prior to project approval*

Enforcement/Monitoring: *County of Riverside*

SCAQMD Rule 1401 and adherence to mitigation measures **MM 3.3.10** and **MM 3.3.11** would ensure that future sensitive receptors allowed under the proposed project will not be exposed to substantial concentrations of air toxics. Therefore, future sensitive receptors at the site would be exposed to insubstantial amounts of TAC concentrations from stationary sources.

Mobile TAC Sources

In April 2005, CARB released the *Air Quality and Land Use Handbook: A Community Health Perspective*, which offers guidance on siting sensitive land uses in proximity to sources of air toxics. Sensitive land uses identified in the handbook include residential communities, schools and schoolyards, day care centers, parks and playgrounds, hospitals, and medical facilities. In terms of mobile source emissions of TACs, CARB has provided guidelines to help determine appropriate land uses near heavily traveled roadways. Of pertinence to this study, the CARB guidelines indicate that siting new sensitive land uses within 500 feet of a freeway, such as Interstate 15 for instance, should be avoided when possible. This 500-foot buffer was developed to protect sensitive receptors from exposure to diesel PM and was based on traffic-related studies that showed a 70 percent drop in PM concentrations at a distance of 500 feet from the roadway. Presumably, acute and chronic risks as well as lifetime cancer risk due to diesel PM exposure are lowered proportionately.

As previously stated, mitigation measure **MM 3.3.11** requires minimum distances between potentially incompatible land uses unless a project-specific evaluation of human health risks defines, quantifies, and reduces the potential incremental health risks through site design or the implementation of additional reduction measures to levels below applicable standards. This measure includes the requirement that proposed sensitive land uses, such as those allowed under the proposed project, be sited at least 500 feet from existing freeways, major urban roadways with 100,000 vehicles per day or more, and major rural roadways with 50,000 vehicles per day or more. Adherence to mitigation measure **MM 3.3.11** would ensure that future sensitive receptors allowed under the proposed project will not be exposed to substantial concentrations of air toxics from mobile sources.

Future analyses of air quality impacts, in accordance with GPA 960 Policies AQ 1.1 and AQ 1.4 (RCIP GP Policies AQ 1.1 and AQ 1.4), as well as mitigation measure **MM 3.3.1**, would be required to be conducted on a case-by-case basis as individual, future residential development projects allowed under the Housing Element proceed. Mitigation measure **MM 3.3.11** requires minimum distances between potentially incompatible land uses unless a project-specific evaluation of human health risks defines, quantifies, and reduces the potential incremental health risks through site design or the implementation of additional reduction measures to levels below applicable standards. These measures preclude future development that cannot be mitigated to levels below SCAQMD risk thresholds. As a result, this impact would be reduced to a **less than cumulatively considerable** level.

Impact Analysis 3.3.6 Future development facilitated by the project could result in exposure of sensitive receptors to substantial odorous emissions. This impact is **potentially cumulatively considerable**. (Threshold 5)

Subsequent land use activities associated with implementation of the proposed project may allow the construction of sensitive land uses near existing or future sources of odorous emissions. Future development in the vicinity of existing agricultural uses could expose future residents to agricultural odors such as manures or fertilizers. While agricultural odors typically do not pose a health risk, they can still be strong enough to prove a nuisance. This impact is **potentially cumulatively considerable**.

GPA 960 Policies AQ 2.1 through 2.4 (RCIP GP Policies AQ 2.1 through 2.4) reduce potential odor impacts by requiring site design considerations in new development, including barriers between sources and receptors. In addition, the following mitigation measures would be required as a condition of approval in future development, as applicable.

Mitigation Measures

MM 3.3.12 Locate potential new odor sources predominantly down- or cross-wind from existing sensitive receptors and potential new sensitive receptors predominantly upwind from existing odor sources. As indicated by the Right-to-Farm ordinance, agricultural uses that have been operated for more than three years cannot be reclassified as a public or private nuisance by new development.

Timing/Implementation: *Prior to project approval*

Enforcement/Monitoring: *County of Riverside*

MM 3.3.13 Maintain an adequate buffer between potential new odor sources and receptors such that emitted odors are dissipated before reaching the receptors (minimum of 500 feet depending on odor source). As indicated by the Right-to-Farm ordinance, agricultural uses that have been operated for more than three years cannot be reclassified as a public or private nuisance by new development.

Timing/Implementation: *Prior to project approval*

Enforcement/Monitoring: *County of Riverside*

Construction activities associated with future development could generate airborne odors as a result of operation of construction vehicles (i.e., diesel exhaust), paving with hot asphalt, and the application of architectural coatings. Because of the volatile nature of odor compounds, they either react quickly in the atmosphere or are diluted as they are carried away from the odor source. Therefore, construction odors are generally isolated and limited to the duration of construction and its immediate site vicinity. As such, they would not affect a substantial number of people, as impacts related to these odors are limited to the number of people living and working near the source.

Compliance with existing County policies and mitigation measures **MM 3.3.12** and **MM 3.3.13**, which require that potential new sensitive receptors be located predominantly upwind from existing odor sources as well as buffering of odor sources and receptors, would ensure that future development resulting from the proposed project would not result in exposure of sensitive receptors to substantial odorous emissions. As a result, this impact would be reduced to a **less than cumulatively considerable** level**.**

3.4 BIOLOGICAL RESOURCES

SETTING

Natural Communities

Riverside County is made up of a mosaic of diverse natural communities. The natural communities contained in each biological study area are described below.

Western Riverside County Biological Study Area

Western Riverside County is defined as the region covered by the Western Riverside County Multi-Species Habitat Conservation Plan (WRC-MSHCP). This portion of Riverside County encompasses approximately 1.26 million acres and contains most of the County's nondesert areas and most of its urbanized areas (see **Figure 3.4-1**). Although it comprises just under one-third of the County area, it accounts for approximately two-thirds of the developed area and approximately 80 percent of the Countywide population; approximately 920,730 acres are under Riverside County's jurisdiction (County of Riverside 2015). The rest are under the jurisdiction of cities, the state, or the federal government (i.e., National Forest, BLM lands), Indian tribes, and other such entities.

Prior to modern urban development, most of western Riverside County was covered by chaparral and coastal sage scrub, with coniferous and oak woodlands at higher elevations. Elevations in western Riverside County range from about 755 feet above mean sea level along the Santa Ana River in the northwestern corner to about 10,800 feet at Mount San Jacinto, the highest point in the County. This variation in topography, soil, and climate creates habitats for a wide variety of animals and plants, including many that are rare or endemic to Southern California.

Natural communities, also referred to as vegetation communities, found in western Riverside County include:

- Agricultural lands
- Chaparral communities
- Coastal sage scrub communities
- Desert scrub communities
- Developed or disturbed land
- Grassland communities
- Meadow and marsh communities
- Cismontane alkali marsh communities
- Montane coniferous forest communities
- Playa and vernal pool communities
- Riparian forest/woodland/scrub communities
- Riversidean alluvial fan sage scrub communities
- Water
- Woodland and forest communities

Coachella Valley Biological Study Area

Coachella Valley is defined as the region covered by the Coachella Valley Multi-Species Habitat Conservation Plan (CV-MSHCP). This area encompasses approximately 1.21 million acres and includes the Coachella Valley and the surrounding mountains up to the ridgelines (see **Figure 3.4-1**). The Coachella Valley is located in the central portion of Riverside County and extends from

Cabazon in the northwest to the ridgeline of the Little San Bernardino Mountains and San Bernardino County boundary to the northeast. Coachella Valley proper is a broad, low-elevation, northwest–southeast-trending valley located along the westernmost edge of the Sonoran Desert. For most of its length, the western boundary of the CV-MSHCP is coterminous with the eastern boundary of the WRC-MSHCP. However, there is a gap of approximately 60,300 acres between the two habitat conservation plans located near the San Diego border, south of State Route (SR) 74 and west of the Santa Rosa Mountains (County of Riverside 2015).

The desert floor of the Coachella Valley ranges in elevation from more than 150 feet below sea level at the southeast end to nearly 2,000 feet at the northwest end of the valley on the alluvial fans. The mountains surrounding the valley range in elevation up to 10,800 feet at Mount San Jacinto, with elevations on the southern side of the valley substantially higher than those on the north. This range of elevations and accompanying differences in temperature, precipitation, and other environmental variables are significant factors contributing to the area's high biological diversity. Many canyons in the mountains support riparian areas not typical of a desert environment. Streams and seeps also support many desert fan palm oases, especially in the Santa Rosa Mountains. Desert dry wash woodlands occur where the water drains into the sands. The alluvial fans associated with the canyon mouths provide still another major land form and distinctive biological community. Also contributing to the region's biological diversity are the strong winds that funnel through the San Gorgonio Pass from the west that pass through areas of sand deposition from the San Gorgonio and Whitewater Rivers, creating an aeolian dune system. Historically, this dune system occupied much of the center of the valley.

Natural communities found in the Coachella Valley include:

- Chaparral communities
- Desert and alkali scrub communities
- Desert scrub communities
- Dry wash woodland and mesquite communities

Non-Multi Species Habitat Conservation Plan Areas

The portions of Riverside County encompassed by areas not covered by either the WRC-MSHCP or the CV-MSHCP—collectively, the non-MSHCP area—include the easternmost third of the County east of the CV-MSHCP area, which stretches to the Arizona border. It also includes an area in the south-central portion of the County between the two MSHCP coverage areas bordered by San Diego County, roughly near the Anza-Borego area. The entire eastern portion of the non-MSHCP area is part of the Sonoran Desert and is covered by desert scrub and woodlands/forests at higher elevations in the desert mountains. Other desert communities occur on the flatland. Elevation in the eastern Riverside County portion ranges from about 230 feet below mean sea level at the Salton Sea to about 8,320 feet in the mountains. The south-central portion of the non-MSHCP area is characterized by mainly scrub and chaparral vegetation communities. In total, the non-MSHCP area encompasses nearly 2.2 million acres: approximately 60,330 acres for the smaller south-central area, with the remainder in the far eastern portion.

Natural communities found in the non-MSHCP area include:

- Agriculture
- Mojavean and Sonoran desert scrub communities

- Chaparral communities
- Coniferous woodland/forest communities
- Desert dune communities
- Alkali playa communities
- Riparian and bottomland communities
- Urban and disturbed lands

A comparison of **Figure 2.1-1** and **Figure 3.4-1** appears to show that none of the residential development allowed under the proposed project would occur in the non-MSHCP areas of the County.

Sensitive Natural Communities

The California Department of Fish and Wildlife (CDFW), through the California Natural Diversity Database (CNDDB), tracks the occurrence of natural communities which it considers to be the most sensitive in California. These habitats are subsets occurring in the major natural communities described above. There are 18 sensitive natural communities in the western Riverside County Biological Study Area, 25 sensitive natural communities in the Coachella Valley Biological Study Area, and 8 in the non-MSHCP area (County of Riverside 2015).

Candidate, Sensitive, and Special-Status Species

Approximately 349 species in Riverside County are considered candidate, sensitive, or special-status species under the federal Endangered Species Act (ESA), the California Endangered Species Act (CESA), or the California Native Plant Protection Act or by the CDFW. These include species that are listed as endangered or threatened under the ESA, species proposed or candidates for such listing, and species that are listed as endangered, threatened, or rare under the CESA or that have been petitioned (i.e., are candidates) for listing. Of these species, 146 are covered by the WRC-MSHCP and 27 are covered by the CV-MSHCP (County of Riverside 2015).

THRESHOLDS OF SIGNIFICANCE

The impact analysis provided below is based on the State CEQA Guidelines Appendix G thresholds of significance. A biological resources–related impact is considered significant if implementation of the project would:

1) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies or regulations, or by the CDFW or the US Fish and Wildlife Service (USFWS).

2) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFW or USFWS.

3) Have a substantial adverse effect on federally protected wetlands, as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal wetlands, etc.), through direct removal, filling, hydrological interruption, or other means.

4) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

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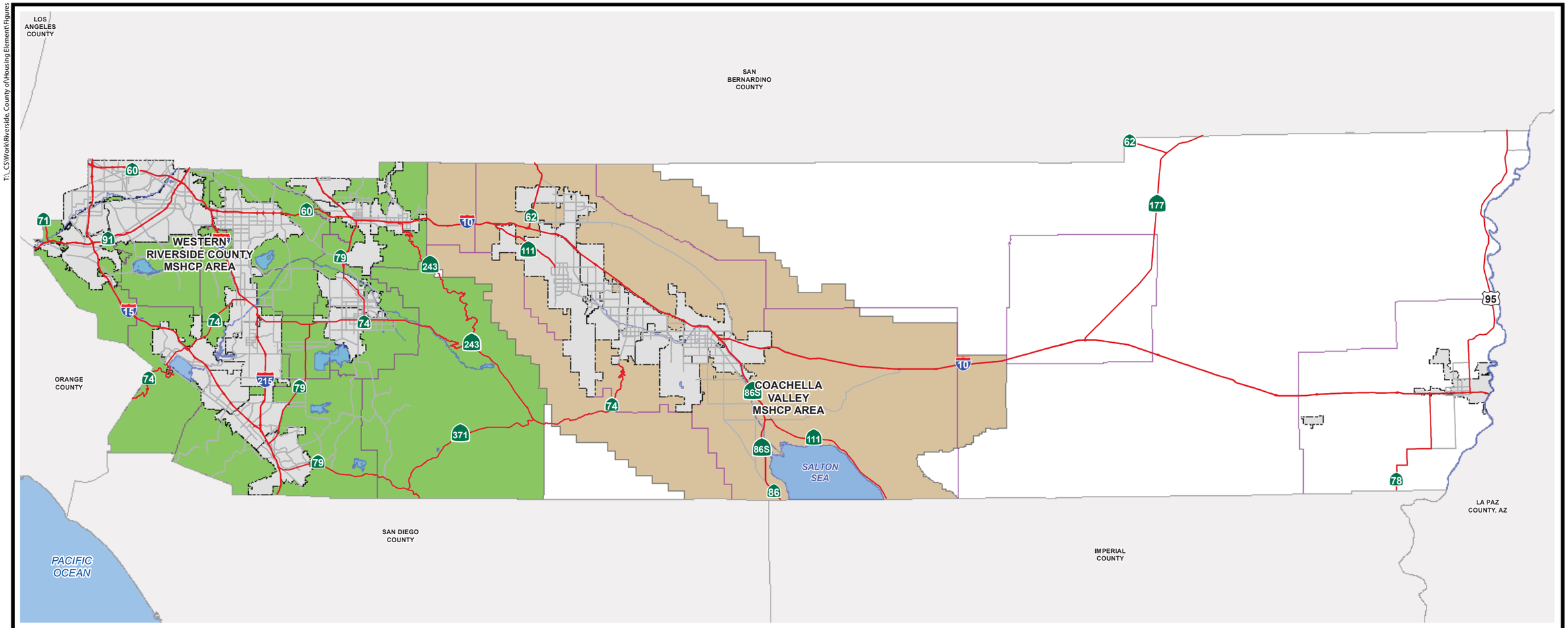

Non-MSHCP Areas
Coachella Valley MSHCP Area
Western Riverside MSHCP Area
Highways
Area Plan Boundary
City Boundary
Waterbodies

Source: Riverside County 2015

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MILES

Figure 3.4-1
County Multi Species Habitat Conservation Plan Areas

Michael Baker INTERNATIONAL

5) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

6) Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

State CEQA Guidelines Section 15380 further provides that a plant or wildlife species may be treated as "rare or endangered" even if not on one of the official lists if, for example, it is likely to become endangered in the foreseeable future.

METHODOLOGY

The impact analysis below utilized data from the two MSHCPs in Riverside County (WRC-MSHCP and CV-MSHCP), as well as the biological resources analysis conducted for the GPA 960 EIR No. 521 and RCIP GP EIR No. 441, to determine whether the proposed increase in density/intensity potential resulting from the project would collectively result in a significant impact. General Plan EIR No. 521 determined that existing mitigation and regulatory compliance measures would reduce to below the level of significance adverse impacts to biological resources resulting from buildout of land uses currently designated in the General Plan. EIR No. 441 identified that buildout of the 2003 RCIP GP would result in significant and unavoidable impacts to biological resources.

IMPACT ANALYSIS

Impact Analysis 3.4.1 Future development accommodated by the proposed project could adversely affect various sensitive species, including threatened, endangered, and special-status species protected under various local, state and federal laws. This is a **potentially cumulatively considerable** impact. (Threshold 1)

The increase in density/intensity potential resulting from the proposed project could result in future HHDR and MUA development that would increase urbanization throughout the unincorporated County. This development could result in impacts to the diverse number of species that occupy Riverside County in a variety of ways. Grading and other land-disturbing activities could result in direct effects to species present, particularly for ground-dwelling nocturnal mammals such as gophers, kangaroo rats, and pocket mice. Any reptiles, amphibians, invertebrates, or plants present would also be affected. Due to their higher mobility, birds would be less directly affected. Direct harm would generally be limited to unfledged birds (i.e., nestlings, eggs). Direct harm of larger mammals would also be minimal since they can typically flee the site. Indirect impacts would also occur to all of these species groups. Indirect harm includes direct secondary impacts due to construction activities, such as disturbed breeding, feeding, nesting, or foraging behaviors; loss of foraging habitat; loss of food sources; loss of burrows; and loss of nesting or roosting habitat. Indirect harm also includes ongoing secondary impacts due to human occupation, such as disturbance by human intrusion, increased nighttime lighting, introduction of new species (particularly dogs and house cats) and increased urban-associated predators (such as raccoons, opossums, or coyotes) because of the greater availability of scavenged food sources, i.e., refuse and pet foods. This is a **potentially cumulatively considerable** impact.

For all of these impacts, the severity of their effect on a given species or individual of the species depends on a variety of factors:

- Type of habitat affected.

- Degree/amount of habitat affected (for example, 100 percent because of grub and grade versus 50 percent because of mowing and thinning in fuel management zones).
- Timing/duration of habitat effects (e.g., bird nesting season).
- Species-specific biological or ecological niches and needs (e.g. nocturnal, scavenger).

To the extent the aforementioned impacts affect nonlisted species, they are considered to be less than cumulatively considerable. Such nonsensitive wildlife species would generally occur in large enough numbers that impacts to individuals on a site would not be significant. In addition, any open space set aside on a site or conserved elsewhere (for example, as part of MSHCP requirements) would provide protected habitat for the benefit of the common species as well as sensitive and protected species.

There are 349 species in Riverside County that are considered candidate, sensitive, or special-status under the ESA, the CESA, and/or a CNPS designation. These include species that are listed as endangered or threatened under the ESA, species proposed or candidates for such listing, and species similarly listed under the CESA. Of the 349 protected species, 146 are addressed under the WRC-MSHCP and 27 under the CV-MSHCP (County of Riverside 2015). As discussed in more detail in Section 2.3, Regulatory Framework, the WRC-MSHCP provides for the long-term survival of protected and sensitive species by designating a contiguous system of habitat to be added to existing public/quasi-public lands, including an impact fee collected by the permittees and used in part to acquire these lands. Depending on the location of the private or public development project, certain biological studies are required for WRC-MSHCP compliance. These studies may identify the need for specific measures to avoid, minimize, and reduce impacts to covered species and their habitat. Species addressed under the WRC-MSHCP and the CV-MSHCP would be adequately covered by these plans to ensure that impacts to these species and their habitats would be less than significant.

Within the 1,141 acres of non-MSHCP areas in Riverside County, however, the following mitigation measures would be required to ensure that potential impacts to sensitive and protected species would not be significant. These mitigation measures would be required as a condition of approval for future development projects during development review process.

Mitigation Measure

MM 3.4.1 Prior to discretionary project approval for projects with the potential to substantially adversely affect sensitive (listed, candidate, or special-status) species or habitats, a general biological resource assessment (BRA) shall be performed. The following requirements shall apply:

a. The BRA shall be performed by a Riverside County-approved biologist pursuant to a Memorandum of Understanding executed between the biologist and the County of Riverside.

b. The biology/environmental firm or biologist preparing the BRA must be on Riverside County's list of qualified consultants.

c. Fieldwork must be performed by qualified biologists according to professional standards.

d. If included in the BRA, presence/absence surveys for specific plants must be conducted during the applicable blooming season or other conditions as deemed scientifically appropriate and valid.

e. Should affected species or habitat occur on the project site, then a "Focused Protocol Survey" must be prepared for those species using existing protocols established by the USFWS or CDFW. If no such protocols exist, the survey must be based on generally accepted biological survey protocols appropriate to the species.

The BRA requirement may be waived if any of the following conditions are documented to exist.

a. The area affected by the proposed project ("footprint" herein) consists entirely of built environment (structures, pavement, etc.) and none of the biota or plant material present (i.e., landscaping) represent likely habitat used by a sensitive species.

b. The Riverside County Ecological Resources Specialist (ERS) finds in writing that the proposed footprint does not have any biological resources expected to be used by a protected species or plant.

c. The project or activity proposed is to be performed under an existing incidental take permit, habitat conservation plan or other governing permit, license or authorization (i.e., Section 7 consultation) and no new significant effect to the covered species or other protected species or resource is expected to occur.

In addition to the items herein, the BRA shall also be prepared in accordance with the Riverside County "Guide to Preparing General Biological Resource Assessments," as well as any other requirements of the Riverside County Environmental Programs Department, Planning Department, or other County of Riverside agency.

Upon receipt of the BRA, the Riverside County ERS shall review it and all supporting documentation. If the Riverside County ERS finds that the project does not have the potential to substantially affect sensitive species or habitat, no further mitigation is required. If the Riverside County ERS finds that the project has the potential to substantially adversely affect sensitive species or habitat, then additional mitigation will be developed and imposed to reduce such impacts to below a level of significance. Such mitigation may include but not be limited to obtaining incidental take permits from the USFWS and/or CDFW, as applicable, and acquisition and conservation of replacement habitat at appropriate ratios.

Timing/Implementation: *Prior to discretionary project approval*

Enforcement/Monitoring: *County of Riverside*

MM 3.4.2 A general biological resources assessment (BRA) shall be required as part of the discretionary project review process at Riverside County's discretion. For example, a BRA would be required if site inspection, aerial or other photos, resource agency data, or any other information indicates potential for sensitive habitat to occur on or be adversely affected by the proposed project. The BRA shall be prepared and reviewed as per the requirements outlined in mitigation measure **MM 3.4.1**.

Timing/Implementation: *Prior to discretionary project approval*

Enforcement/Monitoring: *County of Riverside*

Future development projects would be required to provide substantial evidence of compliance with the WRC-MSHCP or the CV-MSHCP (as applicable), as well as payment of the development mitigation fees, during the County's development review process. With payment of the mitigation fee and compliance with WRC-MSHCP or CV-MSHCP requirements, a project may be deemed compliant with CEQA, the National Environmental Policy Act (NEPA), CESA, and ESA, and impacts to covered species and their habitat would be deemed less than significant. For non- MSHCP areas, mitigation measures **MM 3.4.1** and **MM 3.4.2** require projects not covered by an existing MSHCP or HCP and with the potential to substantially adversely affect sensitive (listed, candidate, or special-status) species or habitats to have a Riverside County-approved biologist prepare a general BRA. The measures require additional mitigation to reduce any impacts identified by the BRA to below a level of significance. These compliance measures would be required as a condition of approval for future development projects during development review process and would reduce impacts associated with future development accommodated by the proposed project to **less than cumulatively considerable** levels, both within and outside of MSHCP areas.

Impact Analysis 3.4.2 Future development accommodated by the proposed project would increase urban uses in Riverside County, adversely affecting riparian or other sensitive habitats in various areas. This is a **potentially cumulatively considerable** impact. (Threshold 2)

As described under Impact Analysis 3.4.1, the proposed project would increase urbanization throughout the unincorporated County in comparison to conditions anticipated under the General Plan. Future development facilitated by the project could adversely affect riparian or other sensitive habitats. Sensitive habitats include those that are of special concern to resource agencies and those that are protected under the MSHCPs, CEQA, Section 1600 of the California Fish and Game Code, and Section 404 of the Clean Water Act. Habitat may be lost or significantly altered due to direct impacts as well as indirect impacts resulting from development. Direct impacts are generally those in which habitat is lost to grading and filling. Indirect impacts to riparian or other sensitive habitats generally occur through edge effects, habitat alterations, disturbances, fragmentation, or degradation. Edge effects occur where urban development meets open space. In these areas, the potential for indirect impacts to wildlife in the open space are the greatest. Types of urban disturbances potentially affecting natural open space areas include change in runoff quality and pattern, introduction of toxic chemicals (particularly fertilizers and other gardening chemicals) and manure, spillover of nighttime lighting, increased ambient noise levels and spillover noise, introduction of nonnative plants (including potentially invasive species), increased risk of trash and refuse, and increased potential for human disturbances of open spaces. This is a **potentially cumulatively considerable** impact.

However, identification of specific impacts on habitats associated with the proposed project is not possible due to project-level variability and uncertainties related to future individual projects in terms of detailed site plans, construction schedules, equipment requirements, etc., which are not currently determined. Therefore, future project-level analyses of biological resource impacts, would be conducted on a case-by-case basis as individual, future residential development projects allowed under the Housing Element proceed. The need for analysis would be determined during the County's development review process, during which the applicant would be required to provide substantial evidence of compliance with County, state, and federal regulations, including the provisions of the applicable MSHCP and General Plan policies.

Riverside County GPA 960 Policy OS 17.2 (RCIP GP Policy OS 17.1) requires the enforcement of the provisions of applicable MSHCPs when conducting review of development applications. For instance, discretionary projects that occur within the WRC-MSHCP criteria cells are submitted to the County of Riverside for review and are subject to the Habitat Evaluation and Acquisition and

Negotiation Strategy (HANS), which ensures that the sensitive habitats and riparian areas are conserved. The MSHCP also identifies the requisite studies and land use considerations necessary to protect riparian areas outside of the criteria cells that contribute to the function and value of the reserve system and the sensitive habitats conserved therein. Pursuant to Section 6.1.2 of the WRC-MSHCP, as projects are proposed within the plan area, an assessment of the potentially significant effects on riparian/riverine areas and vernal pools would be performed using available information augmented by project-specific mapping provided to and reviewed by a Riverside County biologist. The CV-MSHCP is designed to ensure conservation of covered species as well as the natural communities on which they depend, including riparian habitat and other sensitive habitats. To ensure necessary habitat is preserved, discretionary projects that occur within its conservation areas are submitted for joint project review by the County of Riverside and the Coachella Valley Conservation Commission pursuant to Section 6.6.1.1 of the CV-MSHCP. For proposals in the Santa Rosa and San Jacinto Mountains Conservation Area, the County of Riverside employs the HANS process instead. Implementation of joint project review and the HANS process ensures that sensitive habitats and riparian areas are conserved pursuant to the CV-MSHCP.

Ongoing implementation of the WRC-MSHCP and the CV-MSHCP ensures that sufficient sensitive habitat is conserved to offset the habitat losses incurred by future development in western Riverside County and the Coachella Valley.

A comparison of **Figure 2.1-1** and **Figure 3.4-1** appears to shows that none of the residential development allowed under the proposed project would occur in the non-MSHCP areas of the County. Nonetheless, the text revisions included in the proposed project in order to adopt and implement the new HHDR and MUA land use designations and zone classifications would allow such development to be proposed in other areas throughout the County (with the processing of a General Plan Amendment and/or change in zone classification). Therefore, the following mitigation measure requires that for sites not governed by an existing MSHCP, where site conditions (e.g., topography, soils, vegetation) indicate a project could adversely affect any riparian or riverine resources, an appropriate assessment must be prepared by a qualified professional. These mitigation measures would be required as a condition of approval for future development projects during development review process.

Mitigation Measure

MM 3.4.3 For sites not governed by an existing MSHCP, where site conditions (e.g., topography, soils, vegetation) indicate a project could adversely affect any riparian or riverine resources, an appropriate assessment shall be prepared by a qualified professional. An assessment shall include, but not be limited to, identification and mapping of any riparian/riverine areas and evaluation of species composition, topography/hydrology and soil analysis, as applicable. An assessment shall be completed as part of the environmental review for the development proposal prior to its approval. Upon receipt of an assessment, the Riverside County Ecological Resources Specialist (ERS) shall review the document and make a finding that:

a. Riparian/riverine areas do not exist on site; or

b. Project-specific avoidance measures have been identified that would be sufficient to ensure avoidance of riparian/riverine areas; or

c. Impacts to riparian/riverine areas are significant and unavoidable. If avoidance is not feasible, a practicable alternative that minimizes direct and indirect effects to riparian/riverine areas and vernal pools and associated functions and values to the greatest extent possible must be developed.

If impacts remain significant and unavoidable, then the ERS will require the project applicant to obtain a Section 404 permit from the US Army Corps of Engineers (USACE) and/or a Fish and Game Code Section 1600 agreement from the CDFW prior to the issuance of any grading permit or other action by the County of Riverside that would lead to the disturbance of the riparian resource.

Timing/Implementation: *Prior to discretionary project approval*

Enforcement/Monitoring: *County of Riverside*

MM 3.4.4 For sites not governed by an MSHCP, a general biological resources assessment (BRA) shall be required as part of the discretionary project review process at Riverside County's discretion. For example, a BRA would be required if site inspection, aerial or other photos, resource agency data, or any other information indicates potential for sensitive habitat to occur on or be adversely affected by the proposed project. The BRA shall be prepared and reviewed as per the requirements outlined in mitigation measure **MM 3.4.3**.

Timing/Implementation: *Prior to discretionary project approval*

Enforcement/Monitoring: *County of Riverside*

These measures would ensure, in areas of Riverside County not already regulated by either the WRC-MSHCP or CV-MSHCP, a jurisdictional assessment would be performed for projects proposed for areas that may support state or federally protected wetlands in order to determine if any riparian resources would be affected by the proposed implementing project. Further, where impacts to such wetlands are unavoidable, a Clean Water Act Section 404 permit must be obtained from the USACE and/or a streambed alteration agreement must be obtained from the CDFW pursuant to Fish and Game Code Section 1600 et seq. Among other things, plans developed pursuant to the Section 404 permit require no net loss of wetlands. Typically, this means that a project's loss or disturbance of wetlands must be offset by creation or protection of additional wetlands, often at a 3:1 (replacement:loss) ratio or other formula deemed acceptable by the applicable resource agency. Therefore, implementation of the above-listed existing regulations and General Plan policies and, in particular, the provisions of the two multiple species habitat conservation plans (MSHCP), as well as mitigation measures **MM 3.4.3** and **MM 3.4.4**, would ensure that impacts on riparian or other sensitive natural communities resulting from future development accommodated by the proposed project would be reduced to a **less than cumulatively considerable** level.

Impact Analysis 3.4.3 Future development accommodated by the proposed project could adversely affect federally protected wetlands as defined by Section 404 of the Clean Water Act (e.g., marshes, vernal pools) through direct removal, filling, hydrological interruption, or other means. This is a **potentially cumulatively considerable** impact. (Threshold 3)

Federally protected wetlands are defined in Section 404 of the Clean Water Act as areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include freshwater marshes, riparian forests, riparian woodlands, open water, flood channels, rivers and stream beds, and similar areas. There are 470,800 acres of natural vegetation communities in unincorporated Riverside County with the potential to contain federally protected wetlands (County of Riverside 2015).

Direct impacts to federally protected wetlands would occur if future development resulted in direct removal, fill (which essentially means placing dirt into), hydrological interruption, or other disturbance to these resources. Such effects are often associated with clearing and grubbing, grading, paving and building for new development, redevelopment and construction of roads, flood control projects, and other infrastructure. This is a **potentially cumulatively considerable** impact.

The Riverside County General Plan contains several policies that address potential impacts to wetlands, including GPA 960 Policy LU 7.7 (no similar RCIP GP Policy), which states that buffers are required to the extent possible between development and watercourses, including their associated habitat. GPA 960 Policy OS 5.5 (RCIP GP Policy 5.5) requires the preservation and enhancement of existing native riparian habitat and prohibits the obstruction of natural watercourses as well as fencing that constricts flow across watercourses and their banks. GPA 960 Policy OS 6.2 (RCIP GP Policy 6.2) seeks to preserve buffer zones around wetlands where feasible and biologically appropriate. GPA 960 Policy OS 6.1 (RCIP GP Policy 6.1) requires compliance with Clean Water Act Section 404 in terms of wetlands mitigation policies.

Where they meet USACE guidelines, many wetland communities (e.g., freshwater marshes, riparian forests, riparian woodlands, open water, flood channels, rivers, and streambeds) in western Riverside County would be subject to the federal Clean Water Act (Sections 401, 402, and 404) as regulated by federal agencies. Projects proposing to affect federally protected wetlands would be required to obtain a Section 404 permit prior to grading. This applies to sites both within and outside of the MSHCP coverage areas. The USACE also consults with the USFWS pursuant to Section 7 of the ESA on projects that may affect federally listed species within USACE jurisdictional wetlands or waters or are potentially affected by the USACE's issuance of a Section 404 permit. Since USACE permits must ensure no net loss of riparian habitat, and preservation of biological function and value of any jurisdictional waters on-site, compliance with Section 404 requirements would ensure that no wetlands are significantly affected.

As indicated previously, the WRC-MSHCP serves as a comprehensive, multijurisdictional habitat conservation plan, pursuant to ESA Section (a)(1)(B) and as a natural communities conservation plan (NCCP) under the state's NCCP Act. The WRC-MSHCP identifies the requisite studies and land use considerations necessary to protect riparian areas in western Riverside County and outside of the criteria cells that contribute to the function and value of the reserve system and the sensitive habitats conserved therein. Pursuant to Section 6.1.2 of the WRC-MSHCP, proposed projects require assessment of potentially significant effects on any riparian/riverine areas or vernal pools. The assessment must be performed per County of Riverside, MSHCP, CDFW, and USACE standards, then be provided to and reviewed by a Riverside County biologist. As part of MSHCP compliance, the County of Riverside first looks to avoid, or at least minimize, direct and indirect effects to the mapped wetlands. If avoidance is feasible, measures are incorporated into project design to ensure the long-term conservation of the areas to be avoided. If avoidance is not feasible, a practicable alternative is selected that minimizes direct and indirect effects to riparian/riverine areas and vernal pools and their associated functions and values to the greatest extent possible.

Additionally, Section 6.1.4 of the WRC-MSHCP sets forth a range of measures to eliminate, reduce, or minimize edge effects associated with the interface between development and the natural environment. These also aid in reducing indirect impacts to wetlands.

In addition, where a proposed development project could affect riparian/riverine areas or federally protected wetlands as defined by Section 404 of the Clean Water Act or as defined by Fish and Game Code Section 1600 et seq., an appropriate assessment must be prepared by a qualified professional as part of Riverside County's project review process per the required mitigation measures required below.

Mitigation Measure

MM 3.4.5 If site conditions (for example, topography, soils, vegetation, etc.) indicate that the proposed project could affect riparian/riverine areas or federally protected wetlands as defined by Section 404 of the CWA, then an appropriate assessment shall be prepared by a qualified professional as part of Riverside County's project review process. An assessment shall include, but not be limited to, identification and mapping of any wetland(s) or riparian resources present; evaluation of plant species composition, topography and hydrology; a soils analysis (where appropriate) and conclusions stating the presence or absence of jurisdictional wetlands. An assessment shall be completed as part of the development review process. Should any grading or construction be proposed within or alongside the banks of the watercourse or wetland, the land divider/permit holder shall provide written notification to the Riverside County Planning Department that the alteration of any watercourse or wetland, located either on site or on any required offsite improvement areas, complies with the U.S. Army Corp of Engineers Nationwide Permit Conditions. Or, the land divider shall obtain a permit under Section 404 of the Clean Water Act. Copies of any agreements shall be submitted along with the notification.

Timing/Implementation: *During development review process*

Enforcement/Monitoring: *County of Riverside*

MM 3.4.6 If site conditions (e.g., topography, soils, vegetation) indicate that the proposed project could affect riparian/riverine areas or federally protected wetlands as defined by Fish and Game Code Section 1600 et seq., then an appropriate assessment shall be prepared by a qualified professional as part of Riverside County's project review process. An assessment shall include, but not be limited to, identification and mapping of any wetland(s) or riparian resources present; evaluation of plant species composition, topography, and hydrology; a soils analysis (where appropriate); and conclusions stating the presence or absence of jurisdictional wetlands. An assessment shall be completed as part of the development review process.

Should any grading or construction be proposed within or along the banks of any natural watercourse or wetland located either on-site or on any required off-site improvement areas, the land divider/permit holder shall provide written notification to the Riverside County Planning Department that the appropriate CDFW notification pursuant to Sections 1601/1603 of the Fish and Game Code has taken place. Or, the land divider shall obtain an "Agreement Regarding Proposed

Stream or Lake Alteration" (Section 1601/1603 Permit). Copies of any agreements shall be submitted along with the notification.

Timing/Implementation: *During development review process*

Enforcement/Monitoring: *County of Riverside*

Mitigation measure **MM 3.4.5** would ensure that, in areas of Riverside County not already regulated by a MSHCP, a jurisdictional assessment would be performed to determine if a project site may support federally protected wetlands and, where impacts to such wetlands are unavoidable, require a 404 permit to be obtained from the USACE. Similarly, mitigation measure **MM 3.4.6** would address state-protected wetlands pursuant to Fish and Game Code Section 1600 et seq.

During the County's development review process, future development projects would be required to provide substantial evidence of compliance with these County, state, and federal regulations, including the provisions of the applicable MSHCP, USACE guidelines, and General Plan policies. Mitigation measures **MM 3.4.5** and **3.4.6** would be enforced as conditions of approval for future development projects during development review process. Implementation and compliance with these existing regulations, General Plan policies, and mitigation measures **MM 3.4.5** and **MM 3.4.6** would ensure that impacts on federally protected wetlands resulting from future development accommodated by the proposed project would be reduced to a **less than cumulatively considerable** level.

Impact Analysis 3.4.4 Future development accommodated by the proposed project could adversely affect movement, migration, wildlife corridors, and the use of native wildlife nursery sites. However, compliance with existing laws and regulatory programs would ensure that this impact is **less than cumulatively considerable**. (Threshold 4)

Residential development has the potential to result in the creation of new barriers to animal movement in the urbanizing areas. This is a **potentially cumulatively considerable** impact.

However, impacts to wildlife movement associated with development in the County are mitigated due to corridors and linkages established by the WRC-MSHCP and the CV-MSHCP. As part of the WRC-MSHCP, a system of corridors and linkages was established to accommodate wildlife movement in the open areas of western Riverside County. The plan includes 20 core areas and 10 noncontiguous habitat blocks joined by 19 linkages and 29 constrained linkages. One example is the Pass Area Plan Special Linkage, which is located in the northeast plan area and connects the San Jacinto Mountains to the San Bernardino Mountains via San Gorgonio Wash. The Southwest Area Plan Special Linkage connects the area between the Santa Margarita Ecological Reserve and the Pechanga Indian Reservation.

In the Coachella Valley, the CV-MSHCP establishes conservation areas and articulates objectives and measures for the preservation of core habitat and the biological corridors and linkages needed to maintain essential ecological processes in the plan area. For example, one biological corridor with two undercrossings is identified for the Stubbe Canyon Wash under I-10; two corridors are located at the Whitewater and San Gorgonio Rivers under SR 111; a linkage and a corridor are identified for the Whitewater River area under I-10; another biological corridor exists at Mission Creek under SR 62; two corridors are located at Mission Creek and Willow Wash under I-10; and five biological corridors are in the Desert Tortoise Linkage Conservation Area under I-10 (County of Riverside 2015).

Sufficient programs are in place in both MSHCPs that would prevent substantial interference with wildlife movement and corridors (County of Riverside 2015). With the corridor conservation measures, edge effect controls, and other components of the two plans to ensure protection, provisions of the WRC-MSHCP and CV-MSHCP would ensure that future development in western Riverside County and the Coachella Valley does not substantially interfere with wildlife movement or corridors.

In addition, the MSHCPs protect native wildlife nursery sites by conserving large blocks of representative native habitats suitable for supporting species' life-cycle requirements and the essential ecological processes of species that depend on such habitats. The EIR for the WRC-MSHCP concluded that the plan provides for the movement of species through established wildlife corridors and protects the use of native wildlife nursery sites (County of Riverside 2015). Thus, through the protections afforded by the WRC-MSHCP and CV-MSHCP, future development accommodated by the proposed project would have a less than significant impact on the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or the use of native wildlife nursery sites in western Riverside County and the Coachella Valley.

A comparison of **Figure 2.1-1** and **Figure 3.4-1** appears to show that none of the residential development allowed under the proposed project would occur in the non-MSHCP areas of the County. Nonetheless, the text revisions included in the proposed project in order to adopt and implement the new HHDR and MUA land use designations and zone classifications would allow such development to be proposed in other areas throughout the County (with the processing of a General Plan Amendment and/or change in zone classification). Therefore, the following mitigation measure is required for sites not governed by an existing MSHCP.

Mitigation Measure

MM 3.4.7 Should a wildlife nursery site or native resident or migratory wildlife corridor be uncovered through a biological resources assessment (BRA), then a consultation with a Riverside County Ecological Resources Specialist (ERS) shall occur. The ERS shall make a determination if the site is essential for the long-term viability of the species. If such a determination is made, then the ERS shall work with the project applicant to avoid the effects of development on the resource in question and condition the land use case accordingly. Should significant impacts to a nursery site or corridor not be avoidable, the applicant shall be required to ensure the preservation of comparable nursery or corridor habitat off-site.

Timing/Implementation: *Prior to discretionary project approval*

Enforcement/Monitoring: *County of Riverside*

Compliance with the applicable MSCHPs, as well as implementation of mitigation measure **MM 3.4.7,** which requires that effects to wildlife nursery sites and/or corridors be avoided or preserved off-site, would ensure that no significant interference with wildlife movement, corridors, or nursery sites would occur. During the County's development review process, future development projects would be required to provide substantial evidence of compliance with the provisions of the applicable MSHCP and General Plan policies and mitigation measure **MM 3.4.7** would be enforced as a condition of approval for future development projects during development review process. For these reasons, impacts would be **less than cumulatively considerable**.

Impact Analysis 3.4.5 Future development accommodated by the proposed project would not conflict with local policies or ordinances protecting biological resources. There is **no impact**. (Threshold 5)

In March 1993, the County of Riverside issued Oak Tree Management Guidelines to address the treatment of oak woodlands in areas where zoning and/or General Plan density restrictions allow the effective use of clustering. The guidelines are generally considered to be the most effective where minimum lot sizes are 2.5 acres or larger, or where oak woodlands are concentrated in a relatively small portion of a project site. The guidelines include recommendations for oak inventories, land use designs to cluster home sites in order to reduce impacts to oaks, and mitigation measures for oak conservation. Any conflicts between the project and Riverside County's Oak Tree Management Guidelines would be eliminated by project conditions of approval on all future residential development requiring compliance with the guidelines wherever qualifying oak resources are found to occur (e.g., through a biological resource assessment). Biological resource protection is also afforded by Riverside County Ordinance No. 559, which regulates the removal of trees. All future development allowed under the proposed project would be required to comply with Ordinance No. 559.

Compliance with County policies and ordinances protecting biological resources is required of all development projects in Riverside County during the development review process. There is **no impact**.

Mitigation Measures

None required.

Impact Analysis 3.4.6 Future development accommodated by the proposed project would be located in areas covered by adopted habitat conservation plans, in particular the WRC-MSHCP and the CV-MSHCP. Future development would be required to comply with the policy provisions of the adopted MSHCPs. This impact is **less than cumulatively considerable**. (Threshold 6)

As explained above, the WRC-MSHCP and the CV-MSHCP (also permitted as NCCPs) apply to land use activities in western Riverside County and the Coachella Valley. The MSHCPs are the cornerstones of Riverside County's General Plan Multipurpose Open Space Element. As such, policies in the County General Plan specifically require compliance with existing MSHCPs to ensure there are no conflicts with local biological resource protections. In addition, the Stephens' Kangaroo Rat HCP remains in effect for the majority of western Riverside County. Although the reserve land is acquired for this HCP, a mitigation fee is still collected on new development to ensure the long-term maintenance and monitoring of the reserves. The proposed project does not make any changes to how these HCPs are implemented, nor does it change the steps required to comply with said HCPs.

Future development accommodated by the proposed project would be required, through conditions of approval required for future development projects during development review process, to comply with applicable fee ordinances relevant to the implementation of specific programs that protect biological resources, thereby reinforcing compliance with applicable resource protection policies. For example, Riverside County Ordinance No. 663 requires development projects within the Stephens' kangaroo rat HCP area to pay a development mitigation fee to establish the reserves, administer the plan, and otherwise meet the requirements of this HCP. Similarly, Riverside County Ordinances No. 810 and No. 875 require land use projects

within the coverage areas of those plans to pay a development impact fee to establish reserves and implement the respective conservation plans.

Additional adopted HCPs are located in Riverside County but apply to other agency/special district activities. Examples include the Southwest Riverside County MSHCP, the Lake Mathews MSHCP, and the Lower Colorado River Multiple Species Conservation Program. None of these conservation plans would apply to future development accommodated by the proposed project.

Numerous federal and state regulations are in place to ensure that adopted HCPs, NCCPs, and other conservation plans are successful. The combination of local programs and conditions of approval requirements, as well as federal and state programs, would ensure that conflicts with provisions of the adopted HCPs, NCCPs, and other approved habitat conservation plans in effect in unincorporated Riverside County are **less than cumulatively considerable**.

Mitigation Measures

None required.

3.5 CULTURAL RESOURCES

SETTING

Cultural Resources

The cultural history of Riverside County can be discussed in three primary time periods: the Prehistoric period, the Ethnohistoric period, and the Historic period.

The Prehistoric period refers to a time beginning with the settlement of the Southern California region at least 10,000 to 12,000 years ago and extending forward through time to initial Euro-American settlement in the late eighteenth century. The following artifacts and features are characteristic of the Prehistoric period: ceramics, projectile points of many types, grinding implements (mortars and pestles, metates, and manos), enigmatic cogstones, shell, bone, clay beads and pendants, and evidence of big game hunting (County of Riverside 2015).

The Ethnohistoric period was distinguished by eight distinct resident cultural groups of Native Americans: Cahuilla (primarily), Gabrielino, Juaneño, Luiseño, Quechan, Halchidhoma, Chemehuevi, and Serrano. These groups occupied territories across Southern California generally as indicated in **Figure 3.5-1**. It should be noted that territorial boundaries changed for some tribal groups throughout time. The majority of western Riverside County was occupied by the Cahuilla, while the western part of the County, in the vicinity of the Santa Ana Mountains, fell within the territory of the Gabrielinos, Juaneños, and Luiseños. These three populations had territories that extended from the coast eastward and northeastward across the Santa Ana and Palomar mountains, encompassing the Temescal Valley and Lake Elsinore, and extending toward the foothills of the San Jacinto and Santa Rosa Mountains. The eastern part of the County was strongly influenced by the presence of the Colorado River, with three indigenous cultures present: the Halchidhoma, Quechan, and Chemehuevi. Directly north of the Cahuilla, the Serrano occupied a large territory that encompassed much of San Bernardino County, edging southward into Riverside County (County of Riverside 2015).

The Historic period began around 1774 with the exploratory expeditions of Juan Bautista de Anza and continued to 45 years before the present day, as defined by CEQA. Early explorers and settlers (Chinese, European, Mexican, Japanese, and many others) established communities, infrastructure (railroads, canals, etc.), and industries (ranching, mining, agriculture, forestry, recreation, etc.) that shaped the development and identity of the County. Key events associated with the Historic period include first European contact with Southern California (1772–1818); establishment and proliferation of the Spanish missions (1769–1833); Mexican overthrow of Spanish rule in 1821, followed by the Rancho period as mission control ceded to private land ownership; the Treaty of Guadalupe Hidalgo, which ended the Mexican-American War in 1848 and led to California becoming a US territory; the early Californian period, around 1850 when California officially entered the Union as a free state; the growth period following statehood, increasing pace after the 1865 end of the US Civil War; expansion, settlement, and development, particularly of transportation, agriculture, and water infrastructure, from about 1870 to 1920, including incorporation of the County of Riverside on May 9, 1873; and an additional wave of growth, particularly suburban, following World War II (County of Riverside 2015). An initial inventory of historical resources in Riverside County was completed and mapped in the 1980s, as shown in **Figure 3.5-2**; however, many more historic resources likely exist that have not yet been documented.

THRESHOLDS OF SIGNIFICANCE

The impact analysis is based on the State CEQA Guidelines Appendix G thresholds of significance. A cultural resource impact is considered significant if implementation of the project would:

1) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5.

2) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.

3) Disturb any human remains, including those interred outside of formal cemeteries.

METHODOLOGY

General Plan EIR No. 521 determined that existing regulatory compliance measures would reduce to below the level of significance any potential adverse changes in the significance of either archaeological or historical resources resulting from buildout of land uses currently designated in the General Plan (County of Riverside 2015). EIR No. 441 determined that Implementation of the policies in the RCIP GP and mitigation measures would reduce impacts on cultural and paleontological resources to less than significant (County of Riverside 2002).

The proposed project would result in an increase in density/intensity potential on sites throughout the unincorporated County as a result of redesignation and rezoning. In addition, the text revisions included in the proposed project in order to adopt and implement the new HHDR and MUA land use designations and zone classifications would allow such development to be proposed in other areas throughout the County (with the processing of a General Plan Amendment and/or change in zone classification). Therefore, the proposed project could increase the amount of urban development and ground disturbance in the County. The impact analysis below considers the potential for these changes to collectively affect known and currently undiscovered cultural resources in the County.

IMPACT ANALYSIS

Impact Analysis 3.5.1 Future development accommodated by the project could cause a substantial adverse cumulative change in the significance of the County's historical resources, as defined in Section 15064.5 of the State CEQA Guidelines. This would be a **potentially cumulatively considerable** impact. (Threshold 1)

Future development accommodated by the project would increase the amount of urban development and ground disturbance in the County, which could in turn cause a substantial adverse cumulative change in the significance of the County's historical resources, as defined in Section 15064.5 of the State CEQA Guidelines. Additionally, in previously undisturbed areas and in areas not yet formally evaluated for cultural resources, ground-disturbing activities could lead to the discovery of historical resources deemed significant. This is a **potentially cumulatively considerable** impact.

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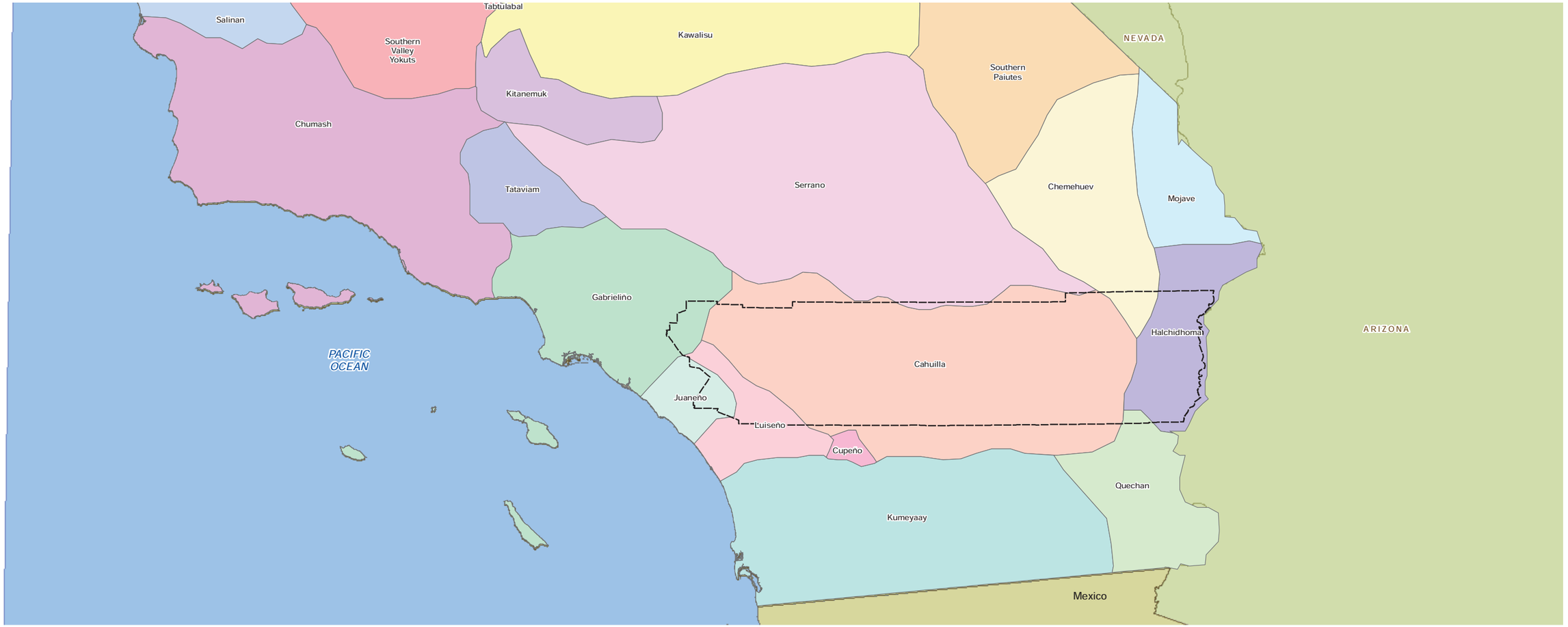

Cahuilla
Chemehuev
Chumash
Cupeño
Foothill Yokuts
Gabrieliño
Halchidhoma
Juaneño
Kawalisu
Kitanemuk
Kumeyaay
Luiseño
Mojave
Quechan
Salinan
Serrano
Southern Paiutes
Southern Valley Yokuts
Tabtulabal
Tataviam
Riverside County

Source: Riverside County 2015

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MILES

Figure 3.5-1
Tribal Territories

Michael Baker INTERNATIONAL

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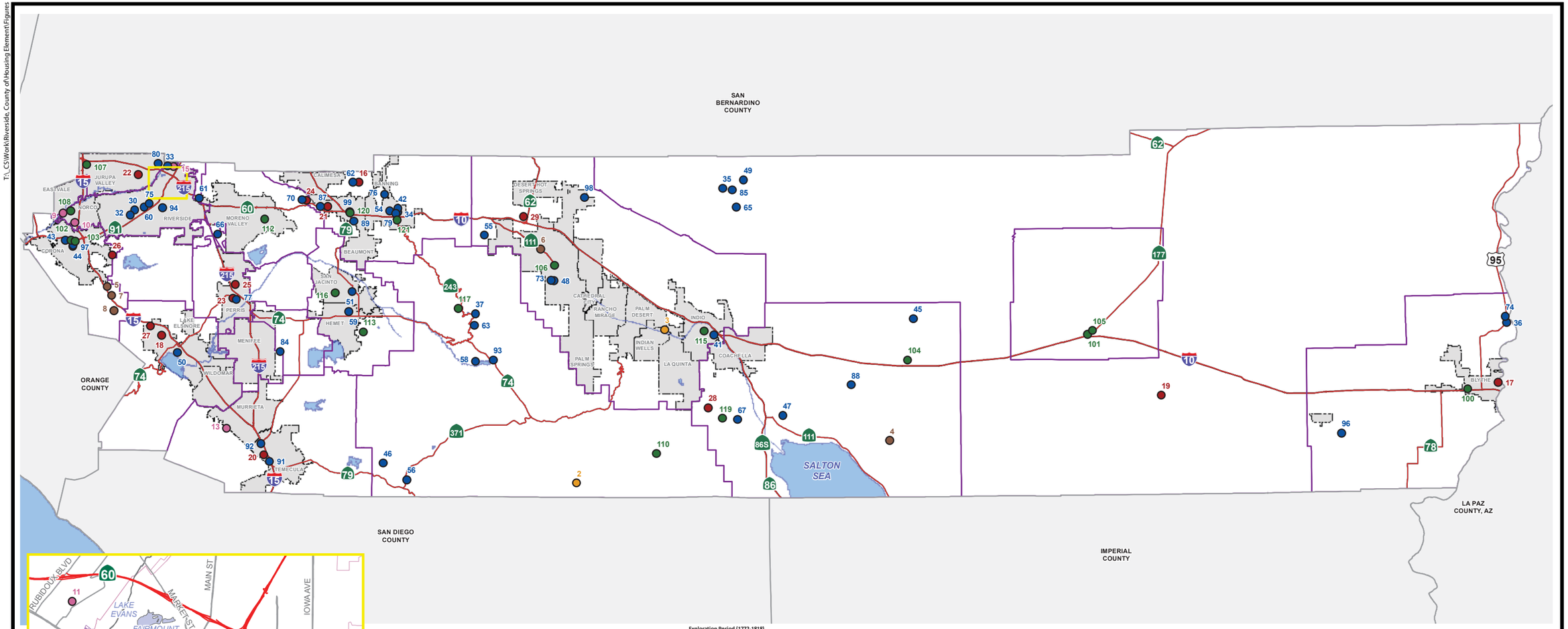

- Exploration
- Mission
- Mexican/Rancho
- Early Californian
- Early Statehood
- Post WWI to WWII

- Highways
- Area Plan Boundary
- City Boundary
- Waterbodies

Exploration Period (1772-1818)

1 Anza crossing of Santa Ana River
2 Anza Camp and Crossing
3 Indian Wells

Mission Period (1769-1833)

4 Dos Palmas
5 Old Temescal Road
6 The Original Palm Springs
7 Serrano Boulder
8 Serrano Tanning Vats

Mexican/Rancho Period (1833-1848)

9 Bandini-Cota Adobe
10 Bandini Adobe Site
11 Louis Rubidoux House
12 Mt Roubidoux
13 Rancho Santa Rosa
14 Rubidoux Grist Mill
15 Trujillo Adobe

Early Californian Period (1848-1869)

16 Weaver Adobe
17 Bradshaw Ferry Crossing
18 Butterfield Stage Station
19 Corn Springs
20 First Post Office, Temecula
21 Frink Ranch
22 Jensen Alvarado Ranch
23 Pinacate Mining District
24 SAAHATAPA
25 Southern Hotel
26 Temescal Tin Mines
27 Third Serrano Adobe
28 Toro Village
29 Whitewater

Early Statehood (1869-1919)

30 Administration Building, Sherman Institute
31 All Souls Universalists Church
32 Arlington Library and Fire Hall
33 Armory Hall
34 Banning Woman's Club
35 Barker Dam
36 Blythe Intake
37 Camp Emerson
38 Chinatown
39 Citrus Experiment Station
40 Citrus Machinery Pioneering
41 Coachella Valley Water District
42 Coplin House
43 Carnegie Andrew Library
44 Corona High School
45 Cottonwood Oasis
46 Cottonwood School
47 Date Industry Birthplace
48 Desert Inn
49 Desert Queen Mine
50 Elsinore's Hottest Sulphur Spring
51 Estudillo Mansion
52 First Church of Christ
53 First Congregational Church of Riverside
54 Gilman Ranch
55 Hall City & Grade
56 Hamilton School
57 Harada House
58 Hemet Dam & Lake Hemet
59 Hemet Depot
60 Heritage House
61 Highgrove Hydroelectric Plant
62 Highland Springs
63 Idyllwild
64 Loring Opera House
65 Lost Horse Mine
66 March Field Historic District
67 Martinez Historic District
68 Masonic Temple
69 Mission Inn
70 Nobles Ranch
71 North Park
72 Old YWCA Building
73 Palmdale Railroad Site
74 Palo Verde Diversion Dam
75 Parent Navel Orange Tree
76 Pedley-Type Dam
77 Perris Depot
78 Peter Weber House
79 Henderson/Reid Building
80 Riverside Cement Co
81 Riverside County Courthouse
82 Federal Post Office
83 Riverside-Arlington heights Fruit Exchange
84 Garbani Rocco Homestead
85 Ryan House & Lost Horse Well
86 San Pedro, LA and Salt Lake Railroad Depot
87 San Timoteo Canyon Schoolhouse
88 Shaver's Well
89 St Boniface School
90 Sutherland Fruit Company
91 Temecula Old Town Historic District
92 Temecula Quarries
93 Thomas-Garner Ranch
94 Victoria Avenue
95 William Childs House
96 Wiley's Well
97 Woman's Improvement Club
98 Yerxa's Discovery
99 Beaumont Carnegie Library

Post WWI to WWII Period (1920-1945)

100 Blythe Depot
101 Site of Contractor's Hospital
102 Corona Founders Monument
103 Corona Theater
104 Desert Training Center
105 Eagle Mountain Iron
106 El Mirador Hotel and Tower
107 Galleano Winery
108 Lake Norconian Club
109 M.H. Simon Undertaking Chapel
110 Martinez Canyon Rockhouse
111 Mission Court Bungalows
112 Old Moreno School
113 Ramona Bowl
114 Riverside Municipal Auditorium and Soldier's Memorial Building
115 Smiley Place
116 Soviet Transpolar Landing Site
117 Speed of Light Experiment
118 University Heights Jr. High School
119 Valerie Jean Date Garden
120 Bogart House
121 Old Banning High School

Source: Riverside County 2015

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Figure 3.5-2
Historical Resources

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Historic properties and resources are protected by a wide variety of federal, state, and county regulations and procedures that would prevent substantial adverse changes and result in preservation or mitigation. All future development subsequent to the project would be subject to this regulatory framework, which is described in detail in Section 2.3, Regulatory Framework, and summarized here. The applicable regulatory measures for future development projects would be determined during the County's development review process, and included in a project's conditions of approval. Standard conditions addressing project-specific cultural resource impacts include requirements for site and tribal monitoring during construction; actions to take if a cultural resource is inadvertently discovered during grading/construction (e.g., halting ground disturbance until appropriate preservation or mitigation measures are determined in consultation with the Native American tribal representative, the archaeologist, and the Planning Director); documentation and reporting requirements to verify compliance; and specific protocols to be followed for the discovery of any human remains, whether modern, historic, or prehistoric (e.g., remains left in place and free from disturbance until a final decision as to the treatment and their disposition has been made in consultation with the Riverside County Coroner and/or the Native American Heritage Commission consistent with California Health and Safety Code Section 7050.5). Vacant parcels in areas known to have prehistoric or historic resources, as well as any parcels with environmental, geomorphological, or vegetative features known to increase the likelihood of cultural resources being present, trigger a Phase I cultural resources study.

In addition, the following mitigation measure would be required as a condition of approval for future development projects during development review process.

Mitigation Measures

MM 3.5.1 Avoidance is the preferred treatment for cultural resources. Where feasible, project plans shall be developed to allow avoidance of cultural resources. Where avoidance of construction impacts is possible, capping of the cultural resource site and avoidance planting (e.g., planting of prickly pear cactus) shall be employed to ensure that indirect impacts from increased public availability to the site are avoided. Where avoidance is selected, cultural resource sites shall be placed within permanent conservation easements or dedicated open space.

Timing/Implementation: *Prior to and during construction activities*

Enforcement/Monitoring: *County of Riverside*

The regulations, procedures, and mitigation discussed above form a regulatory framework to ensure that the County's historical resources are protected on a comprehensive, or cumulative, level by requiring site-specific development to be adequately reviewed for cultural resources prior to approval; requiring appropriate mitigation measures to be developed and incorporated into project design and project conditions of approval; requiring that human remains are treated in accordance with applicable laws; and requiring that tribal participation occurs. Therefore, this impact would be reduced to a **less than cumulatively considerable** level.

Impact Analysis 3.5.2 Future development accommodated by the project could cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5. This would be a **potentially cumulatively considerable** impact. (Threshold 2)

As stated under **Impact Analysis 3.5.1**, future development accommodated by the project would increase the amount of urban development and ground disturbance in the County, which could in turn cause a substantial adverse cumulative change in the significance of the County's

archaeological resource pursuant to Section 15064.5. Additionally, in previously undisturbed areas and in areas not yet formally evaluated for cultural resources, ground-disturbing activities could lead to the discovery of archaeological resources deemed significant. This is a **potentially cumulatively considerable** impact.

GPA 960 Policies OS-19.3 through OS-19.5 (RCIP GP Policies OS-19.3 through OS-19.5) require proposed development to be reviewed for the possibility of cultural resources and for compliance with the County's cultural resources program; to prioritize the protection of cultural resources preserved in place or left in an undisturbed state by designating open space and allocating resources and/or tax credits to the extent feasible; and to exercise sensitivity and respect for human remains through compliance with all applicable laws concerning such remains. During the County's development review process, the applicant would be required to provide substantial evidence of compliance with these policies as part of the project application materials. These policies would ensure that the California State CEQA Guidelines (Section 15064.5(e–f)) provisions for the accidental discovery of historical or archaeological resources and human remains during construction activities, as well as California Health and Safety Code Section 7050.5, would be adhered to during all future development projects.

As previously discussed, the County's Planning Department has specific procedures and standard conditions of approval to ensure that development projects are adequately reviewed, additional information is collected where warranted, archaeological resources are identified and, where significant, preserved, that any human remains uncovered are treated in accordance with applicable laws and, lastly, that tribal participation occurs when applicable. Vacant parcels in areas known to have prehistoric or historic resources, as well as any parcels with environmental, geomorphological, or vegetative features known to increase the likelihood of cultural resources being present, trigger a Phase I cultural resources study and departmental procedures including review by the Riverside County Archaeologist for prospective archaeological resource impacts, as well as the application of additional conditions of approval as the individual project-specific circumstances, Phase I cultural resources study, and any Phase II archaeological testing studies dictate. These requirements are included as standard conditions of approval during the County's development review process.

Despite all of the above measures that lessen substantial adverse changes in the significance of archaeological resources, the following additional project-specific mitigation measure is necessary to further avoid, reduce, or minimize impacts. This measure would be required as a condition of approval for future development projects during development review process.

Mitigation Measures

MM 3.5.2 If avoidance and/or preservation in place of cultural resources is not feasible, the following mitigation measures shall be initiated for each impacted site:

a. Discoveries shall be discussed with the Native American tribal (or other appropriate ethnic/cultural group representative) and the Riverside County Archaeologist, and a decision shall be made with the concurrence of the Planning Director, as to the mitigation (documentation, recovery, avoidance, etc.) appropriate for the cultural resource.

b. Further ground disturbance shall not resume within the area of the discovery until an agreement has been reached by all parties as to appropriate preservation or mitigation measures.

Timing/Implementation: *Prior to and during construction activities*

Enforcement/Monitoring: *County of Riverside*

Both Senate Bill (SB) 18 and Assembly Bill (AB) 52 requirements were triggered for the proposed project. While the Notice of Preparation (NOP) was issued for the project on June 26, 2015, prior to enactment of AB 52, the project was subsequently revised to include additional parcels not included in the original project description; a revised NOP was circulated on October 9, 2015 to include the new parcels. Therefore, the AB 52 requirements for tribal consultation were triggered. Per the requirements of SB 18, in June 2015, the County initiated contact with the tribes on the Native American Heritage Commission list. Only two tribes formally requested consultation within the 90-day response period (June 2015 through September 2015). The Pala Band of Mission Indians (August 4, 2015) and the Morongo Band of Mission Indians (August 11, 2015) responded to the NOP for the proposed project. The Pala Band of Mission Indians determined that the project as described is not within the boundaries of the recognized Pala Indian Reservation and is beyond the boundaries of the territory that the tribe considers its traditional use area. The Morongo Band of Mission Indians determined that the project is not within the tribe's current reservation boundaries but is within the boundaries of the traditional use area. As such, the Morongo Tribe requested a records search, archaeological survey, and tribal monitoring during construction. The proposed project does not include any specific development proposals, nor does it grant site-specific development entitlements. The conditions requested by the Morongo Tribe would be enforced as part of the regulatory process described above for site-specific development proposals.

The regulations and procedures discussed above and enforced during the development review process ensure that the County's archaeological resources are protected on a comprehensive, or cumulative, level by requiring site-specific review and mitigation for archaeological resources and tribal consultation. Mitigation measure **MM 3.5.2** would further lessen impacts by providing for dialogue with the appropriate ethnic or cultural group concerning the dispensation of cultural resources where it is infeasible for those resources to be avoided or preserved in place. Therefore, this impact would be reduced to a **less than cumulatively considerable** level.

Impact Analysis 3.5.3 Future development accommodated by the project could disturb human remains interred outside of formal cemeteries. This would be a **potentially cumulatively considerable** impact. (Threshold 3)

The proposed project does not include components that would affect existing cemeteries. However, future development accommodated by the project would result in disturbance of vacant lands, resulting in the potential to disturb buried human remains interred outside of formal cemeteries, in both known and previously unknown locations. This is a **potentially cumulatively considerable** impact.

Because most uncovered human remains and/or associated burial artifacts are of historical or prehistoric eras, they tend to be handled in a manner similar to archaeological resources. In this aspect, the regulatory measures outlined for impacts to historical and archaeological resources discussed under **Impact Analysis 3.5.1** and **Impact Analysis 3.5.2** provide specific provisions that also apply for buried human remains.

Adherence to California's Traditional Tribal Places Act (SB 18) would help ensure that historic and prehistoric cultural resources are considered prior to discretionary project approval and that mitigation measures appropriate to site conditions are applied to prevent significant impacts. Specifically, the law requires Riverside County to consult with Native American groups at the earliest point in the land use planning process for certain types of projects regarding preservation

of Native American places of prehistoric, archaeological, cultural, spiritual, and ceremonial importance, which would include human remains associated with prehistoric Native Americans.

Also, as uncovered human remains can also be of modern origins, and hence potentially part of a crime scene, the following mitigation would be required as a condition of approval for future development projects during development review process.

Mitigation Measures

MM 3.5.3 If human remains are encountered during a public or private construction activity, California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the Riverside County Coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. The Riverside County Coroner must be notified within 24 hours. If the Coroner determines that the burial is not historic, but prehistoric, the Native American Heritage Commission must be contacted to determine the most likely descendant for this area. The most likely descendant may become involved with the disposition of the burial following scientific analysis.

Timing/Implementation: *During construction activities*

Enforcement/Monitoring: *County of Riverside*

The measure ensures that unexpected human remains of modern origin discovered during future construction activities would be examined by a Riverside County Coroner and left in place and free from disturbance until a final decision as to their treatment and disposition has been made pursuant to PRC Section 5097.98. This measure, along with previously identified regulatory measures outlined for impacts to historical and archaeological resources, would reduce this impact to a **less than cumulatively considerable** level.

3.6 GEOLOGY AND SOILS

SETTING

Fault Hazards

Earthquakes are caused by movement of rock along a break called a fault. The movement releases pent-up strain energy in the form of waves which travel outward in all directions. These seismic waves cause the earth to vibrate, and this shaking is what is felt in an earthquake. The outer portion of the earth consists of enormous chunks of rock called plates, which slowly collide, separate, and grind past each other; most earthquakes occur along plate boundaries. Frictional forces resist plate movement and the plate edges lock together. Much strain energy builds up as the plates keep trying to move. Eventually, frictional forces are exceeded, the locked edges move, and all the stored strain energy is released in seismic waves (County of Riverside 2015).

Earthquakes in Southern California occur as a result of movement between the Pacific and North American plates. Most of the movement between the plates occurs along the San Andreas Fault, which bisects Riverside County; the rest of the motion is distributed among northwest-trending, strike-slip faults of the San Andreas system (principally the San Jacinto, Elsinore, Newport-Inglewood, and Palos Verdes Faults). In unincorporated Riverside County as a whole, there are a total of roughly 103,700 acres of County Earthquake Zones and 87,500 acres of Alquist-Priolo Earthquake Fault Zones (note that these two categories are not mutually exclusive) (County of Riverside 2015). Known faults in the County are shown in **Figure 3.6-1**.

Ground Shaking

For design and environmental analysis purposes, a worst-case scenario earthquake (the maximum credible earthquake [MCE]) for Riverside County is a magnitude 7.9, based on the rupture of the entire southern segment of the San Andreas Fault from the Cajon Pass to the Salton Sea. While other scenarios would expose portions of Riverside County to intense ground shaking that is locally as severe as the MCE, the MCE exposes most of the County to very high intensity ground shaking (County of Riverside 2015).

Ground shaking is simply the movement of the earth resulting from an earthquake. Shaking can cause lateral movement and is the primary reason for collapse of buildings. The strength of seismic ground shaking at any given site is a function of many factors. Factors of primary importance in ground shaking severity include the size of the earthquake, its distance, the paths the seismic waves take as they travel through the earth, the type of rock or soils underlying the site, and topography (particularly whether a site sits in a valley or atop a hill). The amount of resulting damage also depends on the size, shape, age, and engineering characteristics of affected structures. Interactions between ground motion and man-made structures are complex. Governing factors include a structure's height, construction, and stiffness; a soil's strength and resonant period; and the period of high-amplitude seismic waves. Waves come in different lengths and thus repeat their motions with varying frequency. Long waves are called long-period or low-frequency. Short waves are short-period or high-frequency. In general, long-period seismic waves, which are characteristic of large earthquakes, are most likely to damage structures such as high-rise buildings and bridges. Shorter-period seismic waves, which tend to die out quickly, will most often cause damage near the epicenter of the earthquake, damaging structures such as one- and two-story buildings. Very short-period waves are most likely to cause nonstructural damage, such as to equipment. In different situations, ground displacement, velocity, and acceleration can all cause damage (County of Riverside 2015).

Liquefaction

Liquefaction is a process by which water-saturated materials (including soil, sediment, and certain types of volcanic deposits) lose strength and fail during strong ground shaking. Specifically, liquefaction is defined as the transformation of a granular material from a solid state into a liquefied state as a consequence of increased pore-water pressure. Liquefaction occurs worldwide, commonly during moderate to large earthquakes. Four kinds of ground failure commonly result from liquefaction: lateral spread, flow failure, ground oscillation, and loss of bearing strength. Areas in Riverside County susceptible to liquefaction hazards are depicted in **Figure 3.6-2**.

Landslides and Slope Failure

Factors controlling and contributing to the stability of slopes include slope height and inclination, engineering characteristics of the earth materials comprising the slope, and intensity of ground shaking. Seismically induced landslides and rockfall would be expected throughout Riverside County in the event of a major earthquake. It is estimated that a ground acceleration of at least 0.10 g (acceleration of gravity) in steep terrain is necessary to induce earthquake-related rockfall, although exceeding this value does not guarantee that rockfall will occur. Because there are several faults capable of generating peak ground accelerations of over 0.10 g in Riverside County, there is a high potential for seismically induced rockfall and landslides to occur.

Subsidence and Collapsible Soils

Ground subsidence is typically a gradual settling or sinking of the ground surface with little or no horizontal movement, although fissures (cracks and separations) are common. Subsidence can range from small or local collapses to broad regional lowering of the earth's surface. Subsidence is caused by a variety of factors, including dewatering of peat or organic soils, dissolution in limestone aquifers, first-time wetting of moisture-deficient, low-density soils (hydrocompaction), natural compaction, liquefaction, crustal deformation, subterranean mining, and withdrawal of fluids (groundwater, petroleum, geothermal, etc.). Most of the damaging types of subsidence are induced by the extraction of oil, gas, or groundwater from below the ground surface or the organic decomposition of peat deposits, with a resultant loss in volume. Ground subsidence can also occur as a response to natural forces, such as earthquake movements and the evolution of a sedimentary basin as it folds and subsides.

Ground subsidence can disrupt surface drainage, reduce aquifer system storage, form earth fissures, and damage wells, buildings, roads, and utility infrastructure. Regional subsidence generally damages structures that are sensitive to slight changes in elevations, such as canals, sewers, and drainages. In Riverside County, risk of damage or harm due to regional subsidence is greatest at valley margins.

Subsidence and fissuring have been caused by falling groundwater tables and by hydrocollapse when groundwater tables rise in Riverside County. In addition, many fissures have occurred along active faults that bound the San Jacinto Valley and the Elsinore Trough. Subsidence has only been documented in three areas of the County: the Elsinore Trough, including Temecula and Murrieta; the San Jacinto Valley from Hemet to Moreno Valley; and the southern Coachella Valley.

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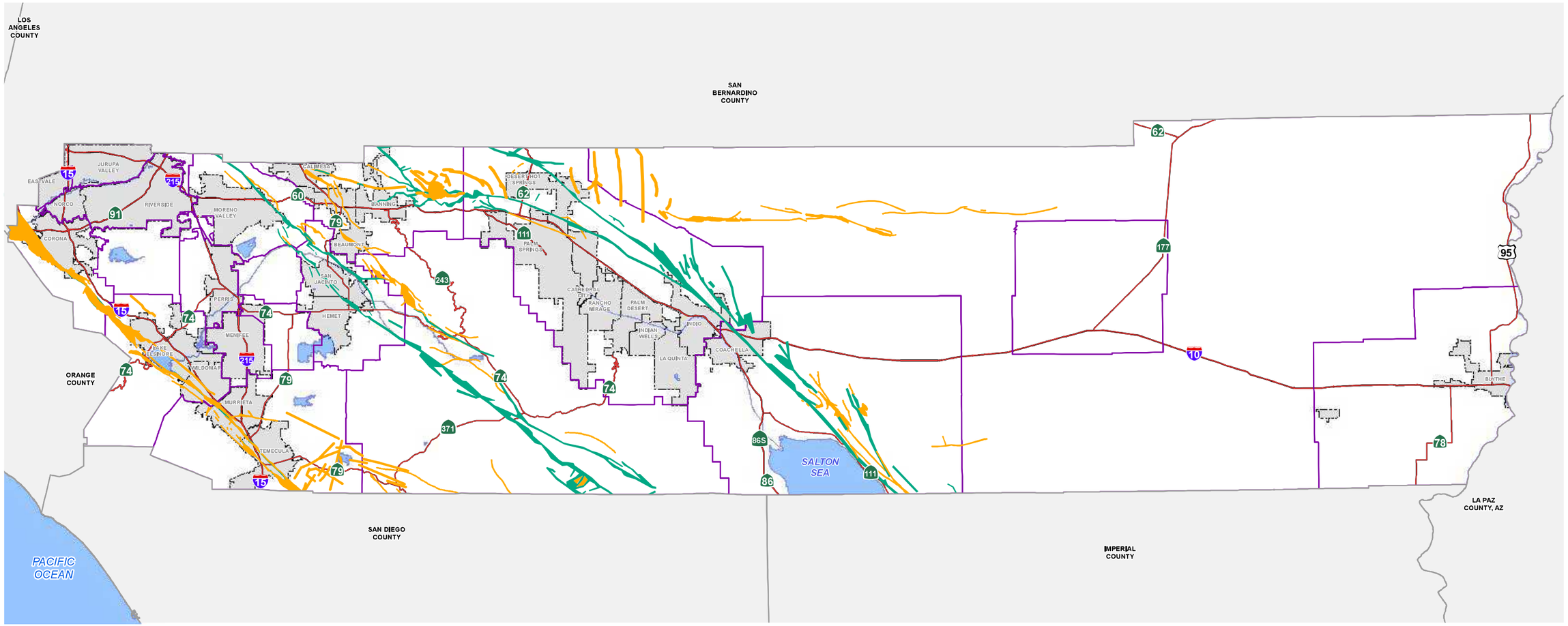

Fault Zones

- Alquist-Priolo
- Riverside County
- Highways
- Area Plan Boundary
- City Boundary
- Waterbodies

Source: Riverside County 2015

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MILES

Figure 3.6-1
Riverside County Alquist-Priolo Earthquake Fault Zones

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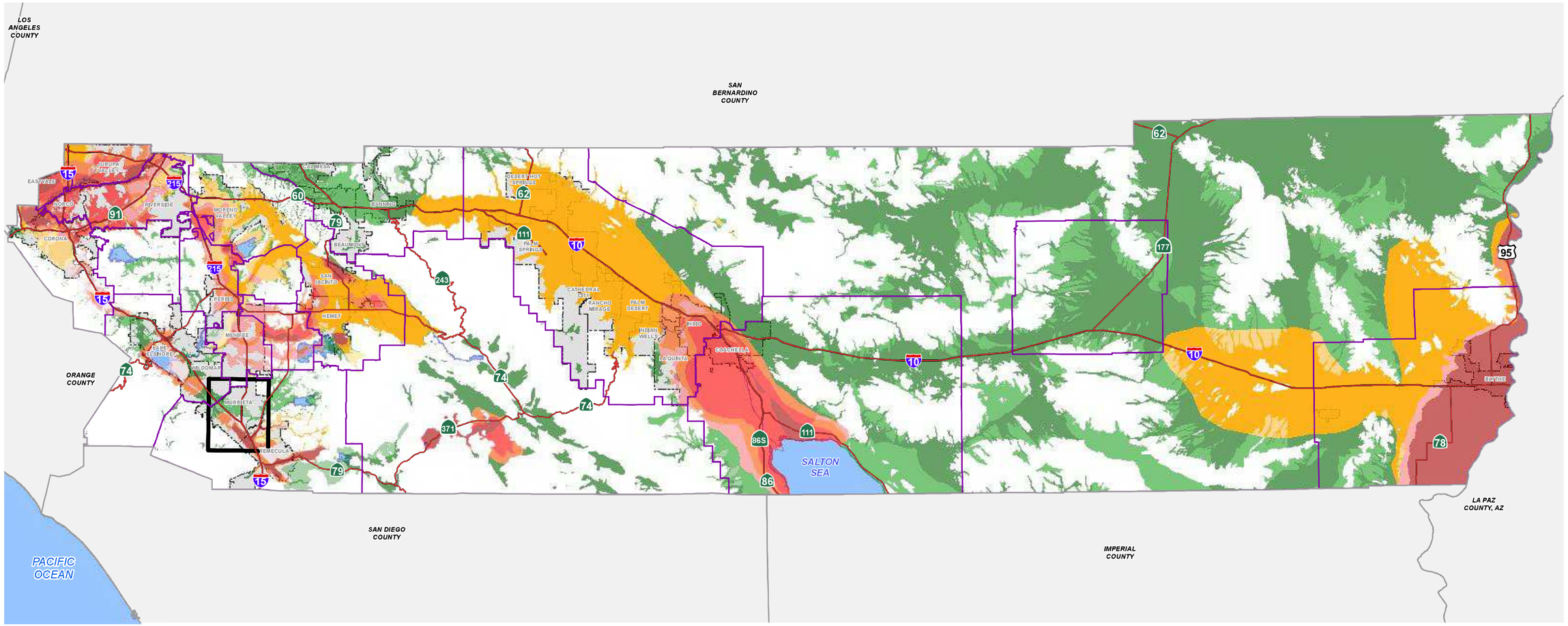

Liquefaction Susceptibility

Shallow Groundwater Susceptible Sediments
- Very High
- High
- Moderate
- Low
- Very Low

Deep Groundwater Susceptible Sediments
- Moderate
- Low
- Very Low

No Groundwater Data Susceptible Sediments
- Moderate
- Low
- Very Low

- Highways
- Area Plan Boundary
- City Boundary
- Waterbodies

California Geological Survey Seismic Hazard Zones
- Murrieta Quad

(See detail in Elsinore, Southwest, Sun City / Menifee Valley Area Plans)

Source: Riverside County 2015

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Figure 3.6-2
Liquefaction Zones

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Wind Erosion

Wind erosion damages land and natural vegetation by removing soil from one place and depositing it in another. It mostly affects dry, sandy soils in flat, bare areas, but wind erosion may occur wherever soil is loose, dry, and finely granulated. It causes soil loss, dryness, deterioration of soil structure, nutrient and productivity losses, air pollution, and sediment transport and deposition.

Wind and windblown sand are an environmentally limiting factor throughout much of Riverside County. Approximately 20 percent of the land area of the County is vulnerable to high and very high wind erosion susceptibility. The Coachella Valley, the Santa Ana River channel, and areas in the vicinity of Hemet have been identified as zones of high wind erosion susceptibility (County of Riverside 2015).

Paleontological Resources

Paleontological resources are the fossilized biotic remains of ancient environments. In the western portion of Riverside County, fossils occur in sediments lying on the surface of crystalline bedrock or are deposited in or between the major fault zones. The eastern desert portions of the County are marked by fault block mountains that contain older fossil-bearing sediments with younger fossil-containing deposits found around dry lakes, along high stands of the Salton Sea, and in terraces left by the Colorado River (County of Riverside 2015). Riverside County has been inventoried for geologic formations known to potentially contain paleontological resources. Lands with high, low, or undetermined potential for finding paleontological resources are mapped on **Figure 3.6-3** (County of Riverside 2014).

THRESHOLDS OF SIGNIFICANCE

The impact analysis is based on CEQA Guidelines Appendix G thresholds of significance. A significant impact with regard to geology or soils would occur if implementation of the project would:

1) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, involving:

    a) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. Refer to California Geological Survey (formerly Division of Mines and Geology) Special Publication 42.

    b) Strong seismic ground shaking.

    c) Seismic-related ground failure, including liquefaction.

    d) Landslides.

2) Result in substantial soil erosion or the loss of topsoil.

3) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.

4) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.

5) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

6) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

METHODOLOGY

General Plan EIR No. 521 determined that mitigation and regulatory compliance measures would reduce to below the level of significance adverse impacts associated with geology and soils, including fault rupture hazards, ground shaking, liquefaction, landslides and rockfall, seismically induced settlement, subsidence and collapsible soils, and soil erosion and loss of topsoil, resulting from buildout of land uses currently designated in the General Plan (County of Riverside 2015). EIR No. 441 determined that implementation of mitigation and regulatory compliance measures would reduce impacts associated with fault rupture hazards, ground shaking, liquefaction, landslides and rockfalls, seismically induced settlement, subsidence and collapsible soils, and soil erosion and loss of topsoil to a less than significant level (County of Riverside 2002).

The proposed project would result in an increase in density/intensity potential on sites throughout the unincorporated County as a result of redesignation and rezoning. In addition, the text revisions included in the proposed project in order to adopt and implement the new HHDR and MUA land use designations and zone classifications would allow such development to be proposed in other areas throughout the County (with the processing of a General Plan Amendment and/or change in zone classification). Therefore, the proposed project could increase the amount of ground disturbance and development in comparison to those conditions previously anticipated. The impact analysis below considers the potential for these changes to collectively result in geology and soils impacts in the County.

IMPACT ANALYSIS

Impact Analysis 3.6.1 Future development facilitated by the project could increase the number of people and the amount of developed property exposed to fault rupture hazards and associated potential for property loss, injury, or death. This is a **potentially cumulatively considerable** impact. (Threshold 1a)

The proposed project would accommodate future development of both high-density residential and mixed-use development at increased density/intensity in comparison to those conditions previously anticipated. If future development were to occur on or in the vicinity of known earthquake faults (see **Figure 3.6-1**) or as-yet undetected earthquake faults, the number of people and the amount of developed property exposed to fault rupture hazards, and thus the potential for property loss, injury, or death, would be increased. This is a **potentially cumulatively considerable** impact.

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SAN BERNARDINO COUNTY

ORANGE COUNTY

SAN DIEGO COUNTY

IMPERIAL COUNTY

LA PAZ COUNTY, AZ

SALTON SEA

PACIFIC OCEAN

High A (Ha)
High B (Hb)
Low
Undetermined
Highways
Waterbodies

Source: Riverside County 2015

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MILES

Figure 3.6-3
Palentological Sensitivity

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All future development accommodated by the project would be subject to site-specific geotechnical investigations and engineering and design criteria required by the state and County for development located in an earthquake fault zone. The applicable regulatory measures for future development projects would be determined during the County's development review process and included in a project's conditions of approval.

Riverside County Ordinance No. 547 establishes that projects located in an earthquake fault zone must comply with all provisions of the Alquist-Priolo Earthquake Fault Zoning Act. The regulations, which are implemented via County Municipal Code Chapter 15.60, Earthquake Fault Area Construction Regulations, apply to all grading, buildings, and structures, and regulate numerous aspects of design to ensure that structures and facilities are designed with the appropriate level of seismic safety warranted by the geology of their location. Among other things, the ordinance addresses grading, slopes and compaction, erosion control, retaining wall design, and earthquake fault zones. In addition to the requirements of this ordinance, all applicants for a building permit for a structure used for human occupancy that lies within an earthquake fault zone delineated by the State Geologist pursuant to PRC Section 2621 et seq. and which is subject to Ordinance No. 547 are required to comply with the provisions of this ordinance prior to the County's issuance of a building permit.

GPA 960 Policy S 2.1 (RCIP GP Policy S 2.1) requires geologic studies or analyses for high-occupancy structures within 0.5 mile of all Quaternary to historic faults shown on the Earthquake Fault Studies Zones map. Based on the study, development projects may be required to adhere to specific setbacks from faults, engineer structures to specific tolerances, engineer soils, etc. In addition, the following mitigation measure would be required as a condition of approval for development projects in earthquake fault zones. During the County's development review process, the applicant would be required to provide substantial evidence of compliance with these policies as part of the project application materials. In addition, mitigation measure **MM 3.6.1** below would be required as a condition of approval for future development projects during development review process.

Mitigation Measure

MM 3.6.1 Before a project is approved or otherwise permitted within an Alquist-Priolo Zone, County Fault Zone, within 150 feet of any other active or potentially active fault mapped in a published US Geologic Survey or California Geological Survey reports, or within other potential earthquake hazard area (as determined by the County Geologist), a site-specific geologic investigation shall be prepared to assess potential seismic hazards resulting from development of the project site. The site-specific geotechnical investigation shall incorporate up-to-date data from government and nongovernment sources.

Based on the site-specific geotechnical investigation, no structures intended for human occupancy shall be constructed across active faults. This site-specific evaluation and written report shall be prepared by a licensed geologist and shall be submitted to the County Geologist for review and approval prior to the issuance of building permits. If an active fault is discovered, any structure intended for human occupancy shall be set back at least 50 feet from the fault. A larger or smaller setback may be established if such a setback is supported by adequate evidence presented to and accepted by the County Geologist.

Timing/Implementation: *Prior to project approval*

Enforcement/Monitoring: *County of Riverside*

The County's development review process would ensure compliance with both General Plan policies and mitigation measure **MM 3.6.1**, which require a site-specific geologic investigation and prohibits structures intended for human occupancy across active faults. If an active fault is discovered, any structure intended for human occupancy is required to be set back from the fault. Compliance with these regulations would ensure that no habitable structure would be built on an active fault and that the design of structures in fault zones would include seismic safety measures, thus minimizing the potential for fault rupture to affect the structure and cause loss, injury, or death. Therefore, this impact would be reduced to a **less than cumulatively considerable** level.

Impact Analysis 3.6.2 Future development facilitated by the project could increase population and residential and mixed-use development throughout the County, thus increasing the exposure of persons and property to seismic hazards, including strong seismic ground shaking, seismic-related ground failure including liquefaction, and landslides. This is a **potentially cumulatively considerable** impact. (Thresholds 1b, 1c, and 1d)

The proposed project would accommodate future development at increased density/intensity in comparison to previously anticipated conditions. Increases in population and residential and mixed-use development throughout the County could increase the exposure of persons and property to seismic hazards, including strong seismic ground shaking, seismic-related ground failure including liquefaction, and landslides. This is a **potentially cumulatively considerable** impact.

The County enforces regulations to reduce each of these seismic hazards when they have the potential to occur based on site-specific geologic conditions. The applicable regulatory measures for future development projects would be determined during the County's development review process and included in a project's conditions of approval. The following mitigation measures would ensure such measures would be enforced as conditions of approval for future development projects during development review process.

Mitigation Measure

MM 3.6.2 The design and construction of structures and facilities shall adhere to the standards and requirement detailed in the California Building Code (California Code of Regulations, Title 24), County Building Code, and/or professional engineering standards appropriate for the seismic zone in which such construction may occur. Conformance with these design standards shall be enforced through building plan review and approval by the Riverside County Department of Building and Safety prior to the issuance of building permits for any structure or facility.

Timing/Implementation: *During building plan review and prior to project approval*

Enforcement/Monitoring: *County of Riverside*

MM 3.6.3 As determined by the County Geologist, a site-specific assessment shall be prepared to ascertain potential ground shaking impacts resulting from development. The site-specific ground shaking assessment shall incorporate up-to-date data from government and nongovernment sources and may be included as part of any site-specific geotechnical investigation required in mitigation measure **MM 3.6.1.** The site-specific ground shaking assessment shall include

specific measures to reduce the significance of potential ground shaking hazards. This site-specific ground shaking assessment shall be prepared by a licensed geologist and shall be submitted to the County Geologist for review and approval prior to the issuance of building permits.

Timing/Implementation: *Prior to issuance of building permits*

Enforcement/Monitoring: *County of Riverside*

MM 3.6.4 As determined by the County Geologist, a site-specific assessment shall be prepared to ascertain potential liquefaction impacts resulting from development. The site-specific liquefaction assessment shall incorporate up-to-date data from government and nongovernment sources and may be included as part of any site-specific geotechnical investigation required in mitigation measure **MM 3.6.1**. This site-specific liquefaction assessment shall be prepared by a licensed geologist and shall be submitted to the County Geologist for review and approval prior to the issuance of building permits.

Timing/Implementation: *Prior to issuance of building permits*

Enforcement/Monitoring: *County of Riverside*

MM 3.6.5 Where development is proposed within an identified or potential liquefaction hazard area (as determined by the County Geologist), adequate and appropriate measures such as (but not limited to) design foundations in a manner that limits the effects of liquefaction, the placement of an engineered fill with low liquefaction potential, and the alternative siting of structures in areas with a lower liquefaction risk, shall be implemented to reduce potential liquefaction hazards. Any such measures shall be submitted to the Riverside County Geologist and the County Department of Building and Safety for review prior to the approval of the building permits.

Timing/Implementation: *Prior to issuance of building permits*

Enforcement/Monitoring: *County of Riverside*

GPA Policies S 2.5 through S 2.7 (RCIP GP Policies S 2.5 through S 2.7) include additional requirements to address the potential for seismic-related ground failure and landslides to affect new development. The policies require that engineered slopes be designed to resist seismically induced failure, that cut and fill transition lots be over-excavated to mitigate the potential of seismically induced differential settlement, and that fill depths beneath structures have a 100 percent maximum variation to mitigate the potential of seismically induced differential settlement. During the County's development review process, the applicant would be required to provide substantial evidence of compliance with these policies as part of the project application materials.

Compliance with these mitigation measures and policy provisions would ensure that the site-specific geologic conditions of future development proposals would be evaluated and that regulatory and mitigation measures to reduce seismic hazards, including strong seismic ground shaking, seismic-related ground failure including liquefaction, and landslides, would be applied. These measures might include additional footings, limits on excavation, limits on building areas, and similar physical changes to project-specific design that would be applied as part of the building permit process. Therefore, this impact would be reduced to a **less than cumulatively considerable** level.

Impact Analysis 3.6.3 Areas exposed during future development activities accommodated by the proposed project would be prone to erosion and loss of topsoil. This is a **potentially cumulatively considerable** impact. (Threshold 2)

As human activities that remove vegetation or disturb soil are the biggest contributor to erosion potential, areas exposed during future development activities accommodated by the proposed project would be prone to erosion and loss of topsoil. This is a **potentially cumulatively considerable** impact.

Pursuant to Riverside County Ordinance 457, a grading permit is required for most earthmoving operations in the County. The Riverside County Building and Safety Department and/or the Riverside County Geologist would identify conditions of approval to be completed prior to issuance of a grading permit, including erosion and sediment control plans. Measures included in individual erosion control plans could include minimizing terrain modification, controlling surface water and diverting around potential landslide areas to prevent erosion and saturation of slopes, limiting the extent and duration of ground-disturbing activities during and immediately following periods of rain, balancing the amount of cut and fill, and erosion control devices to limit amount of water entering and exiting a graded site.

Future development projects disturbing 1 or more acres of soil, or projects disturbing less than 1 acre but that are part of a larger common plan of development that in total disturbs 1 or more acres, are also required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit Order 2012-0006-DWQ). The Construction General Permit requires the development and implementation of a stormwater pollution prevention plan that lists best management practices (BMPs) to be used to protect stormwater runoff and the placement of those BMPs. BMPs are erosion and sediment control measures that can be divided into two categories: structural and nonstructural. Structural BMPs include silt fences, sedimentation ponds, erosion control blankets, and temporary or permanent seeding, while nonstructural BMPs include picking up trash and debris, sweeping up nearby sidewalks and streets, maintaining equipment, and training site staff on erosion and sediment control practices. These National Pollutant Discharge Elimination System (NPDES) requirements would significantly reduce the potential for substantial erosion or topsoil loss that occurs in association with new development.

The following mitigation measures would be required of future development as conditions of approval for future development projects during development review process in order to ensure the application of the above regulations and to further reduce erosion impacts.

Mitigation Measures

MM 3.6.6 New development in identified or potential (as determined by the County Geologist) wind hazard areas shall adhere to applicable provisions of Riverside County Ordinance No. 484.2 or other local, state, or federal requirements

established to control or limit the windborne erosion of soil. Prior to the approval of development permits, the County Building and Safety Department shall confirm that the design of any proposed structure, facility, or use incorporates appropriate features to control and/or limit the windborne erosion of soil.

Timing/Implementation: *Prior to issuance of building permits*

Enforcement/Monitoring: *County of Riverside*

MM 3.6.7 Riverside County, where required, and in accordance with issuance of a National Pollutant Discharge Elimination System permit, shall require the construction and/or grading contractor for individual developments to establish and implement specific best management practices at time of project implementation.

Timing/Implementation: *Prior to and during construction activities*

Enforcement/Monitoring: *County of Riverside*

MM 3.6.8 Prior to any development in the County, a grading plan shall be submitted to the Riverside County Building and Safety Department and/or Riverside County Geologist for review and approval. As required by the County, the grading plan shall include erosion and sediment control plans. Measures in individual erosion control plans may include, but shall not be limited to, the following:

a. Grading and development plans shall be designed in a manner which minimizes the amount of terrain modification.
b. Surface water shall be controlled and diverted around potential landslide areas to prevent erosion and saturation of slopes.
c. Structures shall not be sited on or below identified landslides unless landslides are stabilized.
d. The extent and duration of ground-disturbing activities during and immediately following periods of rain shall be limited, to avoid the potential for erosion which may be accelerated by rainfall on exposed soils.
e. To the extent possible, the amount of cut and fill shall be balanced.
f. The amount of water entering and exiting a graded site shall be limited though the placement of interceptor trenches or other erosion control devices.
g. Erosion and sediment control plans shall be submitted to the County for review and approval prior to the issuance of grading permits.

Timing/Implementation: *Prior to issuance of grading permits*

Enforcement/Monitoring: *County of Riverside*

MM 3.6.9 Where required, drainage design measures shall be incorporated into the final design of individual projects on-site. These measures shall include, but will not be limited to, the following:

a. Runoff entering developing areas shall be collected into surface and subsurface drains for removal to nearby drainages.
b. Runoff generated above steep slopes or poorly vegetated areas shall be captured and conveyed to nearby drainages.
c. Runoff generated on paved or covered areas shall be conveyed via swales and drains to natural drainage courses.

d. Disturbed areas that have been identified as highly erosive shall be (re)vegetated.
e. Irrigation systems shall be designed, installed, and maintained in a manner which minimizes runoff.
f. The landscape scheme for projects within the project site shall utilize drought-tolerant plants.
g. Erosion control devices such as rip-rap, gabions, and small check dams may be utilized in gullies and active stream channels to reduce erosion.

Timing/Implementation: *During site plan review and prior to project approval*

Enforcement/Monitoring: *County of Riverside*

Compliance with the above mitigation measures would ensure that future development would conduct the appropriate studies at an early stage to determine the potential for erosion and identify the necessary plans and BMPs to prevent it. Compliance with these policies would aid in reducing potential adverse impacts of wind erosion to less than significant levels. These measures, as well as Riverside County Ordinance 457 and the NPDES Construction General Permit, would reduce impacts to **less than cumulatively considerable** levels for future development under the project.

Impact Analysis 3.6.4 Future development accommodated by the proposed project could result in the construction and occupation of structures in areas underlain by unstable or expansive soils. This is a **potentially cumulatively considerable** impact. (Thresholds 3 and 4)

Future development accommodated by the proposed project could result in the construction and occupation of structures in areas underlain by unstable or expansive soils. This is a **potentially cumulatively considerable** impact.

All new development in Riverside County is required to be compliant with Title 24 of the California Building Code, which addresses construction of structures in areas subject to unstable and expansive soils. Testing for expansive soils and the implementation of appropriate mitigation are required by the California Building Standards Commission (CBSC); special engineering designs, including the use of reinforcing steel in foundations, drainage control devices, over-excavation, and backfilling with nonexpansive soil, are used to alleviate problems caused by expansive soils.

Geotechnical studies are required for new development in landslide potential hazard management zones (GPA 960 and RCIP GP Policy S 3.1), documented subsidence zones (GPA 960 and RCIP GP Policy S 3.8), and areas with the potential for liquefaction (GPA 960 and RCIP GP Policy S 2.2). These studies would address site-specific geology, slopes, and soil stability, as well as the requirements for grading, site preparation, and building foundations. Also, grading regulations implemented by the County of Riverside require that approved grading plans be consistent with the geotechnical study. During the County's development review process, the applicant would be required to provide substantial evidence of compliance with these policies.

The following mitigation measure would be required as conditions of approval for future development projects during development review process to address future development on expansive soils.

Mitigation Measures

MM 3.6.10 Proponents of new development in Riverside County shall adhere to applicable policies and standards contained in the most recent version of the California Building Code related to the construction of structures and facilities on expansive soils.

Timing/Implementation: *Prior to issuance of building permits*

Enforcement/Monitoring: *County of Riverside*

Compliance with the County's requirements for proposed development to conduct geotechnical studies and implement appropriate mitigation per the CBSC, including CBSC requirements for the construction of structure on expansive soils as addressed by mitigation measure **MM 3.6.10**, would ensure that significant impacts related to soil instability would be reduced to **less than cumulatively considerable** levels for future development under the project.

Impact Analysis 3.6.5 Future development accommodated by the proposed project in areas outside of existing sewer service providers would increase the potential for placement of structures and facilities in areas where soils are incapable of adequately supporting septic tanks, on-site wastewater treatment systems (OWTS), or alternative systems. This is a **less than cumulatively considerable** impact. (Threshold 5)

Future development accommodated by the proposed project in areas outside of existing sewer service providers would increase the potential for placement of structures and facilities in areas where soils are incapable of adequately supporting septic tanks, on-site wastewater treatment systems (OWTS), or alternative systems.

The need for specific facilities/capacity is determined during the development review process, which takes into account project-specific features such as soil types, number of units, etc. The County regulates the construction of septic tanks in new development to ensure both adequate capacity for wastewater treatment and the protection of water quality. County Ordinance No. 650, Sewer Discharge in Unincorporated Territory, establishes a variety of regulations regarding OWTS, including that the type of sewage facilities installed be determined on the basis of location, soil porosity, site slope, and groundwater level, and designed to receive all sanitary sewage from the property based on the higher volume estimation as determined by either the number of bedrooms or plumbing fixture unit counts. The minimum lot size required for each permanent structure with plumbing fixtures utilizing an OWTS to handle its wastewater is 0.50 acre, and construction of all new septic facilities requires approval from the Riverside County Health Officer (County Code Section 8.124.030 and Ordinance No. 650). Approval requires detailed review and on-site inspections including a scaled, contoured plot plan, a soils feasibility report that adequately evaluates soil percolation, a special feasibility boring report (for groundwater and/or bedrock), and an engineered topographical map.

Additionally, the US Environmental Protection Agency (EPA) has standards governing the placement of septic systems in proximity to water supply wells (see Section 2.3, Framework). Consistent with EPA Standards, the County prohibits the placement of conventional septic tanks/ subsurface disposal systems in any designated Zone A3 of an EPA wellhead protection area (County of Riverside 2015).

Compliance with these regulations and programs is ensured through conditions of approval issued by the County of Riverside for implementing projects and would ensure that any OWTS would be installed consistent with all applicable County requirements on soils capable of supporting the system. Therefore, this impact would be **less than cumulatively considerable**.

Mitigation Measures

None required.

Impact Analysis 3.6.6 The increase in density/intensity potential facilitated by the proposed project could result in the cumulative destruction of unique paleontological or geologic resources or sites. This would be a **less than cumulatively considerable** impact. (Threshold 6)

Paleontological resources, including fossilized large mammal remains, are known to exist in Riverside County, as shown in **Figure 3.6-3.** The increase in density/intensity potential facilitated by the proposed project could result in ground-disturbing activities in various locations throughout the unincorporated County. The effect of such development in areas with high or undetermined potential for paleontological resources could result in the cumulative destruction of unique paleontological or geologic resources or sites.

Existing state and County regulations include specific procedures that development projects must follow in order to ensure the review and protection of paleontological resources. When existing information indicates that a site proposed for development has high paleontological sensitivity, a paleontological resource impact mitigation program is required for the project that specifies steps to be taken to mitigate impacts to paleontological resources (County Standard Conditions of Approval and GPA 960 and RCIP GP Policy OS 19.6). These steps may include but are not limited to professional site monitoring, sampling of sediments likely to contain the remains of small fossil invertebrates and vertebrates, and curation procedures to be employed.

When existing information indicates that a site proposed for development has low paleontological sensitivity, no direct mitigation is required unless a fossil is encountered during site development, at which point the Riverside County Geologist must be notified and a paleontologist retained by the project applicant. The paleontologist documents the extent and potential significance of the paleontological resources on the site and establishes appropriate mitigation measures for further site development (County Standard Conditions of Approval and GPA 960 and RCIP GP Policy OS 19.7).

When existing information indicates that a site proposed for development has undetermined paleontological sensitivity, a report is filed with the Riverside County Geologist documenting the extent and potential significance of the paleontological resources on-site and identifying

[3] Classified as potential area of direct microbiological and chemical contamination based on an estimated two-year time of contaminant travel within an aquifer from the wellhead to the potential source of contamination.

mitigation measures for the fossils and for impacts to significant paleontological resources (County Standard Conditions of Approval and GPA 960 and RCIP GP Policy OS 19.8).

The existing County procedures, standard conditions of approval, and General Plan policies discussed ensure that the County's paleontological resources are protected on a comprehensive, or cumulative, level. Because future development facilitated by the project would be required to follow these procedures as part of the development review process and implement the standard conditions of approval and General Plan policies in order to ensure the review and protection of paleontological resources, this impact would be reduced to a **less than cumulatively considerable** level.

Mitigation Measures

None required.

3.7 GREENHOUSE GAS EMISSIONS

SETTING

Since the early 1990s, scientific consensus has held that the world's population is releasing greenhouse gases (GHGs) faster than the earth's natural systems can absorb them. These gases are released as byproducts of fossil fuel combustion, waste disposal, energy use, land use changes, and other human activities. This release of gases, such as carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O), creates a blanket around the earth that allows light to pass through but traps heat at the surface, preventing its escape into space. While this is a naturally occurring process known as the greenhouse effect, human activities have accelerated the generation of GHGs beyond natural levels. The overabundance of GHGs in the atmosphere has led to a warming of the earth and has the potential to severely impact the earth's climate system.

While often used interchangeably, there is a difference between the terms *climate change* and *global warming*. According to the National Academy of Sciences, climate change refers to any significant, measurable change of climate lasting for an extended period of time that can be caused by both natural factors and human activities. Global warming, on the other hand, is an average increase in the temperature of the atmosphere caused by increased GHG emissions. Use of the term *climate change* is becoming more prevalent because it encompasses all changes to the climate, not just temperature.

To fully understand global climate change, it is important to recognize the naturally occurring greenhouse effect and to define the GHGs that contribute to this phenomenon. Various gases in the earth's atmosphere, classified as atmospheric GHGs, play a critical role in determining the earth's surface temperature. Solar radiation enters the earth's atmosphere from space and a portion of the radiation is absorbed by the earth's surface. The earth emits this radiation back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation. Greenhouse gases, which are transparent to solar radiation, are effective in absorbing infrared radiation. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect. Among the prominent GHGs contributing to the greenhouse effect are CO_2, CH_4, and N_2O.

Table 3.7-1 provides descriptions of the primary GHGs attributed to global climate change, including a description of their physical properties, primary sources, and contribution to the greenhouse effect.

TABLE 3.7-1
GREENHOUSE GASES

Greenhouse Gas	Description
Carbon Dioxide (CO_2)	Carbon dioxide is a colorless, odorless gas emitted in a number of ways, both naturally and through human activities. The largest source of CO_2 emissions globally is the combustion of fossil fuels such as coal, oil, and gas in power plants, automobiles, industrial facilities, and other sources. A number of specialized industrial production processes and product uses such as mineral production, metal production, and the use of petroleum-based products can also lead to CO_2 emissions. The atmospheric lifetime of CO_2 is variable because it is so readily exchanged in the atmosphere.[1]

Greenhouse Gas	Description
Methane (CH_4)	Methane is a colorless, odorless gas and is the major component of natural gas, about 87 percent by volume. It is also formed and released to the atmosphere by biological processes occurring in anaerobic environments. Methane is emitted from a variety of both human-related and natural sources. Human-related sources include fossil fuel production, animal husbandry (intestinal fermentation in livestock and manure management), rice cultivation, biomass burning, and waste management. These activities release significant quantities of CH_4 to the atmosphere. Natural sources of CH_4 include wetlands, gas hydrates, permafrost, termites, oceans, freshwater bodies, nonwetland soils, and other sources such as wildfires. The atmospheric lifetime of CH_4 is about12 years.[2]
Nitrous Oxide (N_2O)	Nitrous oxide is a clear, colorless gas with a slightly sweet odor. Nitrous oxide is produced by both natural and human-related sources. Primary human-related sources of N_2O are agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuels, adipic acid production, and nitric acid production. Nitrous oxide is also produced naturally from a wide variety of biological sources in soil and water, particularly microbial action in wet tropical forests. The atmospheric lifetime of N_2O is approximately 120 years.[3]

Sources: [1] EPA 2016a, [2] EPA 2016b, [3] EPA 2016c

Each GHG differs in its ability to absorb heat in the atmosphere based on the lifetime, or persistence, of the gas molecule in the atmosphere. Methane traps over 25 times more heat per molecule than CO_2, and N_2O absorbs 298 times more heat per molecule than CO_2. Often, estimates of GHG emissions are presented in carbon dioxide equivalents (CO_2e), which weigh each gas by its global warming potential (GWP). Expressing GHG emissions in CO_2e takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted.

As the name implies, climate change is a global problem. Greenhouse gases are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern, respectively. California is a significant emitter of CO_2e in the world and produced 459 million gross metric tons of CO_2e in 2013. Consumption of fossil fuels in the transportation sector was the single largest source of California's GHG emissions in 2010, accounting for 37 percent of total GHG emissions in the state. This category was followed by the industrial sector (23 percent) and the in-state electricity generation (11 percent) (CARB 2015)

Effects of Global Climate Change

California can draw on substantial scientific research conducted by experts at various universities and research institutions. With more than a decade of concerted research, scientists have established that the early signs of climate change are already evident in the state—as shown, for example, in increased average temperatures, changes in temperature extremes, reduced snowpack in the Sierra Nevada, sea level rise, and ecological shifts.

Many of these changes are accelerating locally, across the country, and around the globe. As a result of emissions already released into the atmosphere, California will face intensifying climate change in coming decades. Generally, research indicates that California should expect overall hotter and drier conditions, with a continued reduction in winter snow (with concurrent increases in winter rains), as well as increased average temperatures and accelerating sea level rise. In addition to changes in average temperatures, sea level, and precipitation patterns, the intensity of extreme weather events is also changing (CNRA 2009).

Climate change temperature projections identified in the 2009 California Climate Adaptation Strategy suggest the following:

- Average temperature increase is expected to be more pronounced in the summer than in the winter season.
- Inland areas are likely to experience more pronounced warming than coastal regions.
- Heat waves are expected to increase in frequency, with individual heat waves also showing a tendency toward becoming longer and extending over a larger area, thus more likely to encompass multiple population centers in California at the same time.
- Because GHGs remain in the atmosphere for decades, temperature changes over the next 30 to 40 years are already largely determined by past emissions. By 2050, temperatures are projected to increase by an additional 1.8 to 5.4°F (an increase one to three times as large as that which occurred over the entire twentieth century).
- By 2100, the models project temperature increases between 3.6 and 9°F. (CNRA 2009)

According to the 2009 California Climate Adaptation Strategy, the impacts of climate change in California have the potential to include but are not limited to the areas discussed in **Table 3.7-2**.

TABLE 3.7-2
POTENTIAL STATEWIDE IMPACTS FROM CLIMATE CHANGE

Potential Statewide Impact	Description
Public Health	Climate change is expected to lead to an increase in ambient (i.e., outdoor) average air temperature, with greater increases expected in summer. Larger temperature increases are anticipated in inland communities as compared to the California coast. The potential health impacts from sustained and significantly higher than average temperatures include heat stroke, heat exhaustion, and the exacerbation of existing medical conditions such as cardiovascular and respiratory diseases, diabetes, nervous system disorders, emphysema, and epilepsy. Numerous studies have indicated that there are generally more deaths during periods of sustained higher temperatures. The elderly, infants, and socially isolated people with pre-existing illnesses who lack access to air conditioning or cooling spaces are among the most at risk during heat waves.
Floods and Droughts	The impacts of flooding may include population displacement, severe psychosocial stress with resulting mental health impacts, exacerbation of pre-existing chronic conditions, and infectious disease. Additionally, impacts can range from a loss of personal belongings, and the emotional ramifications from such loss, to direct injury and/or mortality. Drinking water contamination outbreaks in the United States are associated with extreme precipitation events. Runoff from rainfall is also associated with coastal contamination that can lead to contamination of shellfish and contribute to food-borne illness. Floodwaters may contain household, industrial, and agricultural chemicals, as well as sewage and animal waste. Flooding and heavy rainfall events can wash pathogens and chemicals from contaminated soils, farms, and streets into drinking water supplies. Flooding may also overload storm and wastewater systems, or flood septic systems, also leading to possible contamination of drinking water systems. Drought impacts develop more slowly over time. Risks to public health that Californians may face from drought include impacts on water supply and quality, food production (both agricultural and commercial fisheries), and risks of waterborne illness. As surface water supplies are reduced as a result of drought conditions, the amount of groundwater pumping is expected to increase to make up for the water shortfall. The increase in groundwater

Potential Statewide Impact	Description
	pumping has the potential to lower the water tables and cause land subsidence. Communities that utilize well water will be adversely affected by drops in water tables or through changes in water quality. Groundwater supplies have higher levels of total dissolved solids compared to surface waters. This introduces a set of effects for consumers, such as repair and maintenance costs associated with mineral deposits in water heaters and other plumbing fixtures, and on public water system infrastructure designed for lower salinity surface water supplies. Drought may also lead to increased concentration of contaminants in drinking water supplies.
Water Resources	The state's water supply system already faces challenges to provide water for California's growing population. Climate change is expected to exacerbate these challenges through increased temperatures and possible changes in precipitation patterns. The trends of the last century, especially increases in hydrologic variability, will likely intensify in this century. The state can expect to experience more frequent and larger floods and deeper droughts. Rising sea level will threaten the Delta water conveyance system and increase salinity in near-coastal groundwater supplies.
Forests and Landscapes	Global climate change has the potential to intensify the current threat to forests and landscapes by increasing the risk of wildfire and altering the distribution and character of natural vegetation. If temperatures rise into the medium warming range, wildfire occurrence statewide could increase from 57% to 169% by 2085. However, since wildfire risk is determined by a combination of factors, including precipitation, winds, temperature, and landscape and vegetation conditions, future risks will not be uniform throughout the state.

Source: CNRA 2009

THRESHOLDS OF SIGNIFICANCE

The impact analysis is based on the CEQA Guidelines Appendix G thresholds of significance. A greenhouse gas emission–related impact is considered significant if implementation of the project would:

1) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

2) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

METHODOLOGY

In order to assess the significance of a proposed project's environmental impacts, it is necessary to identify quantitative or qualitative thresholds which, if exceeded, would constitute a finding of significance. Determining a threshold of significance for a project's climate change impacts poses a special difficulty for lead agencies. The science in this area is new and evolving. At the same time, neither the state nor local agencies are specialized in this area, and there are currently no state thresholds for determining whether a proposed project has a significant impact on climate change. The CEQA Amendments do not prescribe specific significance thresholds but instead leave considerable discretion to lead agencies to develop appropriate thresholds to apply to projects within their jurisdiction.

AB 32 is a legal mandate requiring that statewide GHG emissions be reduced to 1990 levels by 2020. In adopting AB 32, the California legislature determined the necessary GHG reductions for the state to make in order to sufficiently offset its contribution to the cumulative climate change problem. AB 32 is the only legally mandated requirement for the reduction of GHG emissions. As

such, compliance with AB 32 is the adopted basis upon which an agency can base its significance threshold for evaluating a project's GHG impacts. However, it is acknowledged that Executive Orders 5-03-05 and B-30-15, SB 375, and proposed legislation will ultimately result in GHG emission reduction targets for 2030, 2040, and 2050.

To provide guidance to local lead agencies on determining significance for GHG emissions in CEQA documents, South Coast Air Quality Management District (SCAQMD) staff is convening an ongoing GHG CEQA Significance Threshold Working Group. Members of the working group include government agencies implementing CEQA and representatives from various stakeholder groups that provide input to SCAQMD staff on developing the significance thresholds. On October 8, 2008, the SCAQMD released the Draft AQMD Staff CEQA GHG Significance Thresholds. These thresholds have not been finalized and continue to be developed through the working group. On September 28, 2010, SCAQMD Working Group Meeting #15 provided further guidance, including recommending interim screening level thresholds of 6.6 metric tons of CO_2e per service population (residents plus employees) per year in 2020 and 4.1 metric tons of CO_2e per service population per year in 2035 for plan-level analyses; and 4.8 metric tons of CO_2e per service population per year in 2020 and 3.0 metric tons of CO_2e per service population per year in 2035 for individual project-level analyses.

For the purposes of this evaluation, the plan-level threshold of 6.6 metric tons in 2020 is used to assess the significance of GHG emissions projected to result from the full development potential allowed under the proposed Housing Element, since this threshold was prepared with the purpose of complying with the requirements of AB 32 and achieving the goals of the AB 32 Scoping Plan. In addition, the plan-level threshold of 4.1 metric tons of CO_2e in 2035 is used to assess the impacts of the full development potential allowed under the proposed Housing Element to the post-2020 GHG reduction goals in California, identified in Governor's Executive Order B-30-15 (2015), which seeks to achieve a reduction of GHG emissions of 40 percent below 1990 levels by 2030, and Executive Order 5-03-05 (2005), which seeks to achieve a reduction of GHG emissions of 80 percent below 1990 levels by 2050. Compliance with the SCAQMD's 2035 significance threshold is an appropriate indicator as to whether a project would inhibit post-2020 GHG emissions reduction targets set by the state of California. Existing emissions modeling software is incapable of projecting emissions beyond the year 2035.

In addition, it is acknowledged that all future individual projects instigated by the proposed Housing Element would be required to undergo an evaluation of potential GHG emissions-related impacts specific to the individual project, on a case-by-case basis.

IMPACT ANALYSIS

Impact Analysis 3.7.1 The proposed project could potentially conflict with an applicable plan adopted for the purpose of reducing GHG emissions or substantially contribute to global greenhouse gas emissions. This is a **cumulatively considerable** impact. (Thresholds 1 and 2)

It can be stated generally that development accommodated under the proposed project would result in direct emissions of GHGs from construction activities and operations. **Table 3.7-3** summarizes the GHG emissions associated with complete buildout of the Housing Element. Quantifying the specific GHG emissions from future, short-term, temporary construction activities allowed under the proposed project is not possible due to project-level variability and uncertainties related to future individual projects in terms of detailed site plans, construction schedules, equipment requirements, etc., none of which have yet been determined. However, as previously described, all future individual projects instigated by the proposed Housing Element

would be required to undergo an evaluation of potential GHG emissions-related impacts specific to the individual project, on a case-by-case basis during the development review process. The SCAQMD recommends that projected GHGs from construction be quantified and amortized over the life of the project (30 years), and added to the annual average operational emissions.

As shown, at buildout the Housing Element would result in a maximum net increase of approximately 529,779 metric tons of CO_2e in the year 2020 and 498,410 metric tons of CO_2e in the year 2035, from project operations. It is important to note that these estimates reflect combined emissions from all the potential residential units allowed under the proposed land use changes in the Housing Element and do not reflect emissions attributable to individual projects, as none are currently proposed. However, the proposed project does not include any provisions which require that its growth potential be attained. Not all of the identified land will be available for development at any given time based on site readiness, environmental constraints, market changes, and other factors. This impact analysis assumes the "worst-case" potential under the proposed project in order to present the maximum amount of pollutant emissions possible and is thus a conservative analysis.

TABLE 3.7-3
GREENHOUSE GAS EMISSIONS – PROJECT OPERATIONS (METRIC TONS PER YEAR)

Emissions Source	CO2e
Full Development Potential in the Year 2020	
Area Source (landscaping, hearth)	16,455
Energy	105,534
Mobile[1]	367,014
Waste	14,676
Water	26,100
Total	**529,779**
Full Development Potential in the Year 2035	
Area Source (landscaping, hearth)	16,455
Energy	90,266
Mobile[1]	356,080
Waste	14,676
Water	20,933
Total	**498,410**

*Source: CalEEMod 2013.2.2 (see **Appendix 3.0-1**).*

Notes:

1. *Emission projections account for the trip generation rates identified in the transportation impact assessment prepared for the project, which estimates 277,025 average daily trips at Housing Element buildout.*

As described, the SCAQMD's GHG emission plan-level threshold is 6.6 metric tons of CO_2e per service population (residents plus employees) per year by the year 2020 and 4.1 metric tons of CO_2e per service population per year by the year 2035. The SCAQMD's approach is to identify the emissions level for which a project would not be expected to substantially conflict with existing California legislation adopted to reduce statewide GHG emissions. As stated in Subsection 3.13, Population and Housing, future development under the proposed project would cumulatively result in 240,805 more people in comparison to buildout of the adopted General Plan. Since the

project has no commercial component, the service population increase as a result of full buildout of the proposed project will be 240,805.

As shown in **Table 3.7-4**, dividing the GHG emissions for each time period yields a metric ton per service population ratio of 2.2 for year 2020 conditions and 2.0 for year 2035 conditions.

TABLE 3.7-4
HOUSING ELEMENT BUILDOUT GHG EMISSIONS PER SERVICE POPULATION

Per Capita Emissions	Emissions	Jobs	Population	Service Population Increase	MTCO2e/SP/Year	SCAQMD Threshold
Full Housing Element Development Potential in the Year 2020	529,779	0	240,805	529,779	**2.2**	6.6
Full Housing Element Development Potential in the Year 2035	498,410	0	240,805	498,410	**2.0**	4.1

As shown in **Table 3.7.4**, the full development potential allowed under the proposed project would not surpass the year 2020 or year 2035 significance thresholds. However, as noted above, quantifying the specific GHG emissions from future, short-term, temporary construction activities allowed under the proposed project is not possible due to project-level variability and uncertainties related to future individual projects in terms of detailed site plans, construction schedules, equipment requirements, etc., none of which have yet been determined. Future project-level analyses of GHG emissions-related impacts, in accordance with SCAQMD requirements, would be conducted on a case-by-case basis as individual, future development projects proceed, and the SCAQMD recommends that projected GHGs from construction be quantified and amortized over the life of the project (30 years), and added to the annual average operational emissions. As also previously described, the SCAQMD recommends GHG emissions-related significance thresholds for individual project-level analyses.

While the SCAQMD has promulgated methodology protocols for the preparation of GHG analyses, and future development projects allowed under the proposed Housing Element that are projected to exceed SCAQMD significance thresholds are required to implement mitigation measures in order to reduce GHG emissions as much as feasible, SCAQMD significance thresholds may still be exceeded. Since it cannot be guaranteed that construction of future projects allowed under the Housing Element would generate GHG emissions below SCAQMD significance thresholds due to the programmatic and conceptual nature of the proposed project and uncertainties related to future individual projects, this is considered a **significant and unavoidable** impact.

Mitigation Measures

None feasible.

3.8 HAZARDS AND HAZARDOUS MATERIALS

SETTING

Hazardous Materials

Hazardous Materials Contamination/Sites

Federal and state databases identify 36 major sites of hazardous materials contamination in Riverside County, including 4 Superfund or federally listed hazardous materials sites, 26 State Response sites, and 19 contaminated sites on the Cortese List (some of which overlap with Superfund and State Response sites) (County of Riverside 2015). **Figures 3.8-1** and **3.8-2** show the locations of these major hazardous materials sites per the California Department of Toxic Substances Control (DTSC) EnviroStor database (DTSC 2015).

In addition, information from the Riverside County Department of Environmental Health (RCDEH) and Planning Department indicates there are nearly 9,000 individual sites in the County permitted to transport, generate, handle, or dispose of hazardous materials. These are generally concentrated along major freeways (e.g., SR 91, I-10, I-215, SR 60), in industrial business parks, or on land dedicated for medium to heavy industrial uses. According to state records, there are 15 voluntary cleanup sites, 14 school cleanup sites, 12 corrective action sites, and 21 tiered permit sites, although some of these include the major sites identified in **Figures 3.8-1** and **3.8-2** (County of Riverside 2015).

The DTSC EnviroStor database was reviewed and compared to the sites proposed for redesignation/rezoning as part of the proposed project. Only one of these was located on an open/active hazardous materials site—a former Mobil Baldwin fuel retail dispensing facility at 21020 Cajalco Road in Perris (in the Mead Valley Town Center). The Mobil Baldwin site is currently under remediation for a leaking underground fuel storage tank that resulted in soil and groundwater contamination. From January through March 2008, approximately 740 cubic yards (919 tons) of contaminated soil were excavated and transported off-site for recycling. Groundwater remediation activities are ongoing at the site, and quarterly groundwater monitoring occurs at 10 monitoring wells on- and off-site to monitor variations in contaminant concentrations. On May 30, 2013, the Santa Ana Regional Water Quality Control Board (RWQCB) issued a letter to the Riverside County Planning Department that the Mobil Baldwin cleanup case is currently in compliance with RWQCB directives and that RWQCB staff do not have any restrictions imposed on the case that would impede development at the site (Scott 2013).

Airport Safety

March Air Reserve Base and Palm Springs International Airport are the two major airports in Riverside County. In addition, a military air bombing range (the Chocolate Mountain Aerial Gunnery Range), 13 smaller public commercial airports, and dozens of private airstrips are located throughout the County. The locations of public use and military airports in the County are shown in **Figure 3.8-2**. Statistically, the greatest safety risks associated with aircraft and air travel occur at takeoff and landing (i.e., the first and last two minutes in the air). Accordingly, the greatest safety hazards would occur close to the airport runways. For this reason, airport master plans and airport land use compatibility plans are created to ensure that people and property are kept out of the most dangerous portions of the runways and that land uses permitted in proximity to the airport are compatible with the air hazards. In 2004, the Riverside County Airport Land Use Commission adopted the Riverside County Airport Land Use Compatibility Plan, which establishes policies applicable to land use compatibility planning in the vicinity of airports throughout the County.

Included are compatibility criteria and maps for the influence areas of individual airports, as well as procedural requirements associated with the compatibility review of development proposals (RCALUC 2004).

Fire Hazards

Wildland fires are the "classic" wildfire or forest fire that may burn across fields, hills, and other natural areas, generally occurring on vegetated and undeveloped lands. Wildland-urban interface fires occur in areas where the urban environment extends into open areas. With homes, private property, and other structures present, wildland-urban interface fires are the most damaging and even small fires can cause substantial losses, including damage to infrastructure, the built environment, loss of socioeconomic values, and injuries to people (County of Riverside 2015).

Much of Riverside County is considered to have a moderate to high potential for wildland fires; the hilly portions of the unincorporated County are mapped as having substantial fire risks (see **Figure 3.8-3**).

THRESHOLDS OF SIGNIFICANCE

The impact analysis is based on CEQA Guidelines Appendix G thresholds of significance. A hazards and hazardous material impact is considered significant if implementation of the project would:

1) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

2) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

3) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

4) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment.

5) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard for people residing or working in the project area.

6) For a project in the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area.

7) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

8) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

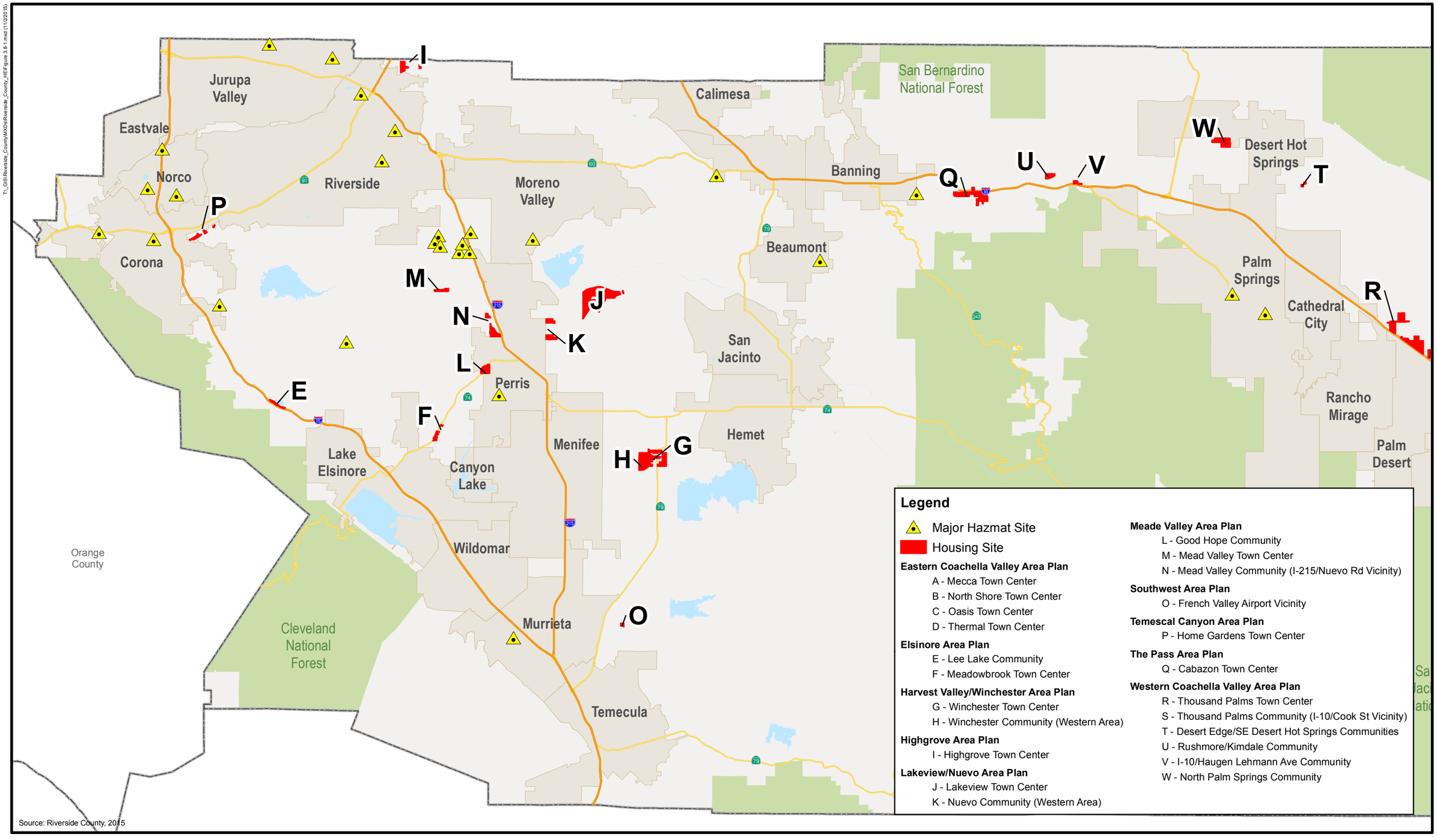


Figure 3.8-1
Locations of Major Hazardous Materials Sites - Western Riverside County

Michael Baker INTERNATIONAL

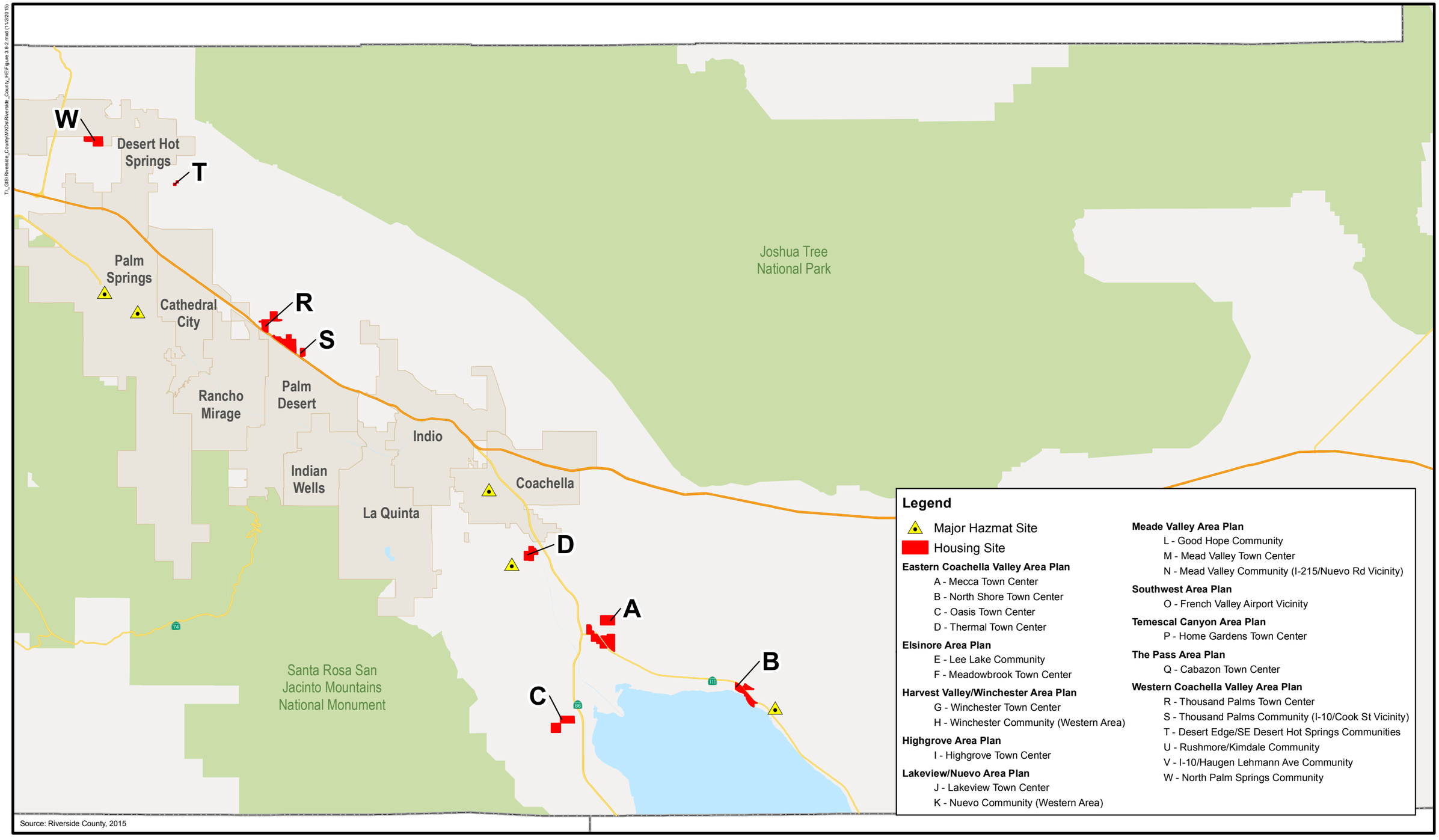


Figure 3.8-2
Locations of Major Hazardous Materials Sites - Eastern Riverside County

Michael Baker INTERNATIONAL

METHODOLOGY

Both General Plan EIR No. 521 and EIR No. 441 determined that County policies mandate compliance with local, state, and federal regulations regarding hazardous materials, airports and aircraft hazards, wildland fires, and emergency evacuations, and establish procedures for safe planning around airports and air facilities. Therefore, implementation of applicable federal, state, and local regulations, in addition to General Plan policies, would ensure impacts resulting from buildout of land uses currently designated in the General Plan relating to hazardous materials, airport and aircraft hazards, wildland fire hazards, and emergency evacuation plans would be less than significant (County of Riverside 2002, 2015).

The proposed project would result in an increase in density/intensity potential on sites throughout the unincorporated County as a result of redesignation and rezoning. In addition, the text revisions included in the proposed project in order to adopt and implement the new HHDR and MUA land use designations and zone classifications would allow such development to be proposed in other areas throughout the County (with the processing of a General Plan Amendment and/or change in zone classification). Therefore, the proposed project could increase the number of people and properties potentially exposed to hazards in the County in comparison to those conditions anticipated under the approved General Plan. The impact analysis below considers the potential for these changes to result in cumulatively considerable increases in exposures to hazards and hazardous materials.

IMPACT ANALYSIS

Impact Analysis 3.8.1 Future development facilitated by the project would be on or near contaminated sites or facilities where hazardous materials are present, or on or near heavily traveled freeways where hazardous materials are transported. This impact would be **less than cumulatively considerable**. (Thresholds 1 and 2)

Hazardous materials are commonly used by all segments of society including manufacturing and service industries, commercial enterprises, agriculture, military installations, hospitals, schools, and households; however, significant quantities of such materials are only used routinely in medium to heavy industrial-type land uses. Therefore, although the project would accommodate both high-density residential and mixed-use development throughout the unincorporated County, neither of these uses includes industries expected to routinely use or dispose of significant quantities of hazardous materials. The increase in density/intensity potential could increase the number of people and properties potentially at risk for accidental hazardous materials releases. The highest probability for an inadvertent hazardous substance release in Riverside County is through a vehicular accident on heavily traveled freeways and highways, during remediation or grading of a contaminated site, or from an industrial accident at a facility that handles large amounts of hazardous materials (County of Riverside 2015). Given the extensive distribution of hazardous material sites throughout Riverside County (as shown in **Figures 3.8-1** and **3.8-2** and discussed in the Setting subsection), it is reasonable to assume that some future development facilitated by the project would be on or near contaminated sites or facilities where hazardous materials are present, or on or near heavily traveled freeways where hazardous materials are transported.

Even so, the use, storage, manufacture, and transport of hazardous materials are highly regulated by the state and federal governments, as well as by the RCDEH and the California Highway Patrol. All future development under the proposed project would be subject to the County's development review process that would occur within the framework of existing hazardous materials regulations.

Industrial Accidents/Hazardous Materials Facilities

The RCDEH is the Certified Unified Program Agency for Riverside County and is thus responsible for ensuring consolidation, consistency, and coordination of federal and state standards and regulations regarding hazardous materials in the County. The RCDEH Hazardous Materials Branch oversees programs that would reduce the potential for accidental hazardous substance releases in the County. Specifically, the branch monitors and regularly inspects County facilities that handle hazardous materials, generate hazardous waste,[4] treat hazardous waste, own/operate underground storage tanks, own/operate aboveground petroleum storage tanks, or handle other materials subject to the California Accidental Release Program. During inspections, facilities are evaluated against requirements found in the California Code of Regulations and the California Health and Safety Code pertaining to the treatment of hazardous wastes, as well as federal and state requirements for the generation, treatment, and handling of hazardous materials (RCDEH 2015).

Businesses and industries that generate, treat, and/or handle hazardous materials are required to submit plans to the RCDEH to ensure these materials are being dealt with appropriately. The California Accidental Release Program requires facilities that handle acutely hazardous materials to submit Risk Management Prevention Plans (RMPs). The RMP is required to list the equipment and procedures that will be used to prevent, mitigate, and abate releases of hazardous materials. Additional requirements for RMPs include the listing of spill prediction worst-case scenarios, possible effects on the surrounding community, and comprehensive emergency procedures. The RCDEH Business Plan/Handler Program regulates the storage and handling of hazardous materials through education, facility inspections, and enforcement of state law. A major requirement of the Hazardous Materials Disclosure program is the creation and maintenance of a business plan, which includes an inventory of hazardous materials and is made available to first responders in the County for emergency response activities (RCDEH 2015). A significant focus of the business plan is safeguarding the community by making hazardous materials information readily available, both to the public and to any first responders in the event of an emergency.

In addition, Riverside County contains existing facilities that are being remediated under federal programs including the Comprehensive Environmental Response, Compensation and Liability Act program and the Resource Conservation and Recovery Act. Evaluation and remediation of these sites consistent with these programs would protect public health and safety for current land uses and future land uses under the proposed project.

Transportation of Hazardous Materials

The US Department of Transportation Office of Hazardous Materials Safety prescribes strict regulations for the safe transportation of hazardous materials, as described in Title 49 of the Code of Federal Regulations and implemented by Title 13 of the California Code of Regulations. These regulations include containment rules that tell shippers how to package hazardous materials safely and drivers how to load, transport, and unload the material (Title 49, Code of Federal Regulations, Section 107.601). Additionally, all trucks, trains, and automobiles carrying equal to or greater than 1,000 pounds of a hazardous material must be placarded with a four-sided diamond containing identification numbers to help first responders identify spilled materials. Motor carriers and drivers involved in transportation of hazardous materials must apply for and obtain a hazardous materials transportation license from the California Highway Patrol. The license requires a knowledge test to

[4] Under a Memorandum of Understanding with the California DTSC, the DTSC regulates and inspects facilities both DTSC-permitted and nonpermitted hazardous waste generators in Riverside County.

demonstrate that a driver can identify hazardous materials, safely load shipments, properly placard the vehicle, and safely transport shipments (DMV 2015).

Remediation or Grading of a Contaminated Site

The potential for previously unknown hazardous materials contamination from historical use of a property, including currently vacant properties, being released during future development activities (i.e., grading) would be addressed during the County's development review process. The Riverside County Department of Building and Safety reviews development proposals and enforces site-specific investigation requirements to ensure that development does not pose a threat to the health, safety, and welfare of the public. Furthermore, pursuant to Riverside County Ordinance 457, Riverside County prohibits grading without permits. In most cases, a grading permit application requires a site-specific soils report for habitable structures. Per the County's (2000) Technical Guidelines for Review of Geotechnical and Geologic Reports, the report would include a site history describing previous, existing, and proposed land uses, as well as all known past or present hazardous materials on the site (e.g., trash and debris, pits, septic tanks, underground storage tanks, farming, chemicals, fertilizers, pesticides, toxic, hazardous substance disposal/manufacturing/industrial production, and/or waste disposal/injection). As part of the grading permit review process, the County would identify conditions of approval to be completed prior to issuance of a grading permit, including demolition, mitigation, removal, and/or proper disposal of existing hazardous materials.

Compliance with these local, state, and federal requirements would ensure that potential risks to public health and safety resulting from hazardous materials use and transport and inadvertent hazardous substance releases would be effectively monitored and managed to minimize impacts associated with future development under the project. Therefore, impacts would be **less than cumulatively considerable**.

Mitigation Measures

None required.

Impact Analysis 3.8.2 Implementation of existing local, state, and federal hazardous materials requirements, as well as California Department of Education school siting criteria, would ensure that impacts associated with hazardous emissions or the handling of hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school would be **less than cumulatively considerable**. (Threshold 3)

As discussed under **Impact Analysis 3.8.1**, future development of the project would not be expected to include industries that emit or handle significant quantities of hazardous materials. In addition, local, state, and federal requirements would ensure that potential risks to public health and safety resulting from existing hazardous materials facilities/sites, hazardous materials use and transport, and inadvertent hazardous substance releases would be effectively monitored and managed to minimize impacts. While no schools would be planned or built as part of the proposed project, the increase in density/intensity potential could require additional schools, one or more of which may be located in the vicinity of an existing hazardous materials site. The siting of school facilities is determined by individual school districts, based on criteria established by the California Department of Education. While Riverside County can regulate the location of industrial uses in unincorporated areas, it cannot control the actions of individual school districts in the County, or the California Department of Education, in siting new schools. As a result, the potential exists for significant impacts on school facilities resulting from hazardous emissions or the handling of

hazardous or acutely hazardous materials, substances, or wastes within a quarter-mile, but not as a result of the proposed project. School siting is also subject to review and approval by the DTSC to help ensure school sites are not located on or near identified hazardous materials sites. Therefore, this impact would be considered **less than cumulatively considerable**.

Mitigation Measures

None required.

Impact Analysis 3.8.3 Future development facilitated by the project would be on or near contaminated sites or facilities where hazardous materials are present. This impact would be **less than cumulatively considerable**. (Threshold 4)

Only one open/active hazardous materials site is located on the lands currently proposed for changes in land use designation and zone classification as part of the project. According to the RWQCB (2013), the ongoing remediation of that site is in compliance with RWQCB directives and there are no restrictions imposed on the case that would impede development at the site. However, given the extensive distribution of hazardous material sites throughout Riverside County (as shown in **Figures 3.8-1** and **3.8-2** and discussed in the Setting subsection), it is reasonable to assume that some future development facilitated by the project would be on or near contaminated sites or facilities where hazardous materials are present.

Even so, the use, storage, manufacture, and transport of hazardous materials are highly regulated by the state and federal governments, as well as by the RCDEH and the California Highway Patrol, as discussed under **Impact Analysis 3.8.1** above. As previously discussed, businesses and industries that generate, treat, and/or handle hazardous materials are required to submit plans to the RCDEH to ensure these materials are being dealt with appropriately.

All future development under the proposed project would be subject to the County's development review process, which would review projects for proximity to, and hazards associated with, existing hazardous materials facilities/sites. Furthermore, such sites are regulated for public health and safety by the RCDEH. Therefore, impacts would be **less than cumulatively considerable**.

Mitigation Measures

None required.

Impact Analysis 3.8.4 The project could increase the number of people and properties in the vicinity of public and private airports. This impact would be considered **less than cumulatively considerable.** (Thresholds 5 and 6)

The increase in density/intensity potential throughout the unincorporated County resulting from the proposed project could increase the number of people and properties in the vicinity of public and private airports in comparison to those conditions anticipated under the approved General Plan.

All future development near public and private airports with the potential to adversely affect or be affected by airport hazards is regulated through the County's development review process. Riverside County Ordinance No. 448, Airport Approaches Zoning Ordinance, establishes airport operating areas and regulates height standards and limits therein. GPA 960 Policies LU 15.1, 15.2, 15.7, 15.8, 15.9, and 31.2 (RCIP GP Policies 14.1, 14.2, 14.5, 14.6, 14.7, and 25.2) mitigate airport-

related safety hazards by requiring that development proposals located within the boundaries of an airport land use plan be consistent with said plan prior to approval in an effort to prevent land use conflicts and reduce potential impacts. During the County's development review process, the applicant would be required to provide substantial evidence of compliance with these policies as part of the project application materials.

In addition, development proposals in the vicinity of airports are reviewed by the Riverside County Airport Land Use Commission, which seeks to ensure safety and minimize risks to both people and property in the vicinity of airports. Airport Land Use Compatibility Plan (ALUCP) policies include compatibility criteria and conditions of approval for development with regulations governing such issues as development intensity, density, and height of structures.

Compliance with the ALUCP, along with the existing County General Plan policies and Ordinance No. 448, would ensure that future development accommodated by the proposed project would not result in an airport-related safety hazard. Therefore, this impact would be considered **less than cumulatively considerable.**

It should be noted that where specific sites are proposed for redesignation and rezoning within an airport land use plan, localized impacts associated with airport hazards are disclosed and analyzed in the applicable Area Plan sections (4.1 through 4.10) of this EIR.

Mitigation Measures

None required.

Impact Analysis 3.8.5 The County's development review process would ensure that future development accommodated by the proposed project would not impair or interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, this impact would be considered **less than cumulatively considerable.** (Threshold 7)

The proposed project does not directly propose any changes or updates to existing emergency response or evacuation plans, nor does it include any components that would conflict with such plans. Future development projects accommodated by the proposed project would be subject to the County's development review process, which would include a review by the Riverside County Fire Department (RCFD) Office of Emergency Services, as well as by the County's Transportation Department. The Office of Emergency Services is responsible for developing emergency plans and actions in response to actual or potential disasters which may impact all or part of Riverside County. It would determine any project-specific impacts and necessary conditions of approval associated with emergency response at the time of development review. The Transportation Department would ensure compliance with General Plan policies regarding circulation, which would further reduce potential conflicts between new development and emergency plans. For example, GPA 960 Policy C 3.6 (RCIP GP Policy C 3.6) requires private developers to be primarily responsible for the improvement of streets and highways that serve as access to development, including road construction or widening, installation of turn lanes and traffic signals, and the improvement of any drainage facility or other auxiliary facility necessary for the safe and efficient movement of traffic or the protection of road facilities. GPA 960 Policy C 3.24 (RCIP GP Policy C 3.24) requires the provision of a street network with quick and efficient routes for emergency vehicles, meeting necessary street widths, turnaround radius, and other factors as determined by the Transportation Department in consultation with the RCFD and other emergency service providers. Implementation of existing County regulations during the development review process would reduce potential emergency response and evacuation plan

impacts as a result of future development accommodated by the proposed project to **less than cumulatively considerable** levels.

Mitigation Measures

None required.

Impact Analysis 3.8.6 The increase in density/intensity potential throughout the unincorporated County resulting from the proposed project could increase the number of people and properties potentially exposed to fire hazards, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. This impact would be considered **less than cumulatively considerable.** (Threshold 8)

The project would accommodate both high-density residential and mixed-use development throughout the unincorporated County, including in previously undeveloped areas with high or very high fire hazards. The increase in density/intensity potential throughout the unincorporated County resulting from the proposed project could increase the number of people and properties potentially exposed to fire hazards in comparison to those conditions anticipated under the approved General Plan. Additionally, there is the potential for an increase in the occurrence of fires, particularly in urban-wildland interface areas, due to increasing human encroachment. The risk of death, injury, or property damage from fire may rise to unacceptable fire risks if land uses are allowed in areas of high or unacceptable risk without proper planning or protection, or if roads are inadequate for fire access and evacuation (County of Riverside 2015).

All future development under the proposed project would be reviewed by the Riverside County Department of Building and Safety and the RCFD, both of which enforce fire standards (such as those in Riverside County Ordinance No. 787) as they review building plans and conduct building inspections. The RCFD Fire Protection Planning Section is responsible for ensuring that new development in the County meets the various ordinances pertaining to building homes in the wildland (RCFD 2014). These ordinances include PRC 4290, PRC 4291, Riverside County Ordinance 787, and the 2010 California Building Standards Code, Chapter 7A, Materials and Construction Methods for Exterior Wildfire Exposure. Ordinance No. 787 adopts the Uniform Fire Code and adds requirements to further protect people and structures from fire risks, including standards for various land uses that ensure appropriate fire protection measures are incorporated into the design, construction, and operation of these land uses. Ordinance No. 787 includes requirements for fire-retardant building materials as well as requirements to ensure that buildings would not impede emergency egress for fire safety personnel, and equipment and apparatus would not hinder evacuation from fire, including potential blockage of stairways or fire doors.

In addition, the County requires new development in high fire hazard areas to design and implement fuel modification programs for the interface between developed and natural areas. Fuel modification plans are subject to approval by the RCFD. The fuel modification plans require a graduated transition from native vegetation to irrigated landscape, as well as establish parameters for the percentage, extent, and nature of native plant removal necessary to achieve the County's fire prevention standards to protect human lives and property while preserving as much natural habitat as practicable. The County of Riverside also actively enforces Ordinance No. 695, which requires the abatement of hazardous vegetation, defined in the ordinance as vegetation that is flammable and endangers public safety by creating a fire hazard. The type of abatement can depend on the location, terrain, and vegetation present, but typically includes mowing or disking (plowing) vegetation, such as seasonal and recurrent weeds, stubble, brush,

dry leaves, and tumbleweeds. During the County's development review process, the applicant would be required to provide substantial evidence of compliance with these ordinances.

Additional programs implemented to ensure compliance with established fire standards include the maintenance of a Countywide Information Map, showing high fire hazard areas, and sighting and construction methods that reduce fire risks to structures developed in high fire hazard areas, as well as the continued update and use of the RCFD Fire Protection and Emergency Medical Services Strategic Master Plan to ensure new fire protection facilities are added when demand increases warrant them (County of Riverside 2015).

RCFD and Department of Building and Safety review would ensure that future development accommodated by the proposed project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. Therefore, this impact would be considered **less than cumulatively considerable.**

Mitigation Measures

None required.

3.9 HYDROLOGY AND WATER QUALITY

SETTING

The California Department of Water Resources (DWR) has organized the state into 10 major surface water drainage regions, two of which (the South Coast region and the Colorado River region) include portions of Riverside County. Generally, the western one-third of Riverside County is in the South Coast region, west of the San Jacinto Mountains, and the eastern two-thirds of Riverside County are in the Colorado River region.

There are 33 groundwater basins in Riverside County, as shown in **Figure 3.9-1**. Of these, four have been adjudicated: the Beaumont Basin, the Chino Basin, the Upper San Jacinto Basin, and the San Bernardino Basin Area. Groundwater provides about 8 percent of the water supply in normal years for agricultural and urban uses in the South Coast Hydrologic Region. In the Colorado River Hydrologic Region, groundwater provides about 23 percent of water demand in normal years and about 29 percent in drought years (County of Riverside 2015).

Water Quality

South Coast Hydrologic Region

Water quality is a core issue in the South Coast Hydrologic Region. Increases in wastewater and industrial discharges, urban runoff, agricultural chemical usage, and livestock operations result in contamination. Urban and agricultural runoff can contribute to local surface water sediment from disturbed areas. Oil, grease, and toxic chemicals from automobiles, nutrients and pesticides from turf and crop management, viruses and bacteria from failing septic systems and animal waste, road salts, and heavy metals all threaten local surface water and groundwater supplies (County of Riverside 2015).

Colorado River Hydrologic Region

Water quality concerns exist in all watersheds of the Colorado River Hydrologic Region. The Salton Sea is a particular challenge for the region. It is the largest body of water in the region, but it has a total dissolved solids (TDS) concentration of about 46,000 milligrams per liter (mg/L), which is about 40 percent saltier than ocean water. In the West Basin of the Colorado River watershed, the primary water quality issues are the increasing salinity of the Colorado River and historic overdraft conditions in the Coachella Valley. The Colorado River's salinity can substantially limit the reuse of irrigation runoff or recycled water supplies. As a practical matter, high salinity can increase agricultural costs by necessitating larger quantities of water to dilute the root zone and can increase urban costs by requiring higher levels of recycled water treatment to allow for reuse in irrigation and groundwater recharge projects (County of Riverside 2015).

Flooding

In Riverside County, the three largest drainages of concern for flooding are the Santa Ana River, the San Jacinto River, and the Whitewater River.

In the western portion of Riverside County, the large rivers (Santa Ana, San Jacinto, San Gorgonio, and Santa Margarita), as well as Temescal and Murrieta creeks, only pose flood threats to developments in the floodplain during general storms of long duration. Lake Elsinore and other lakes, as well as various alluvial fans throughout the County, such as Millard Canyon, are also susceptible to flooding (County of Riverside 2015).

Eastern Riverside County, being marked by extensive desert, has two primary drainages: the Whitewater River and the Colorado River. Because of the arid climate and extremely porous (sandy) soils, water flows tend to pass rapidly through the region. Tributaries to the major rivers present additional flood hazards, mostly caused by local thunderstorms. In the Coachella Valley, many smaller washes run out of the surrounding mountains and down into the valley floor, in some cases emptying into the Whitewater River to the northwest or the Salton Sea to the southeast. The desert areas extending to the east from the Palm Springs area are also susceptible to sheet flow flooding, with flow depths of generally less than 2 feet. These types of flows leave the mouths of canyons and often follow unpredictable paths. The desert also contains numerous washes (for example, Morongo Wash) and alluvial fans that are susceptible to flooding (County of Riverside 2015).

Additionally, many of the smaller drainages throughout the County, particularly those running through the alluvial fans that flank Riverside County's hillsides, are susceptible to smaller-scale floods and also flash flooding. **Figure 3.9-2** shows the areas of Riverside County considered potentially at risk for flooding based on information from Federal Emergency Management Agency (FEMA) mapping, plus DWR and County of Riverside data (County of Riverside 2015). **Table 3.9-1** shows the communities included in the project with parcels in the 100-year floodplain, as well as the acreage.

TABLE 3.9-1
PROJECT ACREAGE IN 100-YEAR FLOODPLAIN

Community	# of Parcels	Acres
Cabazon Town Center	1	0.13
Desert Edge/SE Desert Hot Springs Communities	2	17.82
Highgrove Town Center	12	7.88
Lakeview Town Center	24	523.91
Mead Valley Town Center	37	17.56
North Palm Springs Community	1	0.57
North Shore Town Center	47	84.96
Oasis Town Center	2	151.98
Rushmore/Kimdale Community	1	0.04
Thousand Palms Community (I-10/Cook St Vicinity)	3	67.89
Thousand Palms Town Center	237	560.99
Winchester Town Center	1	0.69
Total	**368**	**1,434.41**

Source: FEMA 2015.

Dam Inundation

As shown in **Figure 3.9-3**, more than 20 dam failure inundation zones have been identified for existing dams and reservoirs in Riverside County.

THRESHOLDS OF SIGNIFICANCE

The impact analysis is based on State CEQA Guidelines Appendix G thresholds of significance. A hydrology and water quality impact is considered significant if implementation of the project would:

1) Violate any water quality standards or waste discharge requirements.

2) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).

3) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site.

4) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.

5) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

6) Otherwise substantially degrade water quality.

7) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.

8) Place within a 100-year flood hazard area structures which would impede or redirect flood flows.

9) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam.

10) Inundation by seiche, tsunami, or mudflow.

METHODOLOGY

General Plan EIR No. 521 determined that implementation of and compliance with existing regulations, Riverside County General Plan policies, ordinances, and mitigation measures would ensure that significant impacts resulting from buildout of GPA 960 land use designations or from a variety of water resource issues would be either avoided or minimized to a less than significant level. This includes water quality degradation, violation of any water quality standards or waste discharge requirements, exceedance of any RWQCB wastewater treatment requirements, and alteration of existing drainage patterns and associated erosion and siltation, as well as runoff water exceeding existing or planned stormwater drainage systems and associated pollutants. However, EIR No. 521 found that potential water supply impacts (including depleting groundwater supplies) would be considered significant and unavoidable. EIR No. 441 determined that RCIP GP policies, regulations, and mitigation measures would reduce flood hazards to a less than significant level by keeping development out of flood-prone areas and ensuring that drainage

facilities are kept adequate. While adherence to RCIP GP policies and mitigation would reduce potential impacts to water supply, in the absence of project-specific water supply data, potential water supply impacts (including groundwater) resulting from implementation the RCIP GP was also considered significant and unavoidable (County of Riverside 2002).

The proposed project would result in an increase in density/intensity potential on sites throughout the unincorporated County as a result of redesignation and rezoning. In addition, the text revisions included in the proposed project in order to adopt and implement the new HHDR and MUA land use designations and zone classifications would allow such development to be proposed in other areas throughout the County (with the processing of a General Plan Amendment and/or change in zone classification). Therefore, the proposed project could increase housing and development in the County. The impact analysis below considers the potential for these changes to collectively affect water resources and hydrologic conditions in the County beyond those already anticipated.

IMPACT ANALYSIS

Impact Analysis 3.9.1 Increased urbanization has the potential to result in alterations to existing hydrology, increases in impervious surfaces, increases in urban runoff, and increases in wastewater discharge, all of which could increase the discharge of pollutants into receiving waters and violate water quality standards. This is a **potentially cumulatively considerable** impact. (Threshold 1)

The increase in density/intensity potential resulting from the changes in land use designation and zone classifications on sites throughout the unincorporated County, as well as the text revisions included in the proposed project in order to adopt and implement the new HHDR and MUA land use designations and zone classifications, could result in increased population and development throughout the unincorporated County. Increased urbanization has the potential to result in alterations to existing hydrology, increases in impervious surfaces, increases in urban runoff, and increases in wastewater discharge, all of which could increase the discharge of pollutants into receiving waters and violate water quality standards. This is a **potentially cumulatively considerable** impact.

To protect (or restore) water quality, the RWQCBs enforce the Clean Water Act through the NPDES, as well as the state of California's Water Code. Pursuant to these regulations, permits from the applicable RWQCB are required for a wide variety of activities with potential to discharge wastes into waters of the state or waters of the United States. These include construction and operational activities, particularly operation of MS4s (municipal separate storm sewer systems) and industries that produce wastewater. The County of Riverside operates its MS4s under permits from the three RWQCBs with jurisdiction in the County. Future projects would be required to comply with these regulations as applicable.

All construction activities are required to obtain and comply with NPDES permits, stormwater pollution prevention plans, and water quality management plans to prevent or minimize construction-related water quality impacts and waste discharges, particularly as related to soils, i.e., erosion, sedimentation, and fill deposition. All developed uses conveying water into existing storm drain systems must comply with County of Riverside MS4 permit conditions and the associated Master Drainage Plan standards (if applicable). Projects must also comply with Clean Water Act Sections 401 and 404 if waters of the United States would be disturbed.

In addition, the following mitigation measure would be required as a condition of approval for future development projects during development review process.

Mitigation Measures

MM 3.9.1 The development of septic systems shall be in accordance with applicable standards established by Riverside County and other responsible authorities.

Timing/Implementation: *Prior to and during construction activities*

Enforcement/Monitoring: *County of Riverside*

MM 3.9.2 Point source pollution reduction programs shall fully adhere to applicable standards required by federal, state, and local agencies. Prior to the approval of individual projects, Riverside County shall verify that the provisions of applicable point source pollution programs have been satisfied.

Timing/Implementation: *Prior to project approval*

Enforcement/Monitoring: *County of Riverside*

MM 3.9.3 Where development may contribute to a worsening of local or regional ground or surface water quality (as determined by the RCDEH and/or applicable RWQCB), a water quality analysis shall be prepared. The water quality analysis shall include but not be limited to: an analysis of existing surface and subsurface water quality; an assessment of how the proposed development would affect existing water quality; an assessment of how the proposed development would affect beneficial uses of the water; and specific measures to limit or eliminate potential water quality impacts and/or impacts to beneficial uses of ground/surface water. Where determined necessary by the County of Riverside or other responsible entities, the water quality analysis shall include, at an equal level of detail, potential impacts to tributary or downstream areas. The water quality analysis shall be submitted to the County of Riverside and the applicable RWQCB for review and shall be approved prior to the issuance of any entitlement that would result in the physical modification of the project site.

Timing/Implementation: *Prior to issuance of any entitlement that would result in the physical modification of the project site*

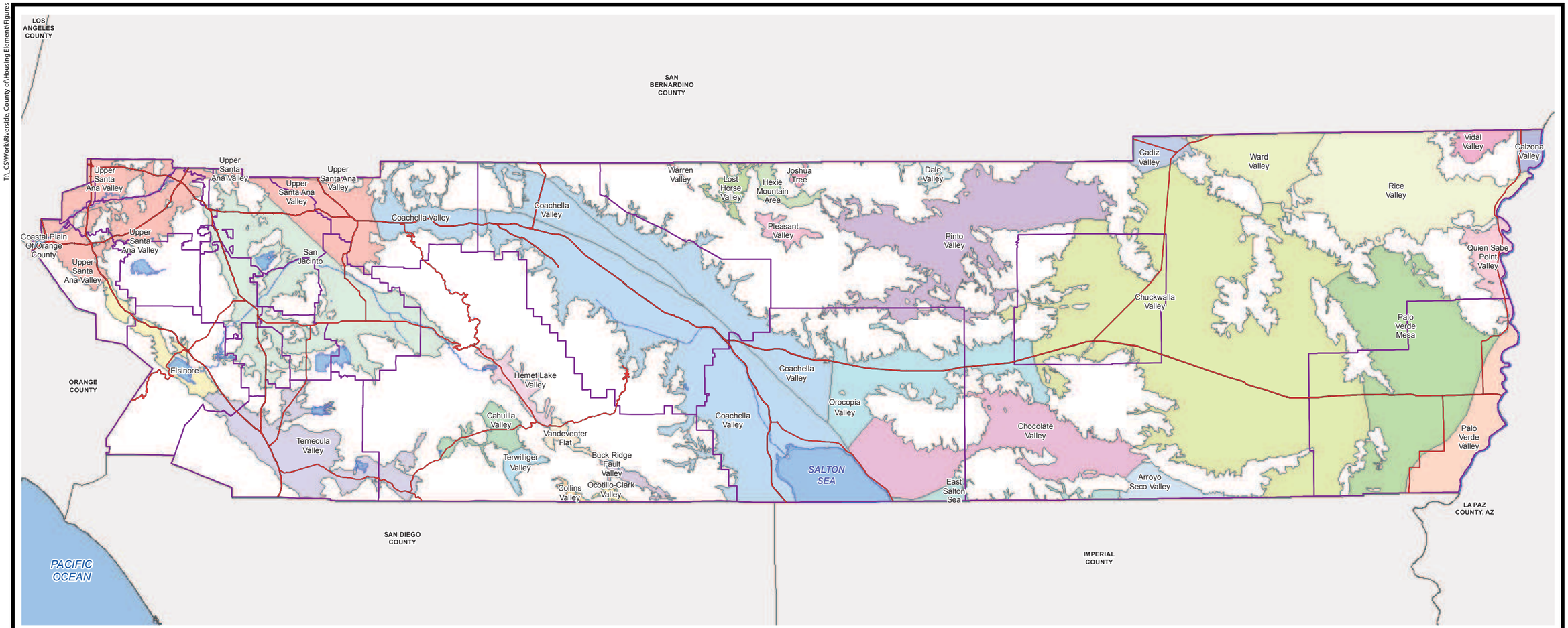
Enforcement/Monitoring: *County of Riverside*

MM 3.9.4 The project applicant shall submit to the County of Riverside and the applicable RWQCB, for review and approval, evidence that the specific measures to limit or eliminate potential water quality impacts resulting from the entire development process will be implemented as set forth in the water quality analysis. Said evidence shall be submitted and approved prior to the issuance of any entitlement that would result in the physical modification of the project site.

Timing/Implementation: *Prior to issuance of any entitlement that would result in the physical modification of the project site*

Enforcement/Monitoring: *County of Riverside*

T:_CSW\work\Riverside_County_of\Housing Element\Figures



- Arroyo Seco Valley
- Buck Ridge Fault Valley
- Cadiz Valley
- Cahuilla Valley
- Calzona Valley
- Chocolate Valley
- Chuckwalla Valley
- Coachella Valley
- Coastal Plain Of Orange County
- Collins Valley
- Dale Valley
- East Salton Sea
- Elsinore
- Hemet Lake Valley
- Hexie Mountain Area
- Joshua Tree
- Lost Horse Valley
- Ocotillo-Clark Valley
- Orocopia Valley
- Palo Verde Mesa
- Palo Verde Valley
- Pinto Valley
- Pleasant Valley
- Quien Sabe Point Valley
- Rice Valley
- San Jacinto
- Temecula Valley
- Terwilliger Valley
- Upper Santa Ana Valley
- Vandeventer Flat
- Vidal Valley
- Ward Valley
- Warren Valley
- Highways
- Area Plan Boundary
- Waterbodies

Source: Riverside County 2015

0 5 10
MILES

Figure 3.9-1
Groundwater Basins in Riverside County

Michael Baker INTERNATIONAL

T:_GIS\Riverside_County\MXDs\Riverside_County_HEIERFlood Zones.mxd (11/20/2015)

San Bernardino County

Orange County

Legend

Proposed HHDR/MUA Neighborhoods

FEMA Flood Zone Type

100 Year Flood Zone

500 Year Flood Zone

Eastern Coachella Valley Area Plan
- A - Mecca Town Center
- B - North Shore Town Center
- C - Oasis Town Center
- D - Thermal Town Center

Elsinore Area Plan
- E - Lee Lake Community
- F - Meadowbrook Town Center

Harvest Valley/Winchester Area Plan
- G - Winchester Town Center
- H - Winchester Community (Western Area)

Highgrove Area Plan
- I - Highgrove Town Center

Lakeview/Nuevo Area Plan
- J - Lakeview Town Center
- K - Nuevo Community (Western Area)

Meade Valley Area Plan
- L - Good Hope Community
- M - Mead Valley Town Center
- N - Mead Valley Community (I-215/Nuevo Rd Vicinity)

Southwest Area Plan
- O - French Valley Airport Vicinity

Temescal Canyon Area Plan
- P - Home Gardens Town Center

The Pass Area Plan
- Q - Cabazon Town Center

Western Coachella Valley Area Plan
- R - Thousand Palms Town Center
- S - Thousand Palms Community (I-10/Cook St Vicinity)
- T - Desert Edge/SE Desert Hot Springs Communities
- U - Rushmore/Kimdale Community
- V - I-10/Haugen Lehmann Ave Community
- W - North Palm Springs Community

Source: FEMA (2015); Riverside County (2015). ESRI basemap.

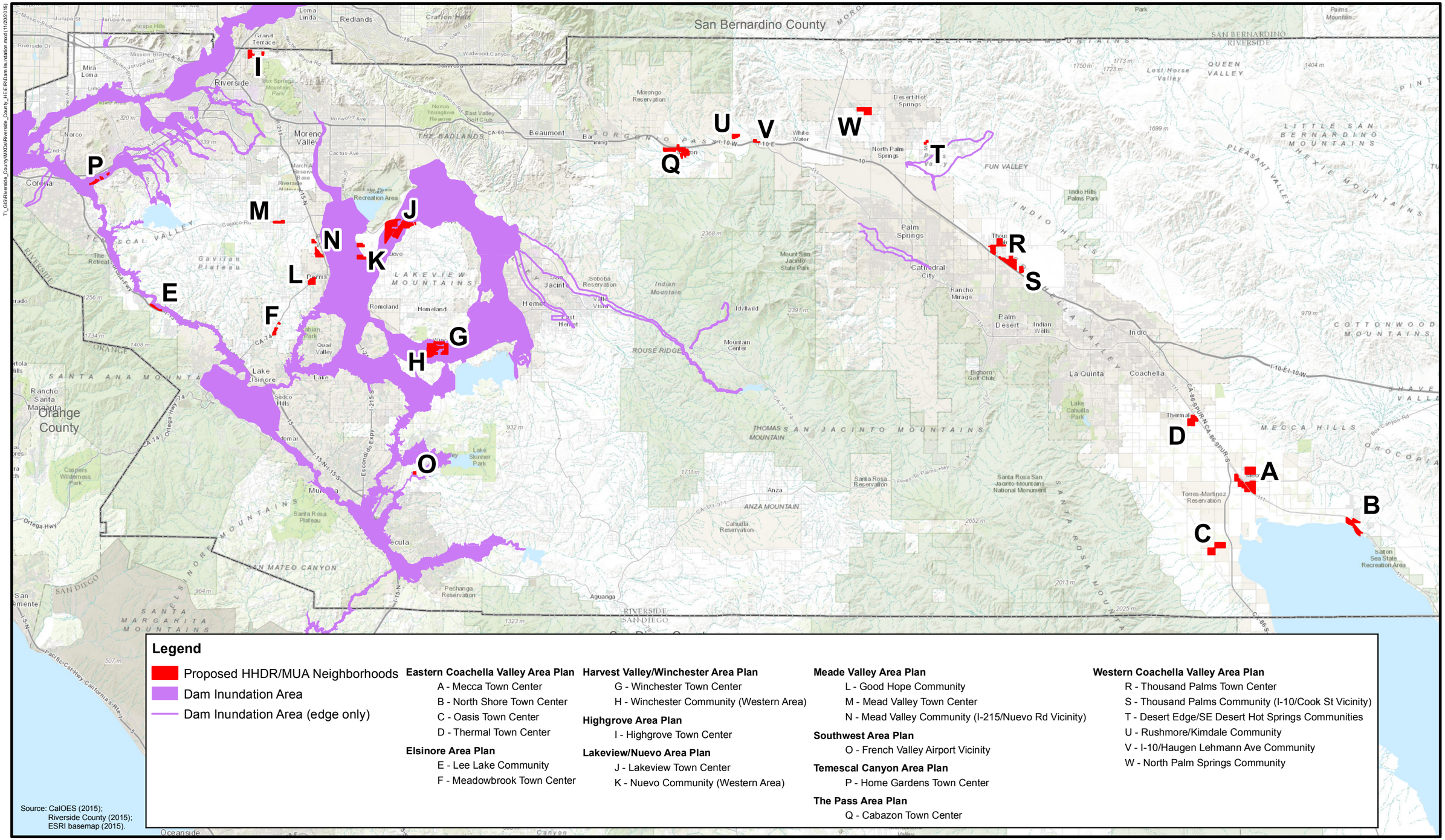
N

0 2 4 Miles

Figure 3.9-2
Floodplains Riverside County

Michael Baker INTERNATIONAL

T:_GIS\Riverside_County\MXDs\Riverside_County_HEER\Dam Inundation.mxd (11/20/2015)



Legend

- Proposed HHDR/MUA Neighborhoods
- Dam Inundation Area
- Dam Inundation Area (edge only)

Eastern Coachella Valley Area Plan
- A - Mecca Town Center
- B - North Shore Town Center
- C - Oasis Town Center
- D - Thermal Town Center

Elsinore Area Plan
- E - Lee Lake Community
- F - Meadowbrook Town Center

Harvest Valley/Winchester Area Plan
- G - Winchester Town Center
- H - Winchester Community (Western Area)

Highgrove Area Plan
- I - Highgrove Town Center

Lakeview/Nuevo Area Plan
- J - Lakeview Town Center
- K - Nuevo Community (Western Area)

Meade Valley Area Plan
- L - Good Hope Community
- M - Mead Valley Town Center
- N - Mead Valley Community (I-215/Nuevo Rd Vicinity)

Southwest Area Plan
- O - French Valley Airport Vicinity

Temescal Canyon Area Plan
- P - Home Gardens Town Center

The Pass Area Plan
- Q - Cabazon Town Center

Western Coachella Valley Area Plan
- R - Thousand Palms Town Center
- S - Thousand Palms Community (I-10/Cook St Vicinity)
- T - Desert Edge/SE Desert Hot Springs Communities
- U - Rushmore/Kimdale Community
- V - I-10/Haugen Lehmann Ave Community
- W - North Palm Springs Community

Source: CalOES (2015); Riverside County (2015); ESRI basemap (2015).

N

0 2 4 Miles

Figure 3.9-3
Dam Inundation Areas Riverside County

Michael Baker INTERNATIONAL

GPA 960 Policies OS 3.7 and OS 4.6 encourage the incorporation of low-impact development (LID) features in new development, such as permeable parking bays and lots, use of less pavement, biofiltration, and use of multifunctional open drainage systems. Implementing LID principles and practices manages water in a way that reduces the impact of built areas and promotes the natural movement of water in an ecosystem or watershed. Applied on a broad scale, LID can maintain or restore a watershed's hydrologic and ecological functions (EPA 2015). As such, LID techniques can reduce pollutants entering a watershed via runoff from development sites. The RCIP GP does not include LID policies.

During the County's development review process, future development projects would be required to provide substantial evidence of compliance with these County, state, and federal regulations, including General Plan policies and NPDES requirements. Mitigation measures **MM 3.9.1** through **MM 3.9.4** would be enforced as conditions of approval for future development projects during development review process. Compliance with the extensive water quality regulations and programs, particularly those of the NPDES, would ensure no significant violations of water quality standards or waste discharge requirements occur. Mitigation measures **MM 3.9.1** through **MM 3.9.4** require the incorporation of specific measures to limit or eliminate potential water quality impacts resulting from the entire development process, as well as provisions implementing applicable point source pollution programs. Therefore, impacts associated with violations of water quality standards or waste discharge requirements from future development accommodated by the project would be reduced to a **less than cumulatively considerable** level.

Impact Analysis 3.9.2 At the Countywide level, increased water demand resulting from the project could lead to groundwater extractions cumulatively exceeding groundwater basins' safe yields or causing a net deficit in aquifer volume. This is a **cumulatively considerable** impact. (Threshold 2)

The increase in density/intensity potential resulting from the project would accommodate increased population and development throughout the unincorporated County in comparison to conditions anticipated under the General Plan, potentially resulting in increased water demands on areas relying on groundwater supplies. This is particularly likely in areas of Riverside County where new development would rely solely on groundwater for supply. The specific water supply sources for each of the neighborhood sites and the impacts of groundwater extraction at the localized level are discussed in Sections 4.1 through 4.10 of this EIR. At the Countywide level, increased water demand could lead to groundwater extractions cumulatively exceeding groundwater basins' safe yields or causing a net deficit in aquifer volume.

While some of the groundwater basins supplying water to Riverside County have been adjudicated and are actively managed for hydrologic balance, others remain unadjudicated with no determination of safe yield and no current plan for long-term basin management to ensure that overdraft does not occur. The future water supply demand of the project as a whole is discussed under **Impact Analysis 3.17.2** later in this section. At present, roughly one-third of the County's water demand is met by groundwater. However, it is uncertain exactly what portion of the water supply for future development would be provided by groundwater, as the source of the water supply (groundwater, surface water, recycled water, imported water, etc.) would vary depending on the ultimate timing and location of development. Given the uncertainty of future groundwater extractions and the hydrologic balance of groundwater basins in the County, there continues to be a risk of overdraft (particularly in the nonadjudicated groundwater basins in Riverside County) as demand for water increases. The combination of increased demand for water associated with the growth facilitated by the project, unpredictability and the cost of imported water supply, variability in long-term supply scenarios in nonadjudicated basins, exploitation of new groundwater sources, and the continuing pattern of basin overdraft would all result in or contribute incrementally to substantially decreasing groundwater supplies. This

unpredictability and variability mean that significant impacts associated with project buildout cannot be ruled out.

Compliance with County- and state-required water management and conservation regulations would assist in reducing the amount of water required by future development and thus reduce the amount of water being extracted from groundwater basins. GPA 960 Policy OS 2.2 (RCIP GP Policy OS 2.2) encourages the installation of water-conserving systems, such as dry wells and graywater systems, in new developments. Ordinance No. 859, Water-Efficient Landscape Requirements, requires new development projects to install water-efficient landscapes, thus limiting water applications and reducing water use. Decreasing irrigation water use would assist in decreasing drawdown of groundwater basins. During the County's development review process, future development projects would be required to provide substantial evidence of compliance with these regulations.

The following mitigation measure would be required as a condition of approval for any future development project facilitated by the project.

Mitigation Measures

MM 3.9.5 Riverside County shall enforce compliance with federal, state, and local standards for water conservation within residential, commercial, or industrial projects. Prior to approval of any development within the County of Riverside, the applicant shall submit evidence to Riverside County that all applicable water conservation measures have been met.

Timing/Implementation: *Prior to project approval*

Enforcement/Monitoring: *County of Riverside*

In addition, the Sustainable Groundwater Management Act (SGMA) (effective January 1, 2015) gives local agencies the authorities to manage groundwater in a sustainable manner and allows limited state intervention when necessary to protect groundwater resources. The SGMA requires the creation of groundwater sustainability agencies to develop and implement local plans, allowing 20 years to achieve sustainability. The SGMA also provides a state framework to regulate groundwater. The plans must include measurable objectives for groundwater basins to achieve sustainability in the 20-year time frame. Implementation of the SGMA would reduce the unpredictability and variability in long-term water supply scenarios for areas of the County receiving water supplies from currently unadjudicated groundwater basins. However, these plans are not currently in place.

Although compliance with County regulations and mitigation measure **MM 3.9.5** would ensure the incorporation of feasible water conservation features, given the unpredictability and variability of water supplies and groundwater management as described, significant impacts associated could still occur. As a result, this impact is considered **cumulatively considerable** and **significant and unavoidable**.

Impact Analysis 3.9.3 The increase in density/intensity potential resulting from the proposed project would accommodate increased urbanization throughout the unincorporated County, which could contribute to a cumulative increase in impervious surfaces and a decrease in water infiltration and natural groundwater recharge rates throughout the unincorporated

County. This is a **potentially cumulatively considerable** impact. (Threshold 2)

Many County water agencies maintain recharge facilities where groundwater basins are artificially recharged with reclaimed, recycled, and/or imported water supplies. Artificial recharge can exceed natural recharge and reduce overdraft in the groundwater basins; however, water supplies available for artificial recharge are subject to supply uncertainties. In addition, the increase in density/intensity potential resulting from the proposed project would accommodate increased urbanization throughout the unincorporated County, which could contribute to a cumulative increase in impervious surfaces and a decrease in water infiltration and natural groundwater recharge rates throughout the unincorporated County. This is a **potentially cumulatively considerable** impact.

The General Plan includes policies to ensure that natural recharge areas are preserved in new development to the extent feasible. GPA 960 Policy LU 4.1 (RCIP GP LU 4.1) incorporates water conservation techniques, such as groundwater recharge basins, use of porous pavement, drought-tolerant landscaping, and water recycling, as appropriate. GPA 960 Policies OS 4.3 through 4.8 (RCIP GP Policies OS 4.3 through 4.6) specifically address recharge areas, requiring that natural drainage systems be incorporated into developments where appropriate and feasible and that adequate aquifer water recharge areas are preserved and protected. These policies also encourage the natural management of streams where groundwater recharge is likely to occur. The applicability of specific policies and design measures to protect groundwater recharge would be determined during the development review process and would be included as project conditions of approval.

In addition to the above, the following mitigation measures would be required as a condition of approval where applicable.

Mitigation Measures

MM 3.9.6 In areas where it is not practical to conserve soils suitable for recharge (as determined by the Riverside County Flood Control and Water Conservation District), water harvesting and recharge facilities shall be built within the same groundwater basin in which the recharge area is lost. The construction of replacement recharge areas shall equal the amount of recharge area lost and/or shall incorporate equipment or facilities capable of replacing (at an equal volume) the amount of groundwater recharge capacity lost as a result of development. The identification, designation, location, or installation of replacement groundwater recharge capacity shall be reviewed and approved by the Riverside County Flood Control and Water Conservation District prior to the issuance of grading permits.

Timing/Implementation: *Prior to issuance of grading permits*

Enforcement/Monitoring: *County of Riverside*

MM 3.9.7 New development that includes more than 1 acre of impervious surface area (e.g., roofs, parking areas, streets, sidewalk) shall incorporate features to facilitate the on-site infiltration of precipitation and/or runoff into groundwater basins. Such features shall include but not be limited to: natural drainage systems (where economically feasible); detention basins incorporated into project landscaping; and the installation of porous areas within parking areas. Where

natural drainage systems are utilized for groundwater recharge, they shall be managed using natural approaches (as modified to safeguard public health and safety). Groundwater recharge features shall be included on development plans and shall be reviewed by the Riverside County Building and Safety Department and/or Riverside County Flood Control and Water Conservation District prior to the issuance of grading permits.

Timing/Implementation: *Prior to issuance of grading permits*

Enforcement/Monitoring: *County of Riverside*

As required by the mitigation measures, the construction of replacement recharge areas would equal the amount of recharge area lost and/or incorporate equipment or facilities capable of replacing (at an equal volume) the amount of groundwater recharge capacity lost as a result of development. Therefore, cumulative groundwater recharge impacts associated with the proposed project would be reduced to a **less than cumulatively considerable** level.

Impact Analysis 3.9.4 Increased urbanization resulting from future development accommodated by the project could substantially alter existing drainage patterns. This could result in increased erosion potential in areas of new construction (due to vegetation removal, topsoil disturbance, etc.), as well as an increase in impervious surfaces, associated stormwater runoff, and subsequent flow in surface water drainages resulting in flooding. This impact is **potentially cumulatively considerable**. (Thresholds 3 and 4)

The increase in density/intensity potential resulting from the project would accommodate increased urbanization throughout the unincorporated County, which could substantially alter existing drainage patterns. This could result in increased erosion potential in areas of new construction (due to vegetation removal, topsoil disturbance, etc.), as well as an increase in impervious surfaces, associated stormwater runoff, and subsequent flow in surface water drainages resulting in flooding.

As discussed under **Impact Analysis 3.6.3**, a grading permit is required for most earthmoving operations in the County (Ordinance 457). As part of the grading permit process, the Riverside County Building and Safety Department and/or the Riverside County Geologist identifies conditions of approval, including erosion and sediment control plans. Measures included in individual erosion control plans could include minimizing terrain modification, controlling surface water and diverting around potential landslide areas to prevent erosion and saturation of slopes, limiting extent and duration of ground-disturbing activities during and immediately following periods of rain, balancing the amount of cut and fill, and erosion control devices to limit the amount of water entering and exiting a graded site.

As discussed under **Impact Analysis 3.9.1**, NPDES and County requirements (Ordinance No. 754) would ensure that future development would control the amount and quality of stormwater runoff leaving construction sites. Postconstruction runoff is also addressed and mitigated through site design and various requirements of state of California and County of Riverside programs, such as Riverside County's MS4 permit requirements for new development and substantial redevelopment, as well as standard Riverside County conditions of approval.

In addition, the following mitigation measures would ensure the appropriate site design and BMPs for drainage systems would be required as a condition of approval for future development projects during development review process.

Mitigation Measures

MM 3.9.8 For each new development project, the following principles and policies shall be considered and implemented:

a. Avoid or limit disturbance to natural water bodies and drainage systems (including ephemeral drainage systems) when feasible. Provide adequate buffers of native vegetation along drainage systems to lessen erosion and protect water quality.

b. Appropriate BMPs must be implemented to lessen impacts to waters of the United States and/or waters of the state resulting from development. Drainages should be left in a natural condition or modified in a way that preserves all existing water quality standards where feasible. Any discharges of sediment or other wastes, including wastewater, to waters of the United States or waters of the state must be avoided to the maximum extent practicable. All such discharges will require an NPDES permit issued by applicable RWQCB.

c. Small drainages shall be preserved and incorporated into new development, along with adequate buffer zones of native vegetation, to the maximum extent practicable.

d. Any impacts to waters of the United States require a Section 401 Water Quality Standards Certification from the RWQCB. Impacts to these waters shall be avoided to the maximum extent practicable. Where avoidance is not practicable, impacts to these waters shall be minimized to the maximum extent practicable. Mitigation of unavoidable impacts must, at a minimum, replace the full function and value of the affected water body. Impacts to waters of the United States also require a Clean Water Act Section 404 Permit from the USACE and a Streambed Alteration Agreement from the CDFW.

e. The County of Riverside shall encourage the use of pervious materials in development to retain absorption and allow more percolation of stormwater into the ground. The use of pervious materials, such as grass or permeable/porous pavement, for runoff channels and parking areas shall also be encouraged. Lining runoff channels with impermeable surfaces, such as concrete or grouted riprap, will be discouraged.

f. The County of Riverside shall encourage construction of detention basins or holding ponds and/or constructed wetlands within a project site to capture and treat dry weather urban runoff and the first flush of rainfall runoff. These basins should be designed to detain runoff for a minimum time, such as 24 hours, to allow particles and associated pollutants to settle and to provide for natural treatment.

g. The County of Riverside shall encourage development to retain areas of open space as natural or landscaped to aid in the recharge and retention of runoff. Native plant materials shall be used in replanting and hydroseeding operations, where feasible.

h. The County of Riverside shall require that environmental documents for proposed projects in areas tributary to Canyon Lake Reservoir, Lake Elsinore, sections of the Santa Ana River, Fulmar Lake, and Mill Creek (as a result of the proposed 2002 303 (d) listing of these water bodies) include discharge prohibitions, revisions to discharge permits, or management plans to address water quality impacts in accordance with the controls that

may be applied pursuant to state and federal regulation. Environmental documents shall acknowledge that additional requirements may be imposed in the future for projects in areas tributary to the water bodies listed above.

i. The County of Riverside shall ensure that in new development, postdevelopment stormwater runoff flow rates do not differ from the predevelopment stormwater runoff flow rates.

j. All construction projects should be designed and implemented to protect, and if at all possible, to improve the quality of the underlying groundwater.

k. The County of Riverside shall encourage the enhancement of groundwater recharge wherever possible. Measures such as keeping stream/river channels and floodplains in natural conditions or with pervious surfaces, as well as keeping areas of high recharge as open space, will be considered.

l. The County of Riverside shall prohibit the discharge of waste material resulting from any type of construction into any drainage areas, channels, streambeds, streams, lakes, wetlands, or rivers. Spoil sites shall be prohibited within any streams or areas where spoil material could be washed into a water body.

m. The County of Riverside shall require that appropriate BMPs be developed and implemented during construction efforts to control the discharge of pollutants, prevent sewage spills, and to avoid discharge of sediments into the streets, stormwater conveyance channels, or waterways.

Timing/Implementation: *Prior to issuance of any entitlement that would result in the physical modification of the project site*

Enforcement/Monitoring: *County of Riverside*

MM 3.9.9 Where development may interfere with, disrupt, or otherwise affect surface or subsurface hydrologic baseline conditions (as determined by the Riverside County Flood Control and Water Conservation District, the USACE, the CDFW, and/or the RWQCB), preparation of a project-specific hydrologic study shall be required. The hydrologic study shall include but shall not be limited to: an inventory of surface and subsurface hydrologic conditions existing at the time of the study; an analysis of how the proposed development would affect these hydrologic baseline conditions; and specific measures to limit or eliminate the interference or disruption of the on-site hydrologic process. The hydrologic study shall evaluate the feasibility of incorporating bioengineering measures into any project that may alter the hydrologic process. Where required by the County of Riverside, the hydrologic study shall include analysis of, at an equal level of detail, potential impacts to tributary or downstream areas. The hydrologic study shall be submitted to the County or responsible entity for review and shall be approved prior to the issuance of any entitlement that would result in the physical modification of the project site.

Timing/Implementation: *Prior to issuance of any entitlement that would result in the physical modification of the project site*

Enforcement/Monitoring: *County of Riverside*

MM 3.9.10 The project applicant shall submit to the County of Riverside, for review and approval, evidence that the specific measures to limit or eliminate the disruption or interference to the hydrologic process resulting from the entire development process will be implemented as set forth in the hydrologic study. Such evidence may take the form of but shall not be limited to: a development agreement; land banking; the provision of adequate funds to guarantee the construction, maintenance, or restoration of hydrologic features; or any other mechanism that will achieve said goals. Said evidence shall be submitted and approved prior to the issuance of any entitlement that would result in the physical modification of the project site.

Timing/Implementation: *Prior to issuance of any entitlement that would result in the physical modification of the project site*

Enforcement/Monitoring: *County of Riverside*

MM 3.9.11 Where determined feasible by Riverside County or a responsible entity, bioengineering measures shall be incorporated into any project that may alter the hydrologic process.

Timing/Implementation: *Prior to issuance of any entitlement that would result in the physical modification of the project site*

Enforcement/Monitoring: *County of Riverside*

MM 3.9.12 Riverside County shall not necessarily require all land uses to withstand flooding. These may include land uses such as agricultural, golf courses, and trails. For these land uses, flows shall not be obstructed, and upstream and downstream properties shall not be adversely affected by increased velocities, erosion backwater effects, concentration of flows, and adverse impacts to water quality from point and nonpoint sources of pollution.

Timing/Implementation: *Prior to issuance of any entitlement that would result in the physical modification of the project site*

Enforcement/Monitoring: *County of Riverside*

Compliance with mitigation measures **MM 3.9.8** through **MM 3.9.12**, as well as **MM 3.6.8** and **MM 3.6.9** identified in **Impact Analysis 3.6.3**, would ensure that future development would prepare a project-specific hydrologic study and incorporate drainage systems and design measures and BMPs such that the hydrologic process is not disrupted. Therefore, future development would be required to control stormwater runoff and mitigate hydrologic impacts to a **less than cumulatively considerable** level.

Impact Analysis 3.9.5 Future development accommodated by the project would not result in stormwater runoff exceeding the capacity of the County's storm drain system. This impact is **less than cumulatively considerable**. (Threshold 5)

As discussed under **Impact Analyses 3.9.1** and **3.9.4**, NPDES and County requirements would ensure that future development would control the amount and quality of stormwater runoff leaving construction and development sites, which would also reduce the amount of stormwater runoff entering the County's storm drainage system.

The County's Development Impact Fee (DIF) program covers all portions of unincorporated Riverside County and provides funds for a variety of public facilities, including flood control and storm drain facilities. For flood control and storm drain facilities, in the areas in which flood control fees have been authorized, the DIF program ensures fees are collected and expended to provide necessary facilities commensurate with the ongoing levels of development. The provision of these facilities ensures that future new development would not result in runoff exceeding stormwater drainage systems or cause substantial additional sources of polluted runoff.

Mitigation measure **MM 3.9.8** as described under **Impact Analysis 3.9.4** would be required as a condition of approval for each new development project during the development review process. The measure requires the following to be implemented in regard to drainage: avoid or limit disturbance to natural water bodies and drainage systems when feasible; preserve and incorporate small drainages into new development, along with adequate buffer zones of native vegetation, to the maximum extent practicable; encourage construction of detention basins or holding ponds and/or constructed wetlands within a project site to capture and treat dry weather urban runoff and the first flush of rainfall runoff; encourage development to retain areas of open space as natural or landscaped to aid in the recharge and retention of runoff; and ensure that postdevelopment stormwater runoff flow rates do not differ from the predevelopment stormwater runoff flow rates.

Finally, GPA 960 Policy S 4.10 (RCIP GP Policy S 4.10) specifically requires all proposed projects anywhere in Riverside County to address and mitigate any adverse impacts that they may have on the carrying capacity of local and regional storm drain systems. During the County's development review process, the applicant would be required to provide substantial evidence of compliance with this policy.

The County's development review process would ensure implementation of the above regulations and mitigation measure **MM 3.9.8** would reduce runoff impacts on the capacity of storm drain system resulting from implementation of future development accommodated by the project to a **less than cumulatively considerable** impact.

Mitigation Measures

MM 3.9.8 (see **Impact Analysis 3.9.4**)

Impact Analysis 3.9.6 Increased urbanization associated with the project has the potential to substantially degrade water quality. This is a **potentially cumulatively considerable** impact. (Threshold 6)

As described under **Impact Analyses 3.9.1** through **3.9.4**, increased urbanization has the potential to result in alterations to existing hydrology, increases in impervious surfaces, increases in urban runoff, and increases in wastewater discharge, all of which have the potential to degrade water quality. This is a **potentially cumulatively considerable** impact. Mitigation measures **MM 3.9.1** through **MM 3.9.7** would be required as conditions of approval during the development review process and include specific measures to limit or eliminate potential water quality impacts resulting from the entire development process. These measures, along with NPDES requirements for construction and operational activities, particularly operation of MS4s and industries that produce wastewater, would reduce water quality impacts associated with future projects facilitated by the project to a **less than cumulatively considerable** level.

Mitigation Measures

MM 3.9.1 through **MM 3.9.7** (see **Impact Analyses 3.9.1** through **3.9.3**)

Impact Analysis 3.9.7 The project would result in the development of housing in the 100-year floodplain that could expose structures and people to flood hazards, as well as impede or redirect flood flows. This would be a **potentially significant** impact. (Thresholds 7 and 8)

The proposed project does not include site-specific development proposals, entitlements, or other project components that would directly result in the placement of housing or structures within a 100-year flood hazard area. The project does, however, propose parcel-specific land use designation and zone classification changes for approximately 368 parcels totaling 1,434.41 acres in the existing 100-year floodplain. These parcels are located in the communities listed in **Table 3.9-1**. The flooding impacts of these changes at the localized level are disclosed and analyzed in Sections 4.1 through 4.10 of this EIR, as applicable. At the Countywide level, this would increase exposure of structures and people to flood hazards, as well as impede or redirect flood flows. This would be a **potentially significant** impact.

Riverside County Ordinance No. 458, Regulating Flood Hazard Areas and Implementing the National Flood Insurance Program, includes specifications, standards, and requirements to mitigate potential flood hazards in the County in several ways, including reviewing all permit applications in the floodplain to determine whether proposed building sites will be reasonably safe from flooding. For example, buildings are required to be constructed by methods and practices that minimize flood damage and be designed (or modified) and adequately anchored to prevent flotation, collapse, or lateral movement resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy. In addition, all new construction of residential structures is required to have the lowest floor (including the basement) elevated to or above the base flood level.

Ordinance No. 458 also includes protections against impeding or redirecting flood flows. Whenever a watercourse or mapped floodplain is to be altered or relocated, the ordinance requires the flood-carrying capacity of the altered or relocated portion of the watercourse or mapped floodplain to be maintained. In addition, the ordinance prohibits structures and land grading in areas designated as floodways, except upon approval of a plan which provides that the proposed development will not result in any increase in flood levels during the occurrence of the base flood discharge.

GPA 960 Policy S 4.1 (RCIP GP S 4.1) requires new construction proposals for residential and nonresidential development in 100-year floodplains to apply a minimum level of acceptable risk, and requires the County to disapprove projects that cannot mitigate the hazard to the satisfaction of the Building Official or another responsible agency. GPA 960 Policy S 4.2 (RCIP GP S 4.2) requires all residential, commercial, and industrial structures to be flood-proofed from the mapped 100-year storm flow. GPA 960 Policy S 4.3 (RCIP GP S 4.3) prohibits the construction of permanent structures for human housing or employment to the extent necessary to convey floodwaters without property damage or risk to public safety. GPA 960 Policy S 4.4 (RCIP GP S 4.4) prohibits alteration of floodways and channelization unless alternative methods of flood control are not technically feasible or unless alternative methods are utilized to the maximum extent practicable. During the County's development review process, the applicant would be required to provide substantial evidence of compliance with these policies, as well as Ordinance No. 458, as part of the project application materials.

In addition, the following mitigation measures would be required as a condition of approval for future development to implement these flood control requirements.

Mitigation Measures

MM 3.9.15 Riverside County shall require that all structures (residential, commercial, and industrial) be flood-proofed from the 100-year storm flows. In some cases, this may involve elevating the finished floor more than 1 foot.

Timing/Implementation: *Prior to issuance of building permit*

Enforcement/Monitoring: *County of Riverside*

MM 3.9.16 Riverside County shall require that fully enclosed areas that are below finished floors have openings to equalize the forces on both sides of the walls.

Timing/Implementation: *Prior to issuance of building permit*

Enforcement/Monitoring: *County of Riverside*

MM 3.9.17 Provided the applicant does hydrological studies, engineers structures to be safe from flooding, and provides evidence that the structures will not adversely impact the floodplain, Riverside County may allow development into the floodway fringe.

Timing/Implementation: *Prior to issuance of building permit*

Enforcement/Monitoring: *County of Riverside*

The County's development review process would ensure compliance with the County's regulations and policies, as well as mitigation measures **MM 3.9.15** through **MM 3.9.17**, which require that projects that cannot mitigate flooding hazards be disapproved; that structures would be adequately flood-proofed to ensure people and property are not exposed to significant 100-year flood hazards; and that future development would not significantly impede or redirect flood flows. Therefore, impacts would be reduced to a **less than cumulatively considerable** level.

Impact Analysis 3.9.8 Compliance with existing regulations and programs would ensure that risks associated with development in dam inundation zones and other areas potentially prone to flooding or inundation hazards due to failure of a flood control facility would be **less than cumulatively considerable**. (Threshold 9)

The project proposes parcel-specific land use designation and zone classification changes that could be affected by known (mapped) dam inundation hazards as shown in **Figure 3.9-3**. The impacts of these changes at the localized level are disclosed and analyzed in Sections 4.1 through 4.10 of this EIR, as applicable. The proposed project would increase the density/intensity potential of housing and structures already planned to be located in these areas. It should be noted, however, that not all dams in Riverside County have designated dam inundation areas.

Compliance with existing regulations and programs, as described under **Impact Analysis 3.9.7** for flooding, including Riverside County Ordinance No. 458 and GPA 960 Policies S 4.1 through S 4.4 (RCIP GP Policies S 4.1 through S 4.4), would be required during the development review process and would ensure that risks associated with development in dam inundation zones and other areas potentially prone to flooding or inundation hazards due to failure of a flood control facility would be **less than cumulatively considerable**.

Mitigation Measures

None required.

Impact Analysis 3.9.9 Compliance with the County's existing regulations and policies would ensure that people and property are not exposed to inundation by seiche, tsunami, or mudflow. Therefore, impacts would be **less than cumulatively considerable**. (Threshold 10)

In terms of seiche hazards, there is no documented significant potential for any of the water bodies in Riverside County. Based on morphology and hydrology, two water bodies in the County (Lake Perris and Lake Elsinore) may have the potential for seismically induced seiche. However, setbacks and flood hazard area regulations would be sufficient to protect against significant risks (County of Riverside 2015). Thus, for the proposed project, future development along or near lakes and reservoirs is considered to be at minimal risk. Overall, seiche impacts would be less than cumulatively considerable. Due to its inland location, by definition there are no tsunami risks in Riverside County. In terms of mudflow hazards, areas of proposed land use-related changes with the potential for intensifying future development are generally at risk for mudflow hazards if they are on or below a steep or unstable slope; in a steep-sided canyon; in an area with flash flood potential, on loose, unconsolidated soils; or in an area denuded of vegetation by recent wildfire, particularly if any of the other factors also occur. The site design and engineering requirements established for 100-year flood hazard area management (**Impact Analysis 3.9.7**) and for erosion and unstable soils (**Impact Analysis 3.6.4**) generally provide sufficient measures to ensure the protection of development from mudflow. This impact is **less than cumulatively considerable**.

Mitigation Measures

None required.

3.10 LAND USE AND PLANNING

SETTING

Riverside County covers roughly 7,300 square miles (about 4.6 million acres), of which roughly 10 percent consist of incorporated cities. The unincorporated portions of the County cover approximately 6,500 square miles (approximately 4.2 million acres). Besides incorporated cities, a number of other governmental entities with jurisdictional areas exist in Riverside County. The federal government owns or controls large swaths of the County, including 1.26 million acres of national forests and monuments; tribal lands span roughly 150,500 acres; and the state of California owns and controls nearly 40,000 acres of land including state parks, University of California campuses and research facilities, and various other uses (County of Riverside 2015).

As discussed in Section 2.2 of this EIR, at the time of the writing of this Draft EIR, the County had recently adopted GPA 960[5]. The General Plan is the master planning and policy document governing the unincorporated portions of the County. As such, the General Plan Land Use Map depicts the general pattern of the future land use in unincorporated Riverside County, identifying five broad Foundation Component land uses: Agriculture, Rural, Rural Community, Open Space, and Community Development. Each of these is subdivided into more detailed land use designations at the Area Plan level. The uses allowed in each of these basic categories are directed by policies contained in the General Plan Land Use Element. An itemized acreage summary for each General Plan Foundation Component is shown in **Table 3.10-1**. As shown, land uses in Riverside County are envisioned by the General Plan as predominantly rural and natural in character with the, Agricultural, Rural, Rural Community, and Open Space Foundation Component–designated lands, accounting for 94 percent of the entire unincorporated area, with the remaining land devoted to urbanized uses, roadways, and Indian lands. Approximately 83 percent of the area in western Riverside County is designated for Agricultural, Rural, Rural Community, or Open Space uses, while these uses make up over 96 percent of the land in the eastern half of the County (County of Riverside 2014). The overall land use mix of GPA 960 and the 2003 RCIP GP were similar; in terms of land use patterns, GPA 960 furthered the objectives and policies of the previous 2003 RCIP General Plan by directing future development toward existing and planned urban areas where growth is best suited to occur (County of Riverside 2002).

TABLE 3.10-1
UNINCORPORATED RIVERSIDE COUNTY CUMULATIVE ACREAGE SUMMARY

General Plan Foundation Component	Western County Area Plans Acreage	Percentage	Eastern County Area Plans Acreage	Percentage	Total	Percentage
Agriculture	29,247	2%	159,630	5%	188,877	5%
Rural	250,296	21%	42,254	1%	292,550	7%
Rural Community	60,658	5%	3,640	0%	64,298	2%
Open Space	661,280	55%	2,630,774	90%	3,292,054	80%
Community Development	111,590	9%	61,584	2%	173,174	5%
Other	79,116	7%	31,732	1%	110,848	3%
Total	**1,192,186**	**100%**	**2,929,615**	**100%**	**4,121,801**	**100%**

[5] *December 8, 2015*

Source: County of Riverside 2014

THRESHOLDS OF SIGNIFICANCE

The impact analysis is based on CEQA Guidelines Appendix G thresholds of significance. A land use impact is considered significant if implementation of the project would:

1) Physically divide an established community.

2) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

3) Conflict with any applicable habitat conservation plan or natural community conservation plan.

METHODOLOGY

The land use and planning analysis considers the potential for implementation of the project to conflict with the County's planning and policy documents. A discussion of these documents is included in Section 2.3, Regulatory Framework. The site development environmental effects and determinations below would not differ substantially from either the 2003 RCIP General Plan or the current General Plan.

IMPACT ANALYSIS

Impact Analysis 3.10.1 The updated Housing Element and associated project components would not physically divide an established community. This would be a **less than cumulatively considerable** impact. (Threshold 1)

The physical division of an established community could generally occur via placement of a freeway, railroad, airport, dam or large area of open space in an established community. The proposed project would not result in these land use activities, nor does it include land use changes in areas that would otherwise divide and established community. Future development would be integrated with the existing community and would not divide it. Therefore, this would be a **less than cumulatively considerable** impact.

Mitigation Measures

None required.

Impact Analysis 3.10.2 The updated Housing Element and associated project components would not conflict with the County's General Plan or any other plan adopted for the purpose of avoiding or mitigating an environmental effect. This would be a **less than cumulatively considerable** impact. (Threshold 2)

The Housing Element itself is one of the seven General Plan elements mandated by the state (Sections 65580 to 65589.8 of the Government Code). The objective of the proposed project is both to bring the Housing Element into compliance with state housing law and to meet a statutory update requirement, as well as to help the County meet its state-mandated Regional Housing

Needs Allocation (RHNA) obligations. As such, the proposed update to the Housing Element would implement and enhance, rather than conflict with, the land use plans, policies, and programs of the remainder of the General Plan, as well as the County's other ordinances and regulatory programs. The project would not remove or modify any General Plan or other County policies adopted for the purpose of avoiding or mitigating an environmental effect, nor would it conflict with them.

The proposed revisions to the text of the General Plan and Ordinance No. 348 are intended both to adopt and implement the new HHDR and MUA land use designations and zone classifications and to comply with changes in state law and implementation of the Housing Element programs, including those encouraging multifamily development. These revisions will better integrate the County's General Plan policies, Ordinance No. 348, and other regulatory programs with opportunities to implement the County's housing goals with respect to meeting the needs of existing and future residents, including accommodating the development of a variety of housing types, styles, and densities that are accessible to and meet the needs of a range of lifestyles, physical abilities, and income levels. Furthermore, the project seeks to accommodate the County's future housing in existing and planned urban areas where growth is best suited to occur, a land use pattern that is consistent with the Vision Statement of both GPA 960 and the 2003 RCIP General Plan.

The project's consistency with various environmental regulations and programs in the context of the direct and indirect environmental effects of future development associated with the project is discussed throughout this EIR. As discussed in those sections, the County's development review process ensures that all site-specific development projects accommodated by the project would be required to demonstrate consistency with all General Plan policies and regulations intended to protect the environment.

Therefore, the updated Housing Element and associated project components would not conflict with the County's General Plan or any other plan adopted for the purpose of avoiding or mitigating an environmental effect. This would be a **less than cumulatively considerable** impact.

Mitigation Measures

None required.

Impact Analysis 3.10.3 The updated Housing Element and associated project components would not conflict with any applicable habitat conservation plan or natural community conservation plan. This would be a **less than cumulatively considerable** impact. (Threshold 3)

Applicable habitat conservation plans and natural community conservation plans are discussed in detail in Subsection 3.4, Biological Resources, and under Impact Analysis 3.4.6. As discussed, policies in the County's General Plan specifically require compliance with existing MSHCPs to ensure there are no conflicts with local biological resource protections. The proposed project does not make any changes to how the County's habitat conservation plans are implemented, nor does it change the steps required to comply with these habitat conservation plans. Future development accommodated by the proposed project would be required by Riverside County's conditions of approval to comply with applicable fee ordinances relevant to the implementation of specific programs that protect biological resources, thereby reinforcing compliance with applicable resource protection policies. Therefore, the updated Housing Element and associated project components would not conflict with any applicable habitat conservation plan or natural community conservation plan. This would be a **less than cumulatively considerable** impact.

Mitigation Measures

None required.

3.11 MINERAL RESOURCES

SETTING

Riverside County has a rich history of over 175 years of mining, starting with the California Gold Rush. Over the years, diverse mineral resources, including extensive deposits of clay, limestone, iron, sand, and aggregates, have been influential in the development of the region and have served as an important component of the County's economy. Minerals commercially extracted from Riverside County in the past included a number of valuable minerals refined directly or used in industry, such as gold; copper, iron, and tin; lead, silver, zinc, and arsenic; rare earth elements (monazite, xenotine); antimony; mica and gypsum; fluorite; coal; magnesite and tungsten; feldspar, quartz, and silica; wollastonite and other asbestos-like minerals; and gemstones (tourmaline, beryl, agate, etc.).

In the present century, the region's most economically valuable mineral resources are those used as building materials and in their manufacture. Roughly 80 percent of California's mineral production now consists of such industrial minerals. Industrial minerals occurring and extracted in Riverside County currently include:

- Clay (used to make brick, pipe, tiles, and other building products)
- Limestone (used to make portland cement and other cement products)
- Sand and gravel (collectively, aggregates, used as road base and in concrete)
- Specialty sands (such as those used for glass-making and foundry molds)
- Rock commodities (broken and crushed stone products, as well as stone slabs used for cemetery markers, building facings, countertops, etc.)

Rapid urbanization in Riverside County produces intense competition for land and increases the need for industrial commodities. The long-term viability of mines producing industrial building commodities, such as aggregate, sand, and clays, could easily become threatened by the urban communities that they enable to expand. Expanding urban areas typically force resource production away from the area's core. However, it is the urbanizing areas that most need an affordable source of mineral resources for continued growth. For example, the State of California estimates that on average, 229 tons of aggregate are used in the construction of a single house (County of Riverside 2015).

Some minerals can be marketed worldwide; however, the marketability of most industrial commodities is directly dependent on the distance of transport. When hauling sand and gravel, for instance, the cost of the commodity doubles for every 50 miles of truck transport (County of Riverside 2015). Additionally, when urban and suburban development encroaches on existing mining operations, new residents can come into conflict with the effects of mining operations, such as noise and vibration, dust, and heavy truck traffic.

Mineral Resource Zones

High demand for mineral commodities perpetuates the need for access to mineral deposits for current and future extraction. To protect the resources that serve this demand, the State Geologist is tasked with classifying land according to the presence or absence of significant mineral deposits according to a priority list established by the State Mining and Geology Board (SMGB).

The SMGB uses mineral resource zones (MRZs) to classify lands that contain valuable mineral deposits. The use of MRZs can help identify mineral deposits to be protected from encroaching urbanization and land uses incompatible with mining. The MRZ classifications reflect varying degrees of mineral significance, determined by available knowledge of the presence or absence of mineral deposits, as well as the economic potential of the deposits. In this process, it is important to recognize that mineral-bearing lands classified by the State Geologist are not explicitly reserved for mining, nor do they take into account existing land uses. Rather, the State of California only develops and presents the data to planning agencies, which must make decisions concerning mineral resources and mining at the local level. The SMGB uses the following MRZ classifications:

MRZ-1: Areas where available geologic information indicates no significant mineral deposits are present or that there is little likelihood for their presence.

MRZ-2a: Areas where available geologic information indicates that there are significant measured or indicated mineral deposits present. According to the SMGB, land included in this category is of "prime importance" because it contains known economic mineral deposits.

MRZ-2b: Areas where available geologic information indicates that significant inferred mineral resources are present. This includes discovered deposits that are inferred to occur in economically viable concentrations, as well as those currently occurring at subeconomic levels based on limited samples. More importantly, MRZ-2b areas are considered potentially suitable for upgrade to MRZ-2a status, should future conditions warrant.

MRZ-3a: Areas where the available geologic information indicates that mineral deposits exist; however, the significance of the deposit is undetermined. Additional exploratory work would be needed to determine specific categorization. MRZ-3a areas are considered to have moderate potential for the discovery of economic mineral resources (the discovery of which could lead to upgrading to MRZ-2, for example).

MRZ-3b: Areas where the available geologic information indicates that mineral deposits are likely to exist; however, the significance of the deposit is undetermined. This class denotes areas where presence of the mineral is inferred and/or not visible from the surface geology. Further exploration would be needed to ascertain full potential of the area.

MRZ-4: Areas where there is not enough information available to determine the presence or absence of mineral deposits. For land use purposes, it should be noted that MRZ-4 differs from MRZ-1 in that it denotes areas lacking enough information for a more specific classification to be made, rather than lacking the mineral deposits themselves.

After an area has been classified into mineral resource zones, the SMGB then determines if the classified mineral resource deposit warrants designation as being of either regional (multi-community) or statewide economic significance. In contrast to classification, which inventories mineral deposits without regard to existing land use, the purpose of designation is to identify those areas that are of prime importance in meeting the future needs of the study region and that remain available from a land use perspective. Once completed, the SMGB transmits the information to the affected counties and cities for mandated incorporation into their land use planning processes.

The mineral resource zone classifications for lands in Riverside County are shown in **Table 3.11-1**. The MRZ-2 zone includes 22,114 acres of MRZ-2a and 7,428 acres of MRZ-2b, as well as approximately 11,853 acres that have been designated regionally significant by the SMGB. In addition, roughly 6,371 acres in the Palm Springs region have been approved by the SMGB for designation as being of regional significance, and are currently awaiting rulemaking to codify the

decision. No sites in Riverside County have been designated as locally important mineral recovery sites (County of Riverside 2015).

TABLE 3.11-1
MINERAL RESOURCE ZONE CLASSIFICATIONS

Mineral Resource Zone Classification	Total Acreage
MRZ-1	83,267
MRZ-2	71,270
MRZ-3	1,336,723
MRZ-4	1,751,892

Source: County of Riverside 2015

THRESHOLDS OF SIGNIFICANCE

The project would result in a significant impact on mineral resources if it would cause:

1) Loss of availability of a known mineral resource that would be of value to the region and the residents of California.

2) Loss of the availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

METHODOLOGY

The impact analysis below considers the potential for project-related changes to collectively affect mineral resources in the County based on changes in the vicinity of MRZ-2 areas.

IMPACT ANALYSIS

Impact Analysis 3.11.1 Development allowed under the proposed project has the potential to result in the loss of availability of known mineral resources that would be of value to the region and to the residents of the state. This impact would be **less than cumulatively considerable**. (Thresholds 1 and 2)

Implementation of the proposed project could result in potential direct future loss of land designated as containing a known mineral resource. Likewise, the Housing Element could result in residential development adjacent to areas of known or inferred to possess mineral resources (MRZ-2 areas), which is generally incompatible with mineral extraction activities and therefore could also result in encroachment or preclusion of potentially important mineral resources, although the majority of the sites proposed for land use designation and zone classification changes as a result of the project are not in the vicinity of MRZ-2 areas.

Furthermore, implementation of and compliance with current regulations and Riverside County General Plan policies would ensure that significant impacts to known mineral resources of regional or statewide significance are either avoided or minimized to less than significant. For instance, GPA 960 Policy LU 9.7 seeks to protect lands designated by the SMGB as being of regional or statewide significance from encroachment of incompatible land uses, such as residential development, by requiring incorporation of buffer zones or visual screening into the incompatible

land use (no similar RCIP GP policy). GPA 960 Policy OS 14.3 (RCIP GP Policy 14.3) prohibits land uses incompatible with mineral resource recovery in areas designated Open Space-Mineral Resources and in areas designated by the SMGB as being of regional or statewide significance. GPA 960 Policy OS 14.4 (RCIP GP Policy 14.4) requires the County Geologist to impose conditions as necessary on proposed mining operation projects to minimize or eliminate the potential adverse impact of mining operations on surrounding properties and environmental resources. GPA 960 Policy OS 14.5 (RCIP GP Policy 14.5) requires that new nonmining land uses adjacent to existing mining operations be designed to provide a buffer between the new development and the mining operations. The buffer distance must be based on an evaluation of noise, aesthetics, drainage, operating conditions, biological resources, topography, lighting, traffic, operating hours, and air quality. The same standards apply to nonmining land uses within or adjacent to areas classified by the State Geologist as MRZ-2a. GPA 960 Policy LU 27.2 (RCIP GP Policy 21.2) seeks to protect lands designated as Open Space-Mineral Resource from encroachment of incompatible land uses through buffer zones or visual screening, and GPA 960 Policy LU 27.3 (RCIP GP Policy 21.3) protects road access to mining activities and seeks to prevent traffic conflicts with surrounding properties. During the County's development review process, the applicant would be required to provide substantial evidence of compliance with these policies.

The County's development review process would ensure that the environmental impacts of existing and future mining activities are minimized and that conflicts between mining and nonmining land uses are also minimized or avoided. Together they ensure that any significant adverse impacts to mineral resources resulting from future implementation of the proposed project would be **less than cumulatively considerable**.

Mitigation Measures

None required.

3.12 NOISE

SETTING

Fundamentals of Sound and Environmental Noise

Sound is technically described in terms of amplitude (loudness) and frequency (pitch). The standard unit of sound amplitude measurement is the decibel (dB). The decibel scale is a logarithmic scale that describes the physical intensity of the pressure vibrations which make up any sound. The pitch of the sound is related to the frequency of the pressure vibration. Because the human ear is not equally sensitive to a given sound level at all frequencies, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity. The A-weighted decibel scale (dBA) provides this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear.

Noise, on the other hand, is typically defined as unwanted sound because of its potential to disrupt sleep, to interfere with speech communication, and to damage hearing. A typical noise environment consists of a base of steady "background" noise that is the sum of many distant and indistinguishable noise sources. Superimposed on this background noise is the sound from individual local sources. These can vary from an occasional aircraft or train passing by to virtually continuous noise from, for example, traffic on a major highway.

Addition of Decibels

Because decibels are logarithmic units, sound levels cannot be added or subtracted through ordinary arithmetic. Under the decibel scale, a doubling of sound energy corresponds to a 3 dB increase. In other words, when two identical sources are each producing sound of the same loudness, the resulting sound level at a given distance would be 3 dB higher than one source under the same conditions. Under the decibel scale, three sources of equal loudness together would produce an increase of 5 dB.

Sound Propagation and Attenuation

Sound spreads (propagates) uniformly outward in a spherical pattern, and the sound level decreases (attenuates) at a rate of approximately 6 dB for each doubling of distance from stationary or point sources. Sound from a line source, such as a highway, propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of approximately 3 dB for each doubling of distance from a line source depending on ground surface characteristics. No excess attenuation is assumed for hard surfaces like a parking lot or a body of water. Soft surfaces, such as dirt or grass, can absorb sound, so an excess ground-attenuation value of 1.5 dB per doubling of distance is normally assumed. For line sources, an overall attenuation rate of 3 dB per doubling of distance is assumed.

Noise levels may also be reduced by intervening structures; generally, a single row of buildings between the receptor and the noise source reduces the noise level by about 5 dBA, while a solid wall or berm reduces noise levels by 5 to 10 dBA. The manner in which older homes in California were constructed generally provides a reduction of exterior-to-interior noise levels of about 20 to 25 dBA with closed windows. The exterior-to-interior reduction of newer residential units is generally 30 dBA or more.

Noise Descriptors

The decibel scale alone does not adequately characterize how humans perceive noise. The dominant frequencies of a sound have a substantial effect on the human response to that sound. Several rating scales have been developed to analyze the adverse effect of community noise on people. Because environmental noise fluctuates over time, these scales consider that the effect of noise on people is largely dependent on the total acoustical energy content of the noise, as well as the time of day when the noise occurs. The L_{eq} is a measure of ambient noise, while the L_{dn} and CNEL are measures of community noise. Each is applicable to this analysis and defined below.

- L_{eq}, the equivalent energy noise level, is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.

- L_{dn}, the Day-Night Average Level, is a 24-hour average L_{eq} with a 10 dBA weighting added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the nighttime. The logarithmic effect of these additions is that a 60 dBA 24-hour L_{eq} would result in a measurement of 66.4 dBA L_{dn}.

- CNEL, the Community Noise Equivalent Level, is a 24-hour average L_{eq} with a 5 dBA weighting during the hours of 7:00 p.m. to 10:00 p.m. and a 10 dBA weighting added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the evening and nighttime, respectively. The logarithmic effect of these additions is that a 60 dBA 24-hour L_{eq} would result in a measurement of 66.7 dBA CNEL.

- L_{min} is the minimum instantaneous noise level experienced during a given period of time.

- L_{max} is the maximum instantaneous noise level experienced during a given period of time.

- Percentile Noise Level (L_n) is the noise level exceeded for a given percentage of the measurement time. For example, L_{10} is the noise level exceeded for 10 percent of the measurement duration, and L_{50} is the noise level exceeded for 50 percent of the measurement duration.

Human Response to Noise

The human response to environmental noise is subjective and varies considerably from individual to individual. Noise in the community has often been cited as a health problem, not in terms of actual physiological damage, such as hearing impairment, but in terms of inhibiting general well-being and contributing to undue stress and annoyance. The health effects of noise in the community arise from interference with human activities, including sleep, speech, recreation, and tasks that demand concentration or coordination. Hearing loss can occur at the highest noise intensity levels.

Noise environments and consequences of human activities are usually well represented by median noise levels during the day or night, or over a 24-hour period. Environmental noise levels are generally considered low when the CNEL is below 60 dBA, moderate in the 60 to 70 dBA range, and high above 70 dBA. Examples of low daytime levels are isolated, natural settings that can provide noise levels as low as 20 dBA and quiet, suburban, residential streets that can provide noise levels around 40 dBA. Noise levels above 45 dBA at night can disrupt sleep. Examples of

moderate-level noise environments are urban residential or semi-commercial areas (typically 55 to 60 dBA) and commercial locations (typically 60 dBA). People may consider louder environments adverse, but most will accept the higher levels associated with noisier urban residential or residential-commercial areas (60 to 75 dBA) or dense urban or industrial areas (65 to 80 dBA). Regarding increases in A-weighted noise levels (dBA), the following relationships should be noted for understanding this analysis:

- Except in carefully controlled laboratory experiments, a change of 1 dB cannot be perceived by humans.
- Outside of the laboratory, a 3 dB change is considered a just-perceivable difference.
- A change of at least 5 dB is required before any noticeable change in community response would be expected. An increase of 5 dB is typically considered substantial.
- A 10 dB change is subjectively heard as an approximate doubling in loudness and would almost certainly cause an adverse change in community response.

THRESHOLDS OF SIGNIFICANCE

The impact analysis is based on CEQA Guidelines Appendix G thresholds of significance. A noise impact is considered significant if implementation of the project would result in:

1) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
2) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.
3) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.
4) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.
5) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, exposure of people residing or working in the project area to excessive noise levels.
6) For a project within the vicinity of a private airstrip, exposure of people residing or working in the project area to excessive noise levels.

Criteria for determining the significance of noise impacts were developed based on information contained in CEQA Guidelines Appendix G and the County's noise standards and guidelines. The County Noise Element outlines criteria and guiding policies for establishing acceptable noise levels. As noted in County General Plan Table N-1, acceptable noise levels for residential land uses range from 60 to 65 decibels. The analysis also takes into account the increases in noise levels over the pre-project noise conditions. A 3 dB increase is the minimum audible difference perceptible to the average person. With this in mind, a noise level increase of more than 3 dBA where the noise standard of 65 dBA is surpassed or where the existing noise levels already exceed 65 dBA would be a significant impact.

METHODOLOGY

EIR No. 521 determined that buildout of GPA 960 land uses would result in the generation or exposure of existing uses to excessive noise in some areas and would result in a substantial permanent or temporary increase in ambient noise levels, particularly those from increased traffic volumes. EIR No. 521 determined that these impacts would be significant and unavoidable (County of Riverside 2015). EIR No. 441 determined that implementation of RCIP GP policies and mitigation measures would reduce short-term construction and long-term mobile, stationary, and railroad noise impacts to less than significant levels (County of Riverside 2002).

The proposed project would result in an increase in density/intensity potential on sites throughout the unincorporated County as a result of redesignation and rezoning. In addition, the text revisions included in the proposed project in order to adopt and implement the new HHDR and MUA land use designations and zone classifications would allow such development to be proposed in other areas throughout the County (with the processing of a General Plan Amendment and/or change in zone classification). Therefore, the proposed project could increase housing development and associated traffic in the County in comparison to those conditions anticipated under the approved General Plan. The impact analysis below considers the potential for these changes to collectively affect noise conditions in the County.

Traffic noise levels were calculated using the Federal Highway Administration (FHWA) roadway noise prediction model (FHWA-RD-77-108) based on California vehicle reference noise emission factors and traffic data obtained from the traffic analysis prepared for the project (**Appendix 3.0-2**). Additional input data included vehicle speeds, ground attenuation factors, and roadway widths. Vehicle distribution was adjusted based on volume data obtained from the traffic analysis (**Appendix 3.0-3**).

IMPACT ANALYSIS

Impact Analysis 3.12.1 Future development accommodated by the project would result in a substantial permanent increase in ambient noise levels, as well as exposure of persons to or generation of noise levels in excess of standards established in the County's General Plan or noise ordinance, or in applicable standards of other agencies. This impact would be **cumulatively considerable**. (Thresholds 1 and 3)

Future HHDR and mixed-use development accommodated by the project would incrementally increase such uses in localized areas throughout unincorporated Riverside County. In some locations this would result in the introduction of new noise-sensitive land uses into areas of existing excess noise or areas in which cumulative County growth would eventually lead to excess noise levels. In addition, future development accommodated by project-related development would contribute incrementally to increased traffic volumes on Riverside County roads, resulting in noise increases affecting sensitive land uses along existing and future roads. As a result, new development, particularly HHDR uses along and adjacent to major transit corridors, could be exposed to noise levels that exceed Riverside County's noise standards. Existing sensitive uses would also be subject to these higher noise levels.

Noise Exposure

Future development facilitated by the proposed project could result in the placement of noise-sensitive residential uses in areas that either are currently exposed to or would be exposed to future traffic, airport, or railroad noise levels that exceed the current standards (65 dBA L_{dn} for exterior

areas and 45 dBA L_{dn} for interior areas). Riverside County standards specify that proposed new noise-sensitive uses must be sited, designed, and/or engineered to ensure that the interior and exterior exposure standards are not exceeded.

The following mitigation measures would be required as conditions of approval for future development projects and would ensure the incorporation of appropriate strategies to reduce potential noise impacts.

Mitigation Measures

MM 3.12.1 All new residential developments in Riverside County shall conform to a noise exposure standard of 65 dBA L_{dn} for outdoor noise in noise-sensitive outdoor activity areas and 45 dBA L_{dn} for indoor noise in bedrooms and living/family rooms. New development that does not and cannot be made to conform to this standard shall not be permitted.

Timing/Implementation: *Prior to project approval*

Enforcement/Monitoring: *County of Riverside*

MM 3.12.2 Acoustical studies, describing how the exterior and interior noise standards will be met, shall be required for all new residential developments with a noise exposure greater than 65 dBA L_{dn}. The studies shall also satisfy the requirements set forth in Title 24, Part 2 of the California Building Code (Noise Insulation Standards), for multiple-family attached homes, hotels, motels, etc. No development permits or approval of land use applications shall be issued until an acoustic analysis is received and approved by the Riverside County Planning Department.

Timing/Implementation: *Prior to issuance of any development permit and/or approval of any land use application*

Enforcement/Monitoring: *County of Riverside*

MM 3.12.3 Acoustical studies shall be required for all new noise-sensitive projects that may be affected by existing noise from stationary sources.

Timing/Implementation: *Prior to issuance of any development permit and/or approval of any land use application*

Enforcement/Monitoring: *County of Riverside*

MM 3.12.4 To permit new development of residential and noise-sensitive land uses where existing stationary noise sources exceed Riverside County's noise standards, effective mitigation measures shall be implemented to reduce noise exposure to or below the allowable levels of the zoning code/noise control ordinance.

Timing/Implementation: *Prior to issuance of any development permit and/or approval of any land use application*

Enforcement/Monitoring: *County of Riverside*

These mitigation measures would lessen noise impacts by restricting development of noise-sensitive uses if exterior and interior noise standards cannot be met and by requiring preparation of a site-specific noise analysis for residential projects with a noise exposure greater than 65 dBA L_{dn} to ensure that homes are situated in appropriately quiet areas or are constructed with the necessary sound attenuation measures to reduce noise levels to appropriate levels.

Noise Generation and Increased Ambient Noise Levels

Residential land uses are not considered major noise generators. The primary noise source associated with residential land uses is additional local traffic resulting from an increased number of residents. The increase in residents, and thus traffic, associated with the project could increase the ambient noise levels at locations (such as residential uses) throughout the County. **Table 3.12-1** shows the calculated roadway noise levels associated with buildout of unincorporated Riverside County under the General Plan compared to the buildout of the unincorporated areas with implementation of the proposed project.

Criteria for determining the significance of noise impacts were developed based on the County's noise standards and guidelines. As noted in County General Plan Table N-1, acceptable noise levels for residential land uses range from 60 to 65 decibels. This analysis also takes into account the increases in noise levels over the pre-project noise conditions. A 3 dB increase is the minimum audible difference perceptible to the average person. With this in mind, a noise level increase of more than 3 dBA where the noise standard of 65 dBA is surpassed or where the existing noise levels already exceeds 65 dBA would be a significant impact.

TABLE 3.12-1
PREDICTED INCREASES IN TRAFFIC NOISE LEVELS

Roadway Segment	L_{dn} at 100 Feet from Near-Travel-Lane Centerline[1]		Increase	Threshold	Impact
	General Plan Buildout	Housing Element Buildout			
Temescal Canyon Area Plan					
Indiana Avenue – 0.53 mile southwest of Buchanan St to 0.26 mile southwest of Buchanan St	63.3	63.3	**0.0**	> 3.0 dB increase	**No**
Magnolia Avenue – west of Temescal St to east of Lincoln St	69.9	69.9	**0.0**	> 3.0 dB increase	**No**
McKinley Street – Indiana Ave to Magnolia Ave	62.0	62.0	**0.0**	> 3.0 dB increase	**No**
Elsinore Area Plan					
Greenwald Avenue – SR 74 to Suzan St	60.3	59.9	**-0.4**	65 dBA	**No**
Greenwald Avenue – Bella Vista to Riverside St	62.5	62.4	**-0.1**	65 dBA	**No**
Hammack Avenue – SR 74 to Telford Ave	58.1	58.8	**0.7**	65 dBA	**No**
Indian Truck Trail – Temescal Canyon Rd to De Palma Rd	64.9	65.2	**0.3**	> 3.0 dB increase	**No**
Meadowbrook Avenue – Peach St to SR 74	63.3	63.9	**0.6**	> 3.0 dB increase	**No**
Peach Street – Telford Ave to Meadowbrook Ave	62.4	63.2	**0.8**	> 3.0 dB increase	**No**

Roadway Segment	L_{dn} at 100 Feet from Near-Travel-Lane Centerline[1]		Increase	Threshold	Impact
	General Plan Buildout	Housing Element Buildout			
River Road – SR 74 to Lizard Rock Rd	52.0	52.3	**0.3**	65 dBA	**No**
SR 74 – north of River Rd to south of Peach St	73.3	73.4	**0.1**	> 3.0 dB increase	**No**
Telford Avenue – Patterson St to Peach St	62.4	63.2	**0.8**	> 3.0 dB increase	**No**
Temescal Canyon Road – Indian Truck Trail to east of Indiana Ave	66.1	66.3	**0.2**	> 3.0 dB increase	**No**
Temescal Canyon Road – Horsethief Canyon Rd to west of Lake St	68.2	68.3	**0.1**	> 3.0 dB increase	**No**
Telford Avenue – Hammack Ave to Peach St	63.1	63.8	**0.7**	> 3.0 dB increase	**No**
Highgrove Area Plan					
Center Street – California Ave to Garfield Ave	60.9	61.0	**0.1**	65 dBA	**No**
Center Street – N. Orange St to Iowa Ave	62.5	62.5	**0.0**	> 3.0 dB increase	**No**
Mt Vernon Avenue – Center St/Pigeon Pass Rd to Main St	65.1	65.2	**0.1**	> 3.0 dB increase	**No**
Mead Valley Area Plan					
A Street – Nuevo Rd to south of Nuevo Rd	63.6	62.3	**-1.3**	> 3.0 dB increase	**No**
Brown Street – Post Rd to Cajalco Rd	62.1	62.2	**0.1**	> 3.0 dB increase	**No**
Cajalco Road – west of Brown St to Day St	72.7	72.7	**0.0**	> 3.0 dB increase	**No**
Cajalco Road – Alexander St to Brown St	72.5	72.6	**0.1**	> 3.0 dB increase	**No**
Clark Street – Johnson Ave to Elmwood St	62.9	63.1	**0.2**	> 3.0 dB increase	**No**
Day Street – Marquez Rd to Elmwood St	59.3	59.5	**0.2**	65 dBA	**No**
Ellis Avenue – Neitzelt St to Bellamo Ln	66.7	67.1	**0.4**	> 3.0 dB increase	**No**
Ellis Avenue – Post Rd to Belita Dr	62.2	62.3	**0.1**	> 3.0 dB increase	**No**
Harvill Avenue – Water St to Orange Ave	66.6	66.6	**0.0**	> 3.0 dB increase	**No**
Harvill Avenue – Lemon Ave to Frontage Rd	67.9	68.1	**0.2**	> 3.0 dB increase	**No**
Harvill Avenue – Orange Ave to Cajalco Ex	68.2	68.4	**0.2**	> 3.0 dB increase	**No**
McPherson Road – Ellis Ave to south of Ellis Ave	50.1	51.2	**1.1**	65 dBA	**No**
Nuevo Road – Webster Ave to I-215	61.7	61.7	**0.0**	65 dBA	**No**
SR 74 – 7th St to Ellis Ave	67.3	67.6	**0.3**	> 3.0 dB increase	**No**
Southwest Area Plan					
Leon Road – Allen Rd to north of Borel Rd	60.2	60.2	**0.0**	65 dBA	**No**
Clinton Keith Road – west of Leon Rd to east of Meadowlark Ln/Whitewood Rd	70.8	71.1	**0.3**	> 3.0 dB increase	**No**
Lakeview/Nuevo Area Plan					
9th Street – B St to Reservoir Ave	62.1	60.1	**-2.0**	> 3.0 dB increase	**No**

Roadway Segment	L_{dn} at 100 Feet from Near-Travel-Lane Centerline[1]		Increase	Threshold	Impact
	General Plan Buildout	Housing Element Buildout			
10th Street – B St to A Ave	64.3	65.7	**1.4**	> 3.0 dB increase	**No**
10th Street – Lakeview Ave to Hansen Ave/SS Blvd	62.8	63.5	**0.7**	> 3.0 dB increase	**No**
10th Street – Reservoir Ave to Lakeview Ave	65.9	67.9	**2.0**	> 3.0 dB increase	**No**
B Street – 9th St to 10th St	67.5	65.7	**-1.8**	> 3.0 dB increase	**No**
Bradley Road – Orange Ave to north of Orange Ave	50.8	52.6	**1.8**	65 dBA	**No**
Dunlap Drive – Orange Ave to Palmero Dr	61.0	60.8	**-0.2**	65 dBA	**No**
Foothill Avenue – Orange Ave to Nuevo Rd	57.7	57.6	**-0.1**	65 dBA	**No**
Hansen Avenue – Ramona Expy to Palm Ave	52.1	50.4	**-1.7**	65 dBA	**No**
Lakeview Avenue – Reservoir Ave to 10th St	42.6	35.6	**-7.0**	65 dBA	**No**
Lakeview Avenue – 9th St to Nuevo Rd	49.9	52.9	**3.0**	65 dBA	**No**
Nuevo Road – Dunlap Dr to east of Foothill Ave	69.3	69.9	**0.6**	> 3.0 dB increase	**No**
Nuevo Road – Lakeview Ave to Menifee Rd	53.3	52.2	**-1.1**	65 dBA	**No**
Orange Avenue – Dunlap Dr to Bradley Rd	64.1	65.1	**1.0**	> 3.0 dB increase	**No**
Ramona Expressway – West of Martin St to Hansen Ave	74.8	74.8	**0.0**	> 3.0 dB increase	**No**
Ramona Expy/Mid County Parkway – Mid County Pkwy EB on-ramp at Ramona Expy to Mid County Pkwy EB off-ramp at Town Center Blvd	70.7	70.4	**-0.3**	> 3.0 dB increase	**No**
Ramona Expy/Mid County Parkway – Mid County Pkwy EB on-ramp at Town Center Blvd to east of Mid County Pkwy EB on-ramp at Park Center Blvd	70.7	70.8	**0.1**	> 3.0 dB increase	**No**
Ramona Expy/Mid County Parkway – Mid County Pkwy WB off-ramp at Ramona Expy to Mid County Pkwy WB on-ramp at Town Center Blvd	70.7	70.5	**-0.2**	> 3.0 dB increase	**No**
Reservoir Avenue – Ramona Expy to 10th St	66.8	68.6	**1.8**	> 3.0 dB increase	**No**
Harvest Valley/Winchester Area Plan					
Beeler Road – Simpson Rd to Olive Ave	59.2	59.8	**0.6**	65 dBA	**No**
Grand Avenue – Rice Rd to SR 79	70.4	70.6	**0.2**	> 3.0 dB increase	**No**
Olive Avenue – Beeler Rd to Rice Rd	60.6	61.6	**1.0**	65 dBA	**No**
Olive Avenue – Rice Rd to SR 79	57.1	58.4	**1.3**	65 dBA	**No**
Rice Road – Simpson Rd to Olive Ave	55.7	54.8	**-0.9**	65 dBA	**No**
Simpson Road – Beeler Rd to Rice Rd	67.9	68.4	**0.5**	> 3.0 dB increase	**No**
Simpson Road – Rice Rd to Patterson Ave	67.2	67.8	**0.6**	> 3.0 dB increase	**No**
SR 79 – Grand Ave to Olive Ave	69.8	70.2	**0.4**	> 3.0 dB increase	**No**
Briggs Road – Olive Ave to Simpson Ave	68.0	68.0	**0.0**	> 3.0 dB increase	**No**

Roadway Segment	L_{dn} at 100 Feet from Near-Travel-Lane Centerline[1]		Increase	Threshold	Impact
	General Plan Buildout	Housing Element Buildout			
Domenigoni Parkway – East of Patterson Ave to Patterson Ave	68.7	69.0	**0.3**	> 3.0 dB increase	**No**
Domenigoni Parkway – Winchester Rd to east of Leon Rd	69.2	69.4	**0.2**	> 3.0 dB increase	**No**
Grand Avenue – Leon Rd to west of Winchester Rd	70.5	70.7	**0.2**	> 3.0 dB increase	**No**
Grand Avenue – Winchester Rd to west of Winchester Rd	70.0	70.4	**0.4**	> 3.0 dB increase	**No**
The Pass Area Plan					
Apache Trail – Main St to Bonita Ave	65.9	66.9	**1.0**	> 3.0 dB increase	**No**
Bonita Avenue – Apache Trail to Magnolia St	68.5	69.1	**0.6**	> 3.0 dB increase	**No**
Broadway Street – Main St to Dolores Ave	64.1	63.9	**-0.2**	> 3.0 dB increase	**No**
Deep Creek Road – Main St to Bonita Ave	63.0	62.4	**-0.6**	> 3.0 dB increase	**No**
Magnolia Street – Bonita Ave to south of Bonita Ave	57.1	59.8	**2.7**	65 dBA	**No**
Main Street – I-10 EB ramps to Deep Creek Rd	62.2	62.0	**-0.2**	> 3.0 dB increase	**No**
Seminole Drive – Millard Pass Rd to east of Millard Pass Rd	67.8	67.1	**-0.7**	> 3.0 dB increase	**No**
Seminole Drive – Apache Trail to west of Apache Trail	62.3	61.9	**-0.4**	> 3.0 dB increase	**No**
Western Coachella Valley Area Plan					
13th Avenue – Indian Ave to east of Indian Ave	63.1	63.6	**0.5**	> 3.0 dB increase	**No**
Cook Street – Varner Rd to north of Varner Rd	66.1	66.8	**0.7**	> 3.0 dB increase	**No**
Dillon Road – west of Mt. View Rd to east of Mt. View Rd	63.8	63.9	**0.1**	> 3.0 dB increase	**No**
Verbania Avenue – Tamarack Rd to I-10 WB Ramps	69.3	69.4	**0.1**	> 3.0 dB increase	**No**
Indian Avenue – Pierson Blvd to 13th Ave	66.8	66.8	**0.0**	> 3.0 dB increase	**No**
Monterey Avenue – Ramon Rd to I-10 WB ramps	65.7	66.3	**0.6**	> 3.0 dB increase	**No**
Mt. View Road – north of Dillon Rd to south of Dillon Rd	62.4	62.5	**0.1**	> 3.0 dB increase	**No**
Pierson Boulevard – Karen Ave to Indian Ave	66.5	66.7	**0.2**	> 3.0 dB increase	**No**
Portola Road – Varner Rd to Dinah Shore Dr	64.3	64.6	**0.3**	> 3.0 dB increase	**No**
Ramon Road – Robert Rd to Vista Del Sol	66.2	66.8	**0.6**	> 3.0 dB increase	**No**
Ramon Road – west of Monterey Ave/Sierra Del Sol to Monterey Ave/Sierra Del Sol	66.6	67.0	**0.4**	> 3.0 dB increase	**No**
Ramon Road – I-10 EB off-ramp at Ramon Rd to Bob Hope Dr	65.9	65.7	**-0.2**	> 3.0 dB increase	**No**

Roadway Segment	L_{dn} at 100 Feet from Near-Travel-Lane Centerline[1]		Increase	Threshold	Impact
	General Plan Buildout	Housing Element Buildout			
Ramon Road – Los Alamos Rd/Vista Chino to Bob Hope Dr	70.5	70.4	**-0.1**	> 3.0 dB increase	**No**
Ramon Road – Monterey Ave/Sierra Del Sol to Desert Moon Dr	66.6	67.2	**0.6**	> 3.0 dB increase	**No**
Ramon Road – unknown to Los Alamos Rd/Vista Chino	70.2	70.2	**0.0**	> 3.0 dB increase	**No**
Ramon Road – Varner Rd to I-10 EB off-ramp at Ramon Rd	64.7	65.1	**0.4**	> 3.0 dB increase	**No**
Sierra Del Sol – Datil Way to Ramon Rd	59.3	59.7	**0.4**	65 dBA	**No**
Tamarack Road – Rushmore Ave to Haugen-Lehmann Way	64.2	64.2	**0.0**	> 3.0 dB increase	**No**
Varner Road – Harry Oliver Trail to Jack Ivey Dr	62.8	63.0	**0.2**	> 3.0 dB increase	**No**
Varner Road – east of Cook St to Cook St	63.0	63.1	**0.1**	> 3.0 dB increase	**No**
Eastern Coachella Valley Area Plan					
66th Avenue – Cricket Ln to Johnson St	66.9	68.5	**1.6**	> 3.0 dB increase	**No**
72nd Avenue – Vander Veer Rd to Sea View Way	52.8	53.2	**0.4**	65 dBA	**No**
Hammond Road – 66th Ave to Johnson St	57.8	57.3	**-0.5**	65 dBA	**No**
Lincoln Street – 66th Ave to 67th Ave	62.3	63.5	**1.2**	> 3.0 dB increase	**No**
SR 86 – 76th Ave to 77th Ave	69.6	69.4	**-0.2**	> 3.0 dB increase	**No**
SR 111 – 65th Ave to 68th Ave	57.7	70.3	**12.6**	65 dBA	**Yes**
SR 111 – north of Bay Dr to south of Mecca Ave	65.8	66.4	**0.6**	> 3.0 dB increase	**No**
SR 195 – 75th Ave to SR 86	64.8	66.0	**1.2**	> 3.0 dB increase	**No**
Vander Veer Road – Coral Reef Rd to 72nd Ave	54.6	55.8	**1.2**	65 dBA	**No**

Notes:

1. *Traffic noise levels were calculated using the FHWA roadway noise prediction model based on data obtained from the traffic analysis prepared for this project (Urban Crossroad 2015).*
2. *For purposes of this analysis, a substantial increase in noise levels is defined as an increase of 3.0 dB, or greater, where the noise levels, without project implementation, already exceed applicable noise standards.*

dBA = A-weighted decibels

As shown in **Table 3.12-1**, predicted increases in traffic noise levels associated with buildout of the proposed project would not be greater than the appropriate noise level thresholds, with the exception of traffic noise levels at the State Route (SR) 111 segment between 65th Avenue and 68th Avenue, which traverses the community of Mecca. As previously described, for new development instigated by the proposed project, it is anticipated that Riverside County standards could be met and substantial noise impacts could be avoided by incorporating appropriate mitigation strategies which would reduce potential impacts to less than significant levels. However, for existing noise-sensitive uses located in areas adjacent to SR 111 between 65th and 68th Avenues, it may not be possible or feasible to include noise reduction strategies to address noise impacts. The County of Riverside cannot demonstrate at this time that County noise policy

provisions would reduce impacts on this segment of SR 111. Future project-level analyses of noise impacts would be conducted on a case-by-case basis during the development review process as individual, future development projects allowed under the Housing Element proceed. At the time of future project-level analyses, it would be determined whether there are any feasible mitigation measures that could be applied in order to reduce impacts to a less than significant level based on the specific design parameters of the development proposals. However, since it cannot be guaranteed that future projects allowed under the Housing Element would be able to implement feasible mitigation to reduce noise levels on SR 111 between 65th Avenue and 68th Avenue to levels below County standards due to the programmatic and conceptual nature of the proposed project and uncertainties related to future individual projects, this is considered a **cumulatively considerable** and **significant and unavoidable** impact.

Mitigation Measures

None available.

Impact Analysis 3.12.2 Future development accommodated by the proposed project would result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels. This is a **potentially cumulatively considerable** impact. (Threshold 2)

Future development accommodated by the project could expose residents to groundborne vibration from existing vibration-producing land uses and roadway truck and bus traffic, as well as construction and demolition activities. In addition, the future development would result in temporary construction activities that could expose existing sensitive receptors to groundborne vibration. This is a **potentially cumulatively considerable** impact.

This impact discussion uses the Federal Transit Administration's (FTA) groundborne vibration impact thresholds for sensitive buildings, residences, and institutional land uses, as shown in **Table 3.12-2**.

TABLE 3.12-2
GROUNDBORNE VIBRATION AND NOISE IMPACT CRITERIA

Land Use Category	Groundborne Vibration Impact Levels (VdB re 1 micro inch/sec)[1]		Groundborne Noise Impact Levels (dB re 20 microPascals)	
	Frequent Events[2]	Occasional or Infrequent Events[3]	Frequent Events[2]	Occasional or Infrequent Events[3]
Category 1: Buildings where low ambient vibration is essential for interior operations	65 VdB	65 VdB	NA[4]	NA[4]
Category 2: Residences and buildings where people normally sleep	72 VdB	80 VdB	35 dBA	43 dBA
Category 3: Institutional land uses with primarily daytime use (schools, churches, libraries, etc.)	75 VdB	83 VdB	40 dBA	48 dBA

Source: County of Riverside 2015

1. This criterion limit is based on levels acceptable for most moderately sensitive equipment, e.g., optical microscopes.

2. "Frequent Events" are defined as more than 70 vibration events per day.

3. "Occasional or Infrequent Events" are defined as fewer than 70 vibration events per day.

4. Does not apply (N/A): vibration-sensitive equipment is not sensitive to groundborne noise.

Operational Vibration

The Riverside County General Plan includes policies that address potential groundborne vibration impacts resulting from the operation of both existing and proposed land uses when proposed in proximity to each other. GPA 960 Policy N 16.1 (RCIP GP Policy N 15.1) expressly restricts the placement of sensitive land uses, which includes residential uses, in proximity to vibration-producing land uses. GPA 960 Policy N 16.3 (RCIP GP Policy N 15.3) prohibits the exposure of residential dwellings to perceptible ground vibration from passing trains as perceived at the ground or second floor. GPA 960 Policy N 15.2 (RCIP GP Policy N 14.2) requires that commercial and residential mixed-use structures minimize the transfer or transmission of noise and vibration from the commercial land use to the residential land use, which would apply to mixed-use development facilitated by the project. During the County's development review process, the applicant would be required to provide substantial evidence of compliance with these policies

In addition, the following mitigation measure would be required as a condition of approval for all future development during the County's development review process.

Mitigation Measures

MM 3.12.5 Prior to the issuance of any grading permit for new development involving vibration-sensitive land uses (which shall include, but not be limited to, hospitals, residential areas, concert halls, libraries, sensitive research operations, schools and offices), the project proponent shall provide evidence to the County of Riverside that placement of such uses within the area would not exceed groundborne vibration or groundborne noise impact criteria identified by the FTA (for example, the standards shown in **Table 3.12-1** of this EIR) or as otherwise deemed appropriate for the situation by the County of Riverside.

Timing/Implementation: *Prior to issuance of grading permit*

Enforcement/Monitoring: *County of Riverside*

Compliance with these policies and mitigation measure **MM 3.12.5,** which requires new development to provide evidence that groundborne vibration levels would not be exceeded for sensitive development, would ensure that impacts related to groundborne noise and vibration generation and exposure would be reduced to a **less than cumulatively considerable** level during operations.

Construction Vibration

Table 3.12-3 shows the typical vibration levels associated with construction equipment. The specific levels of vibration associated with construction and demolition activities are dependent on the construction equipment used, the location of construction activities relative to sensitive receptors, and the types of operations or activities involved. Vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance. The type and density of soil can also affect the transmission of energy.

TABLE 3.12-3
TYPICAL VIBRATION LEVELS ASSOCIATED WITH CONSTRUCTION EQUIPMENT

Equipment	25 Feet	50 Feet	75 Feet	100 Feet
Large Bulldozer	87	81	77	75
Loaded Trucks	86	80	76	74
Jackhammer	79	73	69	67
Small Bulldozer	58	52	48	46

Source: County of Riverside 2015

The specific types of equipment to be used for construction of future development accommodated by the project are not known or foreseeable at this time. However, based on common construction practices, it can reasonably be assumed that construction vibration would be generated from pile drivers, trucks, bulldozers, and similar equipment. Based on the information presented in **Table 3.12-3**, vibration levels could be problematic if sensitive uses are located within approximately 100 to 150 feet of construction sites. Under such conditions, sensitive receptors would experience vibration levels that exceed the FTA's vibration impact threshold of 72 VdB for residences. In addition, if construction activities were to occur during more noise-sensitive hours (i.e., nighttime), vibration from construction sources could annoy or disrupt the sleep of nearby residents of existing or new (future) residences, and expose people to excessive groundborne vibration or groundborne noise levels.

In regard to groundborne vibration related to construction activities, impacts would be temporary and would cease at the completion of construction activities. GPA 960 Policy N 13.2 (RCIP GP Policy N 12.2) requires the County to ensure that construction activities are restricted to established hours of operation in order to prevent and/or mitigate the generation of excessive or adverse noise impacts on surrounding areas. During the County's development review process, the applicant would be required to provide substantial evidence of compliance with this policy. Due to the temporary nature of the construction activity and its prohibition during the more noise-sensitive nighttime hours, groundborne vibration, while possibly annoying, would not be significant. Impacts associated with construction-generated groundborne vibration would be **less than cumulatively considerable**.

Impact Analysis 3.12.3 Project construction could result in the exposure of persons to or generation of short-term construction noise. This impact would be **potentially cumulatively considerable**. (Threshold 4)

Noise impacts resulting from construction depend on the noise generated by various pieces of construction equipment, the timing and duration of noise-generating activities, and the distance between construction noise sources and noise-sensitive receptors. Construction noise impacts primarily result when construction activities occur during noise-sensitive times of the day (early morning, evening, or nighttime hours), when construction occurs in areas immediately adjoining noise-sensitive land uses, or when construction durations last over extended periods of time.

Major noise-generating construction activities associated with new projects would include removal of existing pavement and structures, site grading and excavation, installation of utilities, construction of building foundations, cores, and shells, paving, and landscaping. The highest noise levels would be generated during the demolition of existing structures when impact tools are used (e.g., jackhammers, hoe rams) and during the construction of building foundations when impact pile driving is required to support the structure. Site grading and excavation activities would also

generate high noise levels, as these phases often require the simultaneous use of multiple pieces of heavy equipment such as dozers, excavators, scrapers, and loaders. Lower noise levels result from building construction activities when these activities move indoors and less heavy equipment is required to complete the tasks. Construction equipment would typically include but not be limited to earthmoving equipment and trucks, pile driving rigs, mobile cranes, compressors, pumps, generators, paving equipment, and pneumatic, hydraulic, and electric tools.

All construction activities would be required to be conducted pursuant to the community noise exposure conditions placed on the project (e.g., limiting days and hours of construction, requiring mufflers and other sound-attenuating features on equipment). Under development and/or grading permit conditions of approval, as well as Ordinance No. 847 and other regulations, the County of Riverside enacts a number of noise controls on construction activities. These include limiting activities to specific hours of the day (or severely restricting allowable noise levels after certain hours, typically 10:00 p.m.), limiting idling, defining staging and loading locations (away from adjacent homes, for example), and requiring setbacks, sound baffles, or other equipment modifications, as appropriate for the situation. Future project-level analyses of noise impacts would be required to be conducted on a case-by-case basis during the development review process.

Riverside County's noise ordinance, however, specifically exempts from its limitations sound generated by private construction projects located one-quarter of a mile or more from an inhabited dwelling. Private construction within less than a quarter-mile is also exempt provided that construction does not occur between the hours of 6:00 p.m. and 6:00 a.m. during the months of June through September and between the hours of 6:00 p.m. and 7:00 a.m. during the months of October through May. Therefore, in most cases it can be assumed that future construction activities will be exempted from County noise standards since most construction occurs between the hours of 6:00 a.m. and 6:00 p.m. during the months of June through September and between the hours of 6:00 a.m. and 7:00 p.m. during the months of October through May. As such, the following mitigation would be required as a condition of approval for future development projects.

Mitigation Measures

MM 3.12.6 Prior to the issuance of any grading plans, the County of Riverside shall condition approval of subdivisions adjacent to any developed/occupied noise-sensitive land uses by requiring applicants to submit a construction-related noise mitigation plan to the County for review and approval. The plan should depict the location of construction equipment and how the noise from this equipment will be mitigated during construction of the project through use of such methods as the following:

- The construction contractor shall use temporary noise attenuation fences where feasible, to reduce construction noise impacts on adjacent noise-sensitive land uses.
- During all project site excavation and grading on-site, the construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturer standards. The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site.
- The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise

sources and noise-sensitive receptors nearest the project site during all project construction.

- The construction contractor shall limit all construction-related activities that would result in high noise levels to between the hours of 7:00 a.m. and 7:00 p.m. Monday through Saturday. No construction shall be allowed on Sundays and public holidays.

Timing/Implementation: *Prior to issuance of grading permit*

Enforcement/Monitoring: *County of Riverside*

MM 3.12.7 The construction-related noise mitigation plan required shall also specify that haul truck deliveries be subject to the same hours specified for construction equipment. Additionally, the plan shall denote any construction traffic haul routes where heavy trucks would exceed 100 daily trips (counting those both to and from the construction site). To the extent feasible, the plan shall denote haul routes that do not pass sensitive land uses or residential dwellings. Lastly, the construction-related noise mitigation plan shall incorporate any other restrictions imposed by Riverside County staff.

Timing/Implementation: *Prior to issuance of grading permit*

Enforcement/Monitoring: *County of Riverside*

Implementation of a construction-related noise mitigation plan as required by **MM 3.12.6** and **MM 3.12.7** would ensure that all construction-related activities that would result in high noise levels would be limited to between the hours of 7:00 a.m. and 7:00 p.m. Monday through Saturday. Therefore, this impact would be reduced to a **less than cumulatively considerable** level.

Impact Analysis 3.12.4 Future development accommodated by the project would not expose people to excessive airport-related noise levels. This impact would be **less than cumulatively considerable**. (Thresholds 5 and 6)

Future development accommodated by the project may result in the exposure of new noise-sensitive land uses to noise from operations at public and private airports, airstrips, and helipads. Around larger public airports, noise levels can exceed acceptable standards in certain areas, as shown by noise-contour maps of existing, future, and ultimate buildout operational conditions for public airports. The ALUCP adopted by the Riverside County Airport Land Use Commission addresses noise-related land use constraints for the various zones surrounding airports in the County. All future development proposed would be required to comply with applicable Airport Land Use Commission policies, as well as with state and county regulations and policies, regarding site design and building construction to achieve acceptable interior and exterior noise exposure levels for habitable structures. Compliance with these and other applicable standards would ensure that airport-related noise impacts on future development pursuant to the project would be **less than cumulatively considerable**.

Mitigation Measures

None required.

3.13 POPULATION AND HOUSING

SETTING

Population

Population growth in Riverside County as a whole has been quite rapid over the past two decades, with the majority of the population growth resulting from migration into Riverside County as people relocated from adjacent counties, such as Los Angeles, San Diego, and Orange Counties (County of Riverside 2015). Between 2000 and 2014, the total population of Riverside County increased by 734,580 to 2,279,967, an increase of 47.5 percent (SCAG 2015a).

As discussed in Section 2.3, Regulatory Framework, SCAG is the metropolitan planning organization representing Riverside County. The SCAG region also includes Imperial, Los Angeles, Orange, San Bernardino, and Ventura Counties. Riverside County's growth rate of 47.5 percent was higher than the SCAG region's growth rate of 12.3 percent during the 2000 to 2014 time period (SCAG 2015a).

The average annual growth rate in Riverside County during the 16 years between 2000 and 2015 was 2.55 percent, and the average growth rate in the unincorporated County during that same period (excluding years with negative growth due to the incorporation of previously unincorporated areas) was 3 percent annually (DOF 2012, 2015).

Housing

Between 2000 and 2014, a total of 228,783 building permits were issued for residential units in Riverside County (SCAG 2015a). The total number of housing units in the County in 2015 is shown in **Table 3.13-1**. As shown, single-family detached housing units are the most common type of housing, comprising over 68 percent of the total housing stock in the overall County and over 70 percent of the housing stock in the unincorporated areas of the County.

TABLE 3.13-1
RIVERSIDE COUNTY HOUSING UNITS BY HOUSING TYPE, 2015

County/City	Total	Single-Family Detached	Single-Family Attached	Multi-Family (2–4 Units)	Multi-Family (5+ Units)	Mobile Home
Unincorporated County	135,345	94,832	2,492	3,298	3,401	31,322
Incorporated (Cities)	687,565	464,868	48,802	35,320	90,653	47,922
County Total	**822,910**	**559,700**	**51,294**	**38,618**	**94,054**	**79,244**

Source: DOF 2015

Regional Growth Forecasts

SCAG is responsible for producing a regional growth forecast that represents the most likely growth scenario for the Southern California region in the future, taking into account a combination of recent and past trends, reasonable key technical assumptions, and local or regional growth policies. The Integrated Growth Forecast at the regional and small geographic area levels is the basis for developing the Regional Transportation Plan, Sustainable Communities Strategy, Program Environmental Impact Report, and RHNA. The development of the Integrated Growth Forecast is

driven by a principle of collaboration between SCAG and local jurisdictions who are major contributors to the process.

The most recently adopted SCAG growth forecasts for Riverside County are shown in **Table 3.13-2**.

TABLE 3.13-2
ADOPTED SCAG GROWTH FORECASTS

	2020 Population	2035 Population
Unincorporated County	471,500	710,600
Total County	**2,592,000**	**3,324,000**

Source: SCAG 2012

THRESHOLDS OF SIGNIFICANCE

The impact analysis is based on CEQA Guidelines Appendix G thresholds of significance. A population and housing impact is considered significant if implementation of the project would:

1) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).

2) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.

3) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

METHODOLOGY

Because the proposed project consists of the adoption of a comprehensive update of the County's Housing Element as well as changes to land use designations and zone classifications to comply with state housing element law, implement the County's housing goals, and meet the RHNA, the analysis of growth is focused on both the regulatory framework surrounding the project and the County's anticipated growth as forecast by SCAG and the County's General Plan itself (GPA 960). The analysis of growth impacts below uses specific projections from GPA 960 because, at the time this document was prepared, GPA 960 was adopted. However, it should be noted that both GPA 960 and the 2003 RCIP GP anticipated urban development on the majority of the neighborhood sites included in the proposed project and the proposed project would result in an increase in density/intensity potential regardless of the numbers used as baseline projections. As such, the environmental effects and determinations below would not differ substantially regardless of baseline projections.

IMPACT ANALYSIS

Impact Analysis 3.13.1 The proposed changes to HHDR and MUA land use designations and zone classifications on approximately 4,972 acres of land would result in an increase in density/intensity potential on those sites and would therefore have the potential to result in more housing units and population in the unincorporated County as a whole. This impact is considered to be **cumulatively considerable**. (Threshold 1)

The proposed changes to HHDR and MUA land use designations and zone classifications on approximately 4,972 acres of land would result in an increase in density/intensity potential on those sites and would therefore have the potential to result in more housing units and population in the unincorporated County as a whole. **Tables 3.13-3** and **3.13-4** show the theoretical buildout projections for population and housing in the unincorporated County based on land use designations included in the proposed project. As shown, future development under the proposed project would cumulatively result in the capacity for up to 73,255 more dwelling units and 240,805 more people in comparison to buildout of the adopted General Plan. This represents a 16 percent increase.

In addition, adoption of the updated Housing Element itself supports growth in that it includes policies to maintain, preserve, improve, and develop housing for all income groups. Similarly, revisions included in the proposed project in order to adopt and implement the new HHDR and MUA land use designations and zone classifications would allow such development to be proposed in other areas throughout the County (with the processing of a General Plan Amendment and/or change in zone classification). While these would not directly result in development activities, they are intended to encourage growth in the form of multifamily development in the County.

TABLE 3.13-3
CUMULATIVE THEORETICAL BUILDOUT PROJECTIONS – POPULATION

Area Plan	Population			
	Current General Plan	Proposed Project	Increase	Percentage Increase
Jurupa	134,800	134,800	0	0%
Lake Mathews/Woodcrest	63,358	63,358	0	0%
Sun City/Menifee	4,879	4,879	0	0%
Reche Canyon/Badlands	5,471	5,471	0	0%
Riverside Extended Mountain	67,015	67,015	0	0%
Desert Center	19,368	19,368	0	0%
San Jacinto	64,822	64,822	0	0%
Palo Verde Valley	41,180	41,180	0	0%
Eastvale	73,246	73,246	0	0%
The Pass	41,481	54,650	13,169	32%
Southwest	112,197	113,303	1,106	1%
Lakeview Nuevo	85,601	120,113	34,512	40%
Temescal Canyon	57,877	59,607	1,730	3%
Eastern Coachella	417,303	505,019	87,716	21%
Elsinore	46,526	52,303	5,777	12%
Mead Valley	40,949	59,794	18,845	46%
Western Coachella Valley	145,168	193,778	48,610	33%
Harvest Winchester	96,838	118,223	21,385	22%
Highgrove	16,375	24,330	7,955	49%
Total	**1,534,454**	**1,775,259**	**240,805**	**16%**

TABLE 3.13-4
CUMULATIVE THEORETICAL BUILDOUT PROJECTIONS – HOUSING

Area Plan	Housing Units			
	Current General Plan	Proposed Project	Increase	Percentage Increase
Jurupa	38,558	38,558	0	0%
Lake Mathews/Woodcrest	19,968	19,968	0	0%
Sun City/Menifee	1,621	1,621	0	0%
Reche Canyon/Badlands	1,901	1,901	0	0%
Riverside Extended Mountain	25,745	25,745	0	0%
Desert Center	5,649	5,649	0	0%
San Jacinto	24,196	24,196	0	0%
Palo Verde Valley	14,449	14,449	0	0%
Eastvale	20,895	20,895	0	0%
The Pass	15,161	19,974	4,813	32%
Southwest	37,256	37,626	370	1%
Lakeview Nuevo	28,071	39,388	11,317	40%
Temescal Canyon	16,923	17,430	507	3%
Eastern Coachella	89,282	108,048	18,766	21%
Elsinore	15,401	17,315	1,914	12%
Mead Valley	11,373	16,607	5,234	46%
Western Coachella Valley	59,691	79,679	19,988	33%
Harvest Winchester	35,029	42,766	7,737	22%
Highgrove	5,370	7,979	2,609	49%
Total	**466,539**	**539,794**	**73,255**	**16%**

As discussed under the Setting subsection, SCAG regional growth forecasts for Riverside County anticipate a population of 471,500 in unincorporated Riverside County by 2020 and 710,600 by 2035 (SCAG 2012). Buildout capacity under both the currently adopted General Plan and the proposed project exceed these SCAG growth forecasts (**Table 3.13-2**); however, assuming that all land uses would build out to the assumed capacity represents a "worst-case scenario," as adoption of the proposed project would not require or guarantee the construction of housing facilitated by the new HHDR and MUA land use designations and zone classifications. Given past and current market trends, along with constraints identified during the future site-specific environmental review process, it is unlikely that all the land uses would build out to the capacity assumed herein.

Furthermore, the intent of the project is to both update the County's Housing Element for the 2013–2021 planning period consistent with state housing element law and to demonstrate that Riverside County has sufficient land with the appropriate land use designation and zoning necessary for the private sector to meet the RHNA. As discussed in Section 2.3, Regulatory Framework, state housing

element law includes statutory recognition that in order for the private sector to adequately address housing needs and demand, local governments must adopt land-use plans and regulatory schemes which provide opportunities for and do not unduly constrain housing development (HCD 2015). Therefore, housing elements by nature are designed to encourage housing development. The proposed project meets the housing needs of population growth already anticipated in the County as determined by the 5th cycle RHNA Allocation Plan, which covers the planning period from October 2013 to October 2021 and was adopted by SCAG on October 4, 2012 (SCAG 2015b).

In addition to Housing Element requirements, the other elements of the County's General Plan include a number of policies and programs intended to manage the effects of population and housing growth. In fact, given the variety of environmental and other factors that are affected by such growth, most of the policies in the General Plan directly or indirectly address aspects of these issues. The Vision chapter summarizes the General Plan's approach to population growth by stating, "Growth focus in Riverside County is on quality, not on frustrating efforts to halt growth" and "Population growth continues and is focused where it can best be accommodated" (County of Riverside 2014). These statements indicate that population growth is anticipated in the County and that the General Plan policies and programs intend to ensure the quality of such growth rather than to prevent it. The proposed project is consistent with the General Plan Vision chapter in that it provides opportunities to implement the County's housing goals with respect to meeting the needs of existing and future residents, including accommodating the development of a variety of housing types, styles, and densities. Generally, the sites included in the proposed project are located along major transportation corridors and/or on sites in the vicinity of future urban development and public service/utility infrastructure anticipated by the County's General Plan.

However, as calculated, full buildout of the existing General Plan, plus the proposed change in land use designations and zone classifications, could result in a 16 percent increase in population and housing growth beyond conditions anticipated under current land use designations. While this could result in additional population growth, it is more likely to result in different housing opportunities to accommodate the planned growth.

Substantial population growth would occur if a specific General Plan land use designation change (or new or revised plans/policies) resulted in an increase in population beyond that already planned for and accommodated by the existing General Plan, cause a growth rate in excess of that forecast in the existing General Plan, or do either of these relative to existing regional plans, such as the SCAG Regional Transportation Plan. Because the increased density/intensity capacity resulting from the project could increase growth beyond that already planned for and accommodated by the General Plan, growth resulting from the project on a countywide level would be considered substantial. Since the project is designed to accommodate additional affordable housing development, limiting or otherwise reducing the amount of growth resulting from the project would contradict its purpose. Therefore, this impact is considered to be **cumulatively considerable** and **significant and unavoidable**.

Mitigation Measures

None feasible.

Impact Analysis 3.13.2 The project would accommodate an increase in housing opportunities in the County and would therefore not displace substantial numbers of existing housing or people, necessitating the construction of replacement housing elsewhere. The project would have a **less than cumulatively considerable** impact. (Thresholds 2 and 3)

The proposed project includes changes to HHDR and MUA land use designations and zone classifications throughout the unincorporated County, which would result in an increase in density/intensity potential on those sites. Most of the sites identified for changes in land use designation are currently vacant; none contain substantial numbers of existing homes whose loss would necessitate construction of replacement housing elsewhere. This is particularly true given that the proposed project would cumulatively result in the capacity for up to 73,255 more dwelling units and 240,805 more people in the County in comparison to buildout of the adopted General Plan (see **Impact Analysis 3.13.1**). Additionally, the project would include text revisions to the General Plan and Ordinance No. 348 that encourage multifamily development in the County. Therefore, the project would accommodate an increase in housing opportunities in the County and would not displace substantial numbers of existing housing or people, necessitating the construction of replacement housing elsewhere. The project would have a **less than cumulatively considerable** impact.

Mitigation Measures

None required.

3.14 PUBLIC SERVICES

SETTING

Fire Protection

The County of Riverside contracts with the California Department of Forestry and Fire Protection (CAL FIRE) for fire protection services. Under CAL FIRE's Riverside Operational Unit management, the RCFD provides fire suppression, emergency medical, rescue, and fire prevention services to all unincorporated areas of the County. The Riverside Operational Unit has 94 fire stations, 54 of which are located in the unincorporated portion of the County. Fire stations can be staffed by a mixture of state (CAL FIRE), Riverside County (RCFD), contract city (if applicable), and volunteer firefighters. Depending on the service area (Riverside County is divided into six), the staffing configurations are either fire captain, fire apparatus engineer, and firefighter, or company officer (fire captain or fire apparatus engineer) and two firefighters. According to the CAL FIRE 2015 Riverside Unit Strategic Fire Plan, the Riverside Operational Unit staff includes 1,150 CAL FIRE career personnel, 240 Riverside County and Office of Emergency Services (OES) personnel, and 280 volunteer/reserve firefighters during the peak staffing period. RCFD resources include 25 battalion chiefs, 81 Type 1 engines, 5 Type 2 engines, 1 dozer, 8 truck companies, 2 medic squads, 8 medic ambulances, 2 hazardous materials units, and 2 breathing supports (CAL FIRE 2014).

The RCFD is also the Operational Area Coordinator for the California Fire and Rescue Mutual Aid System for all fire service jurisdictions in the County (such as municipal, tribal, state, and federal—that is, national forests). Upon receipt of a call for mutual aid through Riverside County's Emergency Command Center, Riverside County's mutual aid coordinator will determine whether a city or the County of Riverside will provide a response. The Emergency Command Center is a combined Riverside County, state of California, and local agency dispatch center responsible for alerting and handling incidents over a 7,200-square-mile area. Staffing is a mix of paid state of California and Riverside County dispatchers, with volunteer call handling support.

Table 3.14-1 shows the RCFD's incident response numbers by type from 2010–2014. As of October 25, 2015, the RCFD had responded to a total of 121,222 incidents in 2015 (RCFD 2015).

TABLE 3.14-1
RCFD INCIDENT RESPONSE 2010–2014

Fiscal Year (Ending June 30)	Medical Assistance	Fires Extinguished	Other Services	Total (Fiscal Year)
2010	94,193	4,449	17,076	115,718
2011	97,066	4,271	16,522	117,859
2012	96,843	12,990	11,856	121,689
2013	97,054	13,517	20,049	130,620
2014	99,058	13,632	20,846	133,536

Source: County of Riverside 2014

Police Protection

The Riverside County Sheriff's Department (RCSD) provides community policing services to the unincorporated areas of the County with 4,500 established positions, including roughly 2,300 sworn personnel. The RCSD is a demand response agency that maintains limited patrol services. As shown in **Table 3.14-2**, nine RCSD stations are located throughout Riverside County to provide area-level community service. The RCSD also operates the Moreno Valley Police Department station in Moreno Valley. The RCSD also operates five adult correction or detention centers located throughout the County. The Riverside County Probation Department operates five juvenile detention facilities. **Table 3.14-3** shows the RCSD's number of calls for service from 2010–2014.

TABLE 3.14-2
RCSD LAW ENFORCEMENT FACILITIES SERVING RIVERSIDE COUNTY

Name	Location
RCSD Stations	
Cabazon	50290 Main Street, Cabazon
Colorado River	260 North Spring Avenue, Blythe
Hemet	43950 Acacia Avenue, Suite B, Hemet
Thermal	86-625 Airport Boulevard, Thermal
Jurupa Valley	7477 Mission Boulevard, Riverside
Lake Elsinore	333 Limited Avenue, Lake Elsinore
Palm Desert	73705 Gerald Ford Drive, Palm Desert
Perris	137 North Perris Boulevard, Suite A, Perris
Southwest	30755-A Auld Road, Murrieta
Moreno Valley Police Department	22850 Calle San Juan De Los Lagos, Moreno Valley (contract city)
Correctional Facilities	
Robert Presley Detention Center	Riverside (city)
Southwest Detention Center	Murrieta
Indio Jail	Indio
Larry D. Smith Correctional Facility	Banning
Blythe Jail	Blythe
Juvenile Detention Facilities (operated by the Riverside County Probation Department)	
Riverside Juvenile Hall	Hemet
Indio Juvenile Hall	Indio
Southwest Juvenile Hall	Murrieta
Twin Pines Ranch	Banning
Van Horn Youth Center	Riverside (city)

Source: County of Riverside 2015

TABLE 3.14-3
RCSD CALLS FOR SERVICE 2010–2014

Fiscal Year (Ending June 30)	Total Calls for Service
2010	255,601
2011	232,821
2012	176,062
2013	172,664
2014	176,339

Source: County of Riverside 2014

Schools

A total of 23 separate school districts serve Riverside County. Most of these are unified school districts providing schooling for kindergarten through twelfth grade. The County has a total of 467 K–12 school sites, including 17 charter schools, 273 elementary sites, 75 middle/junior high sites, 69 high school sites, and 33 continuation/adult education sites. According to the Riverside County Office of Education (2015), total enrollment for all school districts in the County is 425,844 students (2013–14 school year) with approximately 20,294 certified teaching staff and 16,762 non-teaching staff (2010–11 school year).

THRESHOLDS OF SIGNIFICANCE

The impact analysis is based on CEQA Guidelines Appendix G thresholds of significance. A public service impact is considered significant if implementation of the project would:

1) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:

    a. Fire protection

    b. Police protection

    c. Schools

    d. Parks

    e. Other public facilities

Impacts associated with the provision of park and recreation facilities (Threshold 1d) are disclosed and analyzed in Subsection 3.15, Parks and Recreation.

Riverside County EIR No. 521 uses the following thresholds/generation factors to determine projected theoretical need for additional public service facilities:

- Fire Stations: one fire station per 2,000 dwelling units

- Law Enforcement: 1.5 sworn officers per 1,000 persons; 1 supervisor per 7 officers; 1 support staff per 7 officers; and 1 patrol vehicle per 3 officers

METHODOLOGY

The impact analysis considers the potential for full buildout of the project to result in the need for new or physically altered public service facilities based on generation factors identified by Riverside County in both EIR No. 521 and EIR No. 441.

IMPACT ANALYSIS

Fire Protection and Emergency Medical Services

Impact Analysis 3.14.1 The proposed project would accommodate future development of both high-density residential and mixed-use development that would incrementally increase the demand for fire protection and emergency services in localized areas throughout unincorporated Riverside County. This would result in **less than cumulatively considerable** impacts associated with the provision of fire protection and emergency services. (Threshold 1a)

The proposed project would accommodate future development of both high-density residential and mixed-use development that would incrementally increase the demand for fire protection and emergency services in localized areas throughout unincorporated Riverside County. If these areas are built out to capacity, the cumulative effect of increased fire service demand resulting from future development facilitated by the project could trigger the need for new or physically altered RCFD facilities, staff, and/or equipment. Because the project would cumulatively result in the capacity for up to 73,255 more dwelling units in comparison to buildout of the adopted General Plan (see **Impact Analysis 3.13.1**), the project could result in the need for up to 37 new RCFD fire stations (73,255 du/2,000 du = 37 stations) beyond those already anticipated for buildout of current land use designations. This increased demand would occur incrementally and in multiple locations, allowing time for planning and the provision of necessary services.

During the development review process, all future development would be subject to review by both the RCFD and the Riverside County Department of Building and Safety, both of which enforce fire standards including the Uniform Fire Code, PRC Sections 4290–4299, and California Government Code Section 51178. In addition, the County requires all new structures in unincorporated areas to comply with the construction requirements of the California Building and Fire Codes, which include minimum standards for access, fire flow, building ignition and fire resistance, fire protection systems and equipment, defensible space, and setback requirements. County Ordinance 787 includes requirements for high-occupancy structures to further protect people and structures from fire risks, including requirements that buildings not impede emergency egress for fire safety personnel and that equipment and apparatus not hinder evacuation from fire, such as potentially blocking stairways or fire doors. These regulations would reduce the impacts of providing fire protection services by reducing the potential for fires in new development, as well as supporting the ability of the RCFD to suppress fires.

In addition, GPA 960 Policies LU 5.1 and 5.2 (RCIP GP Policies LU 5.1 and LU 5.2) prohibit new development from exceeding the ability to adequately provide supporting infrastructure and services, including fire protection services, and GPA 960 Policy S 5.1 (RCIP GP Policy S 5.1) requires proposed development to incorporate fire prevention features. During the County's development review process, the applicant would be required to provide substantial evidence of compliance with these policies.

To ensure adequate services, the County requires new development to pay fire protection mitigation fees pursuant to Ordinance No. 659. These fees are used by the RCFD to construct new fire protection facilities or to provide facilities in lieu of the fee as approved by the RCFD. The construction of these future fire stations or other fire protection facilities could result in adverse impacts to the physical environment, which would be subject to CEQA review.

As future development in the County would be required to contribute its fair share to fund fire facilities via fire protection mitigation fees, construction of any RCFD facilities would be subject to CEQA review, and compliance with existing regulations would reduce the impacts of providing fire protection services concurrent with new development, the increase in density/intensity potential associated with the project would result in **less than cumulatively considerable** impacts associated with the provision of fire protection and emergency services.

It should be noted that the localized impacts resulting from increased demand for fire protection and emergency services are disclosed and analyzed in the applicable Area Plan sections (4.1 through 4.10) of this EIR.

Mitigation Measures

None required.

Law Enforcement Services

Impact Analysis 3.14.2 The proposed project would accommodate future development of both high-density residential and mixed-use development that would incrementally increase the demand for law enforcement services in localized areas throughout unincorporated Riverside County. This would result in **less than cumulatively considerable** impacts associated with the provision of law enforcement services. (Threshold 1b)

The proposed project would accommodate future development of both high-density residential and mixed-use development that would incrementally increase the demand for law enforcement services in localized areas throughout unincorporated Riverside County. If areas are built out to capacity, the cumulative effect of increased law enforcement service demand resulting from future development facilitated by the project could trigger the need for new or physically altered RCSD facilities, staff, and/or equipment. Because the project could cumulatively result in the capacity for up to 240,805 more people than the adopted General Plan (see **Impact Analysis 3.13.1**), the project could result in the need for 361 sworn police officers, 52 supervisors, 52 support staff, and 120 patrol vehicles beyond what has been anticipated for buildout of the current General Plan (see **Table 3.14-4**).

TABLE 3.14-4
LAW ENFORCEMENT GENERATION FACTORS AND THEORETICAL LAW ENFORCEMENT NEEDS UNDER PROPOSED PROJECT

Personnel/Equipment	Generation Factor	Personnel/Equipment Needs – Proposed Project*
Sworn Officers	1.5 per 1,000 persons	361 sworn officers
Supervisors	1 per 7 officers	52 supervisors
Support Staff	1 per 7 officers	52 support staff
Patrol Vehicles	1 per 3 officers	120 patrol vehicles

Source: County of Riverside 2015

** Numbers are rounded.*

All future development in the County would be subject to GPA 960 Policies LU 5.1 and 5.2 (RCIP GP Policies LU 5.1 and LU 5.2), which prohibit new development from exceeding the ability to adequately provide supporting infrastructure and services, including law enforcement services. During the County's development review process, the applicant would be required to provide substantial evidence of compliance with these policies. The RCSD's ability to support the needs of future growth is dependent on the financial ability to hire additional deputies and secure sites for and construct new detention facilities on a timely basis. Pursuant to Ordinance No. 659, the County requires the development applicant to pay the RCSD an established development mitigation fee prior to issuance of a certificate of occupancy on any structure as each is developed. The fees are for the acquisition and construction of public facilities. Additionally, any increased demand would occur incrementally and in multiple locations, allowing time for planning and the provision of necessary services and facilities.

Any facilities needed to accommodate the additional personnel (officers, supervisors, and support staff), equipment, and vehicles necessary to serve future development resulting from the project could result in adverse impacts to the physical environment, which would be subject to CEQA review.

Future development facilitated by the project would be reviewed by the RCSD for the provision of adequate services, and additional officers and facilities would be funded through payment of mitigation fees and taxes. Furthermore, any facilities needed would be subject to project-specific CEQA review. Therefore, impacts associated with the provision of law enforcement services would be **less than cumulatively considerable**.

It should be noted that the localized impacts resulting from increased demand for law enforcement services are disclosed and analyzed in the applicable Area Plan sections (4.1 through 4.10) of this EIR.

Mitigation Measures

None required.

Public School Facilities

Impact Analysis 3.14.3 Future development resulting from the project would result in new student enrollment at schools in school districts throughout the County. This is a **less than cumulatively considerable** impact. (Threshold 1c)

If areas are fully developed, the proposed project would result in new student enrollment at schools in school districts throughout the County. Riverside County uses the generation rates shown in **Table 3.14-5** to represent the number of students, or the portion thereof, expected to attend district schools from each new dwelling unit. Using these student generation rates, full buildout of future development accommodated by the proposed project would be expected to result in up to 59,775 additional students in Riverside County beyond what has been anticipated for buildout of current land use designations. This would result in the need for additional classroom space and teaching and support staff where increases exceed current capacity. Where increases trigger new school facilities or expansion of existing facilities, environmental impacts could potentially occur.

TABLE 3.14-5
SCHOOL ENROLLMENT GENERATION FACTORS AND
CUMULATIVE STUDENT GENERATION OF PROPOSED PROJECT

School Type	Generation Rate	Student Generation*
Elementary School	0.369 students per du	27,031
Middle School	0.201 students per du	14,724
High School	0.246 students per du	18,020
Total Student Generation		**59,775**

Source: County of Riverside 2015
**Numbers are rounded.*

Expansion of an existing school or construction of a new school would have environmental impacts that would need to be addressed once the school improvements are proposed. It is likely that growth associated with the project will occur over time, which means that any one development is unlikely to result in the need to construct school improvements. Instead, each future development project will pay its share of future school improvement costs prior to occupancy of the building.

Pursuant to the Leroy F. Greene School Facilities Act (SB 50), future development would be required to pay residential and commercial/industrial development mitigation fees to fund school construction. Under CEQA, payment of development fees is considered to provide full mitigation for the impact of a proposed project on public schools. Therefore, anticipated impacts to schools would be considered **less than cumulatively considerable**.

It should be noted that the localized impacts to specific school districts resulting from increased student generation are disclosed and analyzed in the applicable Area Plan sections (4.1 through 4.10) of this EIR.

Mitigation Measures

None required.

3.15 PARKS AND RECREATION

SETTING

Riverside County has a variety of natural and recreational resources, ranging from the mile-high alpine wilderness of San Jacinto State Park to the blistering expanse of the Colorado Desert floor; from historic parks, such as California Citrus State Historic Park, to the rolling hills of the Santa Rosa Plateau Ecological Reserve. Parks and recreational areas in the County offer residents and visitors a myriad of recreational opportunities while providing valuable buffers in built-up urban spaces.

The County of Riverside currently maintains 35 regional parks, encompassing roughly 22,317 acres, through the Riverside County Regional Park and Open Space District (Park District). More than half of these parks are located in the western portion of the County, with other facilities scattered throughout the desert, mountain, and Colorado River regions. The Park District maintains approximately 71,700 acres of land including 150 miles of multipurpose recreational trails, seven archaeological sites, 16 wildlife reserves, and natural areas. It also operates one boxing facility, manages four nature centers, patrols six historic sites, and provides annual interpretive programs to more than 82,000 students. (County of Riverside 2015)

Within Riverside County are four park and recreation districts: Beaumont-Cherry Valley, Desert, Jurupa, and Valleywide. Together, these four districts provide services such as neighborhood parks, community parks, community centers, sports parks, and horse arenas (County of Riverside 2015). Additionally, some County Service Areas (for example, CSA 134) provide local park maintenance services, often for parks constructed as part of development projects.

At present, the County trail system includes a wide variety of formal and informal trails. In some areas, formal trails have been built and are maintained by the County or another responsible entity, such as a homeowners association, community service area, or local park and recreation district. Formal trails are normally built according to County (or park district or other agency) standards on identified easements with, where applicable, appropriate signage and maintenance provided by the responsible agency. In terms of formal trails, Riverside County currently maintains one developed trail, the Santa Ana River Trail. This trail is part of a planned regional trail extending across multiple jurisdictions from the Pacific Ocean in Orange County to the San Bernardino Mountains in San Bernardino County.

Historical trails, created prior to the inception of county or park district standards, also exist but may not conform to current standards. Lastly, many informal trails in Riverside County are used by pedestrians, bicyclists, and others for recreational and transportation purposes. Such trails are generally not formally mapped, especially if they do not coincide with planned county trail system alignments. These types of trails may cross public or even private lands and run along utility easements, abandoned railroad tracks, unmaintained dirt roads, etc. Often such trails lack connectivity to the Riverside County trail system.

THRESHOLDS OF SIGNIFICANCE

The impact analysis is based on CEQA Guidelines Appendix G thresholds of significance. Parks and recreation impacts are considered significant if implementation of the project would:

1) Result in growth that increases the use of existing neighborhood parks, regional parks, or other recreational facilities resulting in or accelerating substantial physical deterioration of the facility.

2) Result in the need for construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

METHODOLOGY

The impact analysis below considers the County's standards for parks and recreation facilities in the context of increased density/intensity potential resulting from the proposed project and the potential for the proposed project to collectively affect park and recreation facilities in the County.

IMPACT ANALYSIS

Impact Analysis 3.15.1 Future development accommodated by the proposed project would result in population growth in certain areas in Riverside County, incrementally increasing the number of residents using existing parks as well as other recreational facilities such as trails and bikeways in localized areas. This use would contribute to wear and tear on existing facilities. This is a **less than cumulatively considerable** impact. (Thresholds 1 and 2)

Growth instigated by the proposed project would generate an incremental net increase in park needs, i.e., increase the number of people using existing recreational resources and necessitate the provision of new facilities to maintain adequate levels of service, pursuant to the County's parkland standards. However, the incremental increase of people associated with the project would be spread over the entire County in various amounts.

New development is required to meet or exceed the County's parkland standard of 3 acres per 1,000 population (GPA 960 Policy LU 25.4/RCIP GP Policy LU 19.4). The specific environmental impacts resulting from the provision of parks and recreational facilities would be identified by project-level environmental review of those future park facilities. The typical environmental effects regarding the construction and operation of parks and recreational facilities may involve issues with noise (during construction and playfields and playgrounds), air quality (during the construction of the facility), biological resources (depending on location), historic/cultural resources (depending on location), public services and utilities (demand for police and fire protection, electric, water, and wastewater service), and traffic on a local neighborhood level. Therefore, this impact would be **less than cumulatively considerable.**

Mitigation Measures

None required.

3.16 TRANSPORTATION/TRAFFIC

SETTING

Roadway Network

Riverside County is linked to Los Angeles and Orange Counties principally by SR 60 (Pomona Freeway), I-10 (San Bernardino Freeway), SR 91 (Riverside Freeway), and SR 74 (Ortega Highway). I-15 and other minor conventional highways provide links to San Diego County. Links to San Bernardino County are provided by I-15 and I-215, as well as by other major and minor local roadways. I-10 provides a connection to destinations in Arizona; I-15 and I-215 provide access through San Bernardino County to Nevada, including its primary recreation areas (Lake Mead and Las Vegas); and I-15 provides access south to San Diego and its many tourist and recreational amenities, and to Mexico via I-5 and I-805. The highway system includes numerous county roadways, as well as roadways in each of the 28 cities in Riverside County.

Major roadways in Riverside County include Alessandro Boulevard, Cajalco Road, Center Street, Domenigoni Parkway, Grand Avenue, La Sierra Avenue, Magnolia Avenue, Monterey Avenue, Murrieta Hot Springs Road, Palm Drive, Ramon Road, Ramona Expressway, Rancho California Road, Temescal Canyon Road, Van Buren Boulevard, Washington Street, and others (County of Riverside 2015).

Transit Service

Due to the interrelationship of urban and rural activities (employment, housing, and services) and the low average density of existing land uses, the private automobile is the dominant mode of travel in Riverside County, with trips by mass transit currently representing less than 2 percent of all trips made in the County (County of Riverside 2015). Public transportation, where service is available, is used primarily by a transit-dependent population (senior citizens, students, low-income residents, and the physically disabled) that generally does not have access to automobiles.

Fixed-route transit services and demand-response (dial-a-ride) transit services are provided by the Riverside Transit Agency (RTA) in the western portion of Riverside County and by the SunLine Transit Agency (SunLine) in the Coachella Valley. RTA provides both local and regional services throughout the region with 35 fixed routes, eight CommuterLink routes, and dial-a-ride services using 285 vehicles. In the Cities of Corona, Beaumont, and Banning, RTA coordinates regional services with municipal transit systems. In the City of Riverside, RTA coordinates with the city's Riverside Special Services, which provides Americans with Disabilities Act (ADA) complementary service to RTA's fixed-route services (RTA 2015). SunLine offers fixed-route and curb-to-curb paratransit service for people with disabilities; its fixed-route and paratransit vehicles cover approximately 619 bus stops located in a 1,120-mile service area. Currently, SunLine has a fleet of 70 fixed-route buses, which includes 4 fuel cell buses and 33 paratransit vans (SunLine 2014).

Additionally, the Riverside County Transportation Commission supports a number of specialized transportation programs including shared ride and vanpool services, social service dial-a-ride, and specialized services for seniors and persons with disabilities. Greyhound Bus Lines provides private transportation services that link the principal population centers in Riverside County with other regions. This includes east–west service connecting Blythe, Indio, Palm Springs, Banning/Beaumont, and Riverside (via San Bernardino) (County of Riverside 2015).

Passenger Rail

Two types of rail passenger services are available in Riverside County: intercity service provided by Amtrak and commuter rail service operated by Metrolink. Along rail routes between the West Coast and points east, Amtrak serves Riverside County at two train stations plus several locations that provide bus links to train stations. Three Metrolink commuter rail lines serve western Riverside County and provide connections to destinations in Los Angeles, Orange, San Bernardino, and Ventura Counties (County of Riverside 2015).

Airports

There are approximately 60 airports in the Southern California region. The majority of passenger air traffic is handled by seven commercial airports: Los Angeles International, San Diego International, Ontario International, Palm Springs International, John Wayne/Orange County Airport, Bob Hope/Burbank Airport, and Long Beach Airport. Palm Springs International Airport, located in Palm Springs, is the only airport in Riverside County providing passenger air service; however, Ontario International Airport in San Bernardino County is close to the northwesterly boundary of Riverside County and provides a travel option for residents of western Riverside County (County of Riverside 2015).

The County of Riverside owns and operates five public use general aviation airports: French Valley, Hemet-Ryan, Jacqueline Cochran Regional, Chiriaco Summit, and Blythe. Four of these airports are in unincorporated Riverside County; Hemet-Ryan Airport is in Hemet. Bermuda Dunes Executive Airport, a privately owned public-use general aviation airport, is located in the unincorporated community of Bermuda Dunes in the Coachella Valley. Four additional public use general aviation airports (not under County of Riverside ownership or management) are located in cities in the County: Banning Municipal, Corona Municipal, Palm Springs International, and Riverside Municipal. There are also two privately owned public-use airports in the Cities of Jurupa Valley and Perris: Flabob and Perris Valley (County of Riverside 2015).

The March Air Reserve Base/Inland Port Airport, a joint use facility, is located in Riverside County along I-215 north of Perris. In addition to its military functions, the facility is permitted to accommodate up to 21,000 civilian airport operations per year. This airport has provided regional air cargo service in the recent past and may be expected to do so in the future (County of Riverside 2015).

THRESHOLDS OF SIGNIFICANCE

The impact analysis is based on CEQA Guidelines Appendix G thresholds of significance. A transportation/traffic impact is considered significant if implementation of the project would:

1) Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.

2) Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the County congestion management agency for designated roads or highways.

3) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.

4) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

5) Result in inadequate emergency access.

6) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

METHODOLOGY

The proposed project would result in an increase in density/intensity potential on sites throughout the unincorporated County as a result of redesignation and rezoning. In addition, the text revisions included in the proposed project in order to adopt and implement the new HHDR and MUA land use designations and zone classifications would allow such development to be proposed in other areas throughout the County (with the processing of a General Plan Amendment and/or change in zone classification). Therefore, the proposed project could increase the amount of high-density residential development and mixed-use development in the County in comparison to those conditions anticipated under the approved General Plan (GPA 960). The impact analysis below considers the potential for these changes to collectively increase traffic and affect the transportation system in the County. The analysis is based in part on traffic projections prepared by Urban Crossroads in 2015 (**Appendix 3.0-3**).

IMPACT ANALYSIS

Impact Analysis 3.16.1 The proposed increase in density/intensity potential in the County would increase traffic volumes on regional arterial roadway segments that are already projected to operate at an unacceptable level under buildout of the General Plan. This would be a **cumulatively considerable** impact. (Thresholds 1 and 2)

The project would have a cumulatively considerable adverse impact on traffic conditions if a regional arterial roadway segment were projected to operate at level of service (LOS) E or F as a result of project-related traffic volumes.

Table 3.16-1 summarizes traffic volumes and level of service on regional arterial roadway segments under buildout of the existing General Plan land uses and under buildout of the proposed project. As shown, traffic volumes would be reduced on three regional arterial roadway segments under buildout of the proposed project. However, the addition of project-related traffic would increase traffic volumes on all other regional arterial roadway segments already projected to operate at an unacceptable level (LOS F). This is a **cumulatively considerable** impact.

TABLE 3.16-1
REGIONAL TRAFFIC OPERATING CONDITIONS UNDER BUILDOUT OF THE GENERAL PLAN AND THE PROPOSED PROJECT

Area Plan	Roadway Segment	Limits	No. of Lanes	Facility Type	General Plan (Buildout) under Cumulative Conditions			Housing Element Update (Buildout) under Cumulative Conditions	
					Daily Volume	Level of Service	Added Daily Volume	Daily Volume	Level of Service
Riverside & Norco Cities	Alessandro Blvd	Trautwein Rd to Brown St	6	Urban Arterial	86,300	F	(100)	86,200	F
Riverside & Norco Cities	Arlington Ave	Riverside Ave-SR 91 WB on-ramp to Alessandro Blvd	6	Urban Arterial	73,600	F	1,300	74,900	F
Jurupa	Limonite Ave	Wineville Ave to 0.1 mile east of Beach St	6	Urban Arterial	62,100	F	800	62,900	F
Eastvale	Limonite Ave	Archibald Ave to Hamner Ave	6	Urban Arterial	61,700	F	500	62,200	F
Elsinore	Railroad Canyon Rd	0.19 mile east of Canyon Lake Dr to Goetz Rd	4	Arterial	44,500	F	500	45,000	F
Elsinore	Railroad Canyon Rd	I-15 NB ramps to 0.19 mile east of Canyon Lake Dr	4	Arterial	53,500	F	800	54,300	F
Lake Mathews/ Woodcrest	Van Buren Blvd	0.48 mile SE of A St to Washington St	6	Urban Arterial	59,600	F	2,000	61,600	F
Lake Mathews/ Woodcrest	Van Buren Blvd	Washington St to 0.79 mile west of Wood Rd	6	Urban Arterial	59,300	F	2,100	61,400	F
Sun City/ Menifee Valley	Newport Rd	0.59 mile west of Normandy Rd to Murrieta Rd	6	Urban Arterial	59,300	F	700	60,000	F
Sun City/ Menifee Valley	Newport Rd	Murrieta Rd to Domenigoni Pkwy	6	Urban Arterial	57,400	F	1,600	59,000	F
Southwest Area	Clinton Keith Rd	0.05 mile east of I-215 NB ramps to 0.49 mile east of Meadowlark Ln-Whitehood Rd	6	Urban Arterial	57,600	F	4,000	61,600	F
Southwest Area	Clinton Keith Rd	LA Estrella-Nutmeg St to I-215 SB ramps	6	Urban Arterial	75,600	F	3,000	78,600	F

Area Plan	Roadway Segment	Limits	No. of Lanes	Facility Type	General Plan (Buildout) under Cumulative Conditions			Housing Element Update (Buildout) under Cumulative Conditions	
					Daily Volume	Level of Service	Added Daily Volume	Daily Volume	Level of Service
Southwest Area	Clinton Keith Rd	Leon Rd to 1.2 mile west of Leon Rd	6	Urban Arterial	57,800	F	5,100	62,900	F
Western Coachella Valley	SR 111	Deep Canyon Rd to El Dorado Dr	6	Urban Arterial	57,700	F	(400)	57,300	F
Western Coachella Valley	SR 111	El Dorado Dr to Washington St	6	Urban Arterial	58,500	F	(300)	58,200	F

Source: Urban Crossroads 2015

During the development review process, each future development project would be required to prepare a focused traffic impact analysis addressing site- and project-specific traffic impacts and to make a fair share contribution to required intersection and/or roadway improvements. GPA 960 Policy C 2.2 requires new development to prepare a traffic impact analysis as warranted by the Riverside County Traffic Impact Analysis Preparation Guidelines or as approved by the Director of Transportation (RCIP GP Policy C 2.2 does not require Traffic Impact Analysis). The Riverside County Transportation Department requires that the traffic and circulation impacts of proposed development projects be analyzed through the preparation of a Traffic Impact Analysis prepared in conformance with Transportation Department requirements. The Traffic Impact Analysis must be prepared, signed, and sealed by a traffic engineer or a civil engineer registered in the state of California, qualified to practice traffic engineering. During the County's development review process, the applicant would be required to provide substantial evidence of compliance with these policies and requirements.

Because County GPA 960/RCIP GP Policy C.2.5 states that cumulative and indirect traffic impacts of development may be mitigated through the payment of impact mitigation fees, traffic impacts resulting from future development would be mitigated to the greatest extent feasible. To implement this policy, the following mitigation measures would be required as a condition of approval during development review process.

Mitigation Measures

MM 3.16.1 As part of its review of land development proposals, the County of Riverside shall require project proponents to make a fair share contribution to required intersection and/or roadway improvements. The required intersection and/or roadway improvements shall be based on maintaining the appropriate level of service (LOS D or better). The fair share contribution shall be based on the percentage of project-related traffic to the total future traffic.

Timing/Implementation: *Prior to issuance of any development permit and/or approval of any land use application*

Enforcement/Monitoring: *County of Riverside*

MM 3.16.2 As part of its review of land development proposals, the County of Riverside shall ensure sufficient right-of-way is reserved on critical roadways and at critical intersections to implement the approach lane geometrics necessary to provide the appropriate levels of services.

Timing/Implementation: *Prior to issuance of any development permit and/or approval of any land use application*

Enforcement/Monitoring: *County of Riverside*

However, regional arterials are already projected to operate at LOS F under buildout of existing General Plan land use designations, which limit the ability to require new projects to solve the existing level of service issue. Because funding associated with existing traffic is uncertain, the added increase in traffic volume resulting from future development associated with the increase in density/intensity potential resulting from the project would therefore be **cumulatively considerable** and **significant and unavoidable**.

Mitigation Measures

None feasible.

Impact Analysis 3.16.2 The proposed project does not include components that would result in a change in air traffic patterns, including either an increase in traffic levels or a change in location. This would be a **less than cumulatively considerable** impact. (Threshold 3)

The Riverside County ALUCP establishes policies applicable to land use compatibility planning in the vicinity of airports throughout Riverside County, including the policies by which the Airport Land Use Commission conducts compatibility reviews of proposed land use and airport development actions. While the proposed project would accommodate increased housing and population growth in the County, it would not increase air traffic levels or change air travel locations. This is because Palm Springs International Airport is the only airport in Riverside County that has regularly scheduled commercial passenger flights and any future development facilitated by the project would be reviewed for consistency with the ALUCP, which would ensure that airport operations, including air traffic patterns, would not be affected. Therefore, this impact is considered **less than cumulatively considerable**.

Mitigation Measures

None required.

Impact Analysis 3.16.3 The proposed project does not include components that would substantially increase hazards due to a design feature or incompatible uses. This would be a **less than cumulatively considerable** impact. (Threshold 4)

The proposed project would accommodate future development of both high-density residential and mixed-use development, which could result in the need for additional transportation and circulation infrastructure throughout the County. If not constructed according to the appropriate design criteria, hazards could occur.

All circulation improvements resulting from the project would be required to conform to the Riverside County Transportation Department Improvement Standards and Specifications (County Ordinance No. 461), as well as to Caltrans Standard Plans and Specifications. These roadway design criteria would ensure that improvements would not substantially increase hazards due to a design feature or incompatible uses. GPA 960 Policy C 3.4 (RCIP GP Policy C 3.4) allows Riverside County to use a variety of design techniques such as continuous flow intersections, provided that a detailed study has been completed showing that these facilities could improve safety. GPA 960 Policy C 3.23 (RCIP GP Policy C 3.23) directs Riverside County to consider the use of traffic-calming techniques to improve safety in neighborhoods. GPA 960 Policy C 6.5 (RCIP GP Policy C 6.5) recommends the placement of access locations for properties to maximize safety. During the County's development review process, the applicant would be required to provide substantial evidence of compliance with these policies. Therefore, this impact is considered **less than cumulatively considerable**.

Mitigation Measures

None required.

Impact Analysis 3.16.4 The proposed project would accommodate future development of both high-density residential and mixed-use development, which would require coordinated emergency access. This would be a **less than cumulatively considerable** impact. (Threshold 5)

The proposed project would accommodate future development of both high-density residential and mixed-use development, which would require coordinated emergency access.

GPA 960 Policy C 3.24 (RCIP GP Policy C 3.24) requires the County to consult with the Fire Department and other emergency service providers in order to provide a street network with quick and efficient routes for emergency vehicles, meeting necessary street widths, turnaround radius, secondary access, and other factors as determined by the Transportation Department. This would include the provision of adequate emergency access in street networks for new development. During the County's development review process, the applicant would be required to provide substantial evidence of compliance with this policy. Therefore, this impact would be reduced to a **less than cumulatively considerable** level.

Mitigation Measures

None required.

Impact Analysis 3.16.5 Future development accommodated by the project could result in a cumulative increase in the demand for public transit, bicycle, or pedestrian facilities. This impact would be **less than cumulatively considerable**. (Threshold 6)

Future development accommodated by the project could result in a cumulative increase in the demand for public transit, bicycle, or pedestrian facilities.

During the County's development review process, all future development would be required to provide substantial evidence of compliance with applicable General Plan policies that promote the provision of alternative transportation facilities. These regulatory measures are included in a development's conditions of approval during the development review process. For example, GPA 960/RCIP GP Policies C 4.1 through 4.4 address the provision of safe pedestrian access in new

development and roadway projects, specifically requiring that project design include pedestrian access from developments to existing and future transit routes (C 4.3). GPA 960 Policy C 4.6 (RCIP GP Policy C 4.6) states that the County of Riverside can require that development proposals provide pedestrian facilities as a condition of approval. GPA 960/RCIP GP Policies C 11.1 through 11.5 address the provision of transit facilities and/or transit access, including requirements for transit right-of-way (C 11.1) and incentives for new development to encourage location in a transit-oriented area (C 11.4).

Compliance with these policies would ensure that the project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. Therefore, this impact would be **less than cumulatively considerable**.

Mitigation Measures

None required.

3.17 UTILITIES AND SERVICE SYSTEMS

SETTING

Water Supply

Riverside County water supplies comprise both imported and local water resources. Two primary sources of imported water supplies serve Riverside County from the water infrastructure that spans the state: the State Water Project (SWP) and the Colorado River. Sources of local water supplies include surface water, groundwater, recycled water, stormwater, and desalinated and other remediated supplies (County of Riverside 2015). Groundwater is discussed in more detail in Subsection 3.9, Hydrology and Water Quality. Water service providers are also discussed in the applicable Area Plan sections (4.1 through 4.10) of this EIR.

State Water Project

The California SWP is a water storage and delivery system of reservoirs, aqueducts, power plants, and pumps maintained and operated by the California Department of Water Resources. The water stored and delivered by the SWP originates from rainfall and snowmelt runoff in Northern and Central California's watersheds, where most of the state's precipitation occurs. Its main purpose is to store water and distribute it to 29 urban and agricultural water suppliers in Northern California, the San Francisco Bay Area, the San Joaquin Valley, the Central Coast, and Southern California. The SWP is also operated to improve water quality in the Delta, control Feather River floodwaters, provide recreation, and enhance fish and wildlife. The SWP includes 34 storage facilities, 21 reservoirs and lakes, 20 pumping plants, 4 pumping-generating plants, 5 hydroelectric power plants, and about 700 miles of open canals and pipelines. Overall, the SWP makes deliveries to two-thirds of California's population. Of the contracted water supply, 70 percent goes to urban users and 30 percent goes to agricultural users, providing supplemental water to approximately 25 million Californians and about 750,000 acres of irrigated farmland (DWR 2015).

The SWP's water supply capability depends on rainfall, snowpack, runoff, reservoir storage, pumping capacity from the Delta, and legal environmental constraints on project operations, including regulations relating to certain fish species listed under the federal Endangered Species Act (ESA) and the California Endangered Species Act (CESA). In most cases, contractors use SWP water to supplement local or other imported supplies. SWP contractors have water entitlements of up to a maximum of almost 4.2 million acre-feet, depending on the year's allocation. Each water-contracting agency has a maximum entitlement, known as "Table A" water. Each year, by October 1, the SWP water contractors submit initial requests for Table A deliveries allocated to them for use in the subsequent calendar year. Initial Table A allocation amounts for the coming year are made by the DWR in December. They are based on operations studies that assume 90 percent exceedence of historical water supply (where exceedence refers to the possibility that water supply in the coming year will be exceeded by the historical water supply), current reservoir storage, and total requests by the SWP water contractors. Forecasts for the year are updated as hydrologic conditions change. A Reliability Report listing historical annual Table A deliveries by various water classifications for each SWP contractor indicates that deliveries of SWP Table A water from the Delta for 2001–2010 ranged from an annual minimum of 1,049,000 acre-feet to a maximum of 2,963,000 acre-feet with an average of 2,087,000 acre-feet. It is important to note that historical deliveries of SWP Table A water from the Delta over this 10-year period are less than the maximum of 4.132 million acre-feet per year, and the DWR indicates this trend is forecast to continue into the future (County of Riverside 2015). The DWR 2015 SWP allocations (as of March 2015) for the four SWP contractors serving Riverside County are shown in **Table 3.17-1**. As shown, the allocation is estimated to be 20 percent of initially requested amounts.

TABLE 3.17-1
2015 SWP ALLOCATIONS AS OF MARCH 2015
(IN ACRE-FEET)

SWP Contractor	Table A	Initial Requests	Approved Allocation	Percentage of Initial Request Approved
Coachella Valley Water District	138,350	138,350	27,660	20%
Desert Water Agency	55,750	55,750	11,150	20%
Metropolitan Water District of Southern California	1,911,500	1,911,500	382,300	20%
San Gorgonio Pass Water Agency	17,300	17,300	3,460	20%

Source: DWR 2015

Colorado River

In addition to SWP supplies, the other primary source of imported water supply utilized in Riverside County is the Colorado River. As with the SWP, changed conditions and legal challenges involving Colorado River water have resulted in less water available for much of Southern California than in past years. Seven states, including California, Nevada, and Arizona, share usage of waters originating from the Colorado River, the second longest river in the continental United States. The Colorado River Aqueduct, which is owned and operated by the Metropolitan Water District (MWD), transports water from the Colorado River approximately 242 miles to its terminus at Lake Mathews in Riverside County. After deducting for conveyance losses and maintenance requirements, up to 1.2 million acre-feet of water a year may be conveyed through the Colorado River Aqueduct to MWD's member agencies, subject to availability of Colorado River water for delivery to the MWD.

California is apportioned the use of 4.4 million acre-feet of water from the Colorado River each year plus one-half of any surplus that may be available for use collectively in Arizona, California, and Nevada. In addition, California has historically been allowed to use Colorado River water apportioned to but not used by Arizona and Nevada when such supplies have been requested for use in California. Until 2003, the MWD had been able to take full advantage of its fifth priority right as a result of the availability of surplus water and apportioned but unused water. However, Arizona and Nevada increased their use of water from the Colorado River, leaving no unused apportionment available for California since the late 1990s. In addition, a severe drought in the Colorado River basin has reduced storage in system reservoirs, resulting in no surplus water being available since 2003. Prior to 2003, the MWD could divert over 1.2 million acre-feet in any year, but since that time, the MWD's deliveries of Colorado River water have varied from a low of 633,000 acre-feet in 2006 to a high of 1.105 million acre-feet in 2009. In 2007, the MWD received approximately 713,500 acre-feet of Colorado River water. Average annual net deliveries for 2003 through 2011 were approximately 830,300 acre-feet, with annual volumes dependent primarily on programs to augment supplies, including transfers of conserved water from agriculture. The MWD's Colorado River supply was about 855,000 acre-feet in 2011, of which approximately 699,000 acre-feet were delivered through the Colorado River Aqueduct and about 186,000 acre-feet of intentionally created surplus water were stored in Lake Mead (County of Riverside 2015).

The 2003 Quantification Settlement Agreement outlines a combination of programs to allow the state of California to limit its annual use of Colorado River water to 4.4 million acre-feet per year plus any available surplus water. The agreement establishes the baseline Colorado River water use for each of the agencies and facilitates the transfer of water from agricultural agencies to urban uses. It also specifies that the Imperial Irrigation District, the Coachella Valley Water District, and the MWD would forbear use of water to permit the US Secretary of the Interior to satisfy the uses of the water rights holders that had been newly identified in the 1980s. The impacts, if any, that final rulings on litigation surrounding the settlement agreement might have on the availability of Colorado River supplies for urban water users cannot be known at this time (County of Riverside 2015).

Wastewater Treatment

Wastewater treatment facilities are located throughout the unincorporated County. The details regarding specific wastewater treatment service providers and facilities for each of the sites affected by the proposed project are discussed in Sections 4.1 through 4.10 of this EIR.

Solid Waste

The Riverside County Department of Waste Resources (RCDWR) is responsible for the landfill disposal of all nonhazardous waste in Riverside County, operating six active landfills and administering a contract agreement for waste disposal at the private El Sobrante Landfill. The RCDWR also oversees several transfer station leases; solid waste not dumped directly in a landfill is deposited temporarily in one of these transfer stations. All of the private haulers serving unincorporated Riverside County ultimately dispose of their waste to County-owned or contracted facilities and, in general, waste originating anywhere in the County may be accepted for disposal at any of the landfill sites. In practice, however, each landfill has a service area in order to minimize truck traffic and vehicular emissions (County of Riverside 2015). According to the RCDWR, landfill space available for waste disposal to the proposed project would be provided primarily by the El Sobrante, Badlands, and Lamb Canyon landfills. The Oasis Landfill is only open two days per week, and Mecca II is open two days per year. Oasis and Mecca II receive a negligible amount of waste from residents around the Eastern Coachella Valley Area Plan with Riverside County Disposal Use Permit Cards (Merlan 2015). The location, remaining capacity, and projected closure dates for these landfills, as well as the capacities of the transfer stations, are shown in **Table 3.17-2**.

TABLE 3.17-2
SOLID WASTE FACILITIES

Facility	Location	Total Remaining Disposal Capacity (as of 2015)	Estimated Year of Closure/Capacity
Badlands Landfill	31125 Ironwood Avenue, Moreno Valley	6.478 million tons	2024
Lamb Canyon Landfill	16411 Lamb Canyon Road, Beaumont	6.457 million tons	2021
El Sobrante Landfill	10910 Dawson Canyon Road, Corona	50.1 million tons	2045
Oasis Landfill	84-505 84th Avenue, Oasis	117,000 cubic yards (57,400 tons)	2051
Mecca II Sanitary Landfill	95250 66th Avenue, Mecca	6,371 cubic yards (2,867 tons)	2098

Transfer Station	Facility Capacity
Moreno Valley Transfer Station	2,000 tons per day
Perris Transfer Station	3,000 tons per day
Idyllwild Transfer Station	99 tons per day
Robert A. Nelson Transfer Station	4,000 tons per day
Coachella Valley Transfer Station	1,100 tons per day
Pinon Flats Transfer Station	14.4 tons per day
Edom Hill Transfer Station	3,500 tons per day

Source: Merlan 2015

As part of its long-range planning and management activities, the RCDWR ensures that Riverside County has a minimum of 15 years of capacity, at any time, for future landfill disposal. The 15-year projection of disposal capacity is prepared each year as part of the annual reporting requirements for the Countywide Integrated Waste Management Plan. The most recent 15-year projection submitted to the California Integrated Waste Management Board (now known as the California Department of Resources Recycling and Recovery) by the RCDWR indicates that no additional capacity is needed to dispose of countywide waste through 2024 (County of Riverside 2015).

THRESHOLDS OF SIGNIFICANCE

The impact analysis is based on the CEQA Guidelines Appendix G thresholds of significance. A utilities impact is considered significant if implementation of the project would:

1) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.

2) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

3) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

4) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed.

5) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

6) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.

7) Comply with federal, state, and local statutes and regulations related to solid waste.

METHODOLOGY

The impact analysis considers the potential for full buildout of the project to result in utility infrastructure impacts based on generation factors identified by Riverside County in both EIR No. 521 and EIR No. 441.

IMPACT ANALYSIS

Wastewater Treatment Requirements

Impact Analysis 3.17.1 Future development facilitated by the project would necessitate increased wastewater treatment capacity and could exceed wastewater treatment requirements of the Regional Water Quality Control Board. This impact would be **less than cumulatively considerable**. (Threshold 1)

The proposed project would accommodate increased density/intensity throughout the unincorporated County, which has the potential to increase the number of people and structures generating wastewater. Wastewater requires proper treatment to ensure it does not adversely affect receiving waters, for example, by elevating pollutant levels or introducing pathogens. Receiving waters are protected through compliance with and enforcement of NPDES MS4 (municipal separate storm sewer systems) permits, as well as other permits required for a wide variety of activities with potential to discharge wastes into Waters of the State or U.S. These include operation of MS4s as discussed in Subsection 3.9, Hydrology and Water Quality. Where connected to municipal sanitary sewer systems, wastewater generated as a result of the project would be disposed of pursuant to the NPDES program/permits.

Where sewer services are not available, development must rely on various types of septic systems or on-site waste treatment systems (OWTS), which typically result in percolation of wastewater into groundwater or to surface waters. The County regulates the construction of septic tanks in new development to ensure both adequate capacity for wastewater treatment and the protection of water quality. The minimum lot size required for each permanent structure utilizing an OWTS to handle its wastewater is 0.50 acre per structure, and construction of all new septic facilities requires approval from the Riverside County Health Officer (County Code Section 8.124.030 and Ordinance No. 650). Approval requires detailed review and on-site inspections including a scaled, contoured plot plan, a soils feasibility report that adequately evaluates soil percolation, a special feasibility boring report (for groundwater and/or bedrock), and an engineered topographical map. County Ordinance No. 650, Sewer Discharge in Unincorporated Territory, establishes a variety of regulations regarding OWTS, including that the type of sewage facilities installed shall be determined on the basis of location, soil porosity, site slope, and groundwater level, and shall be designed to receive all sanitary sewage from the property based on the higher volume estimation as determined by either the number of bedrooms or plumbing fixture unit counts. Additionally, the EPA has standards governing the placement of septic systems in proximity to water supply wells (see Section 2.3, Regulatory Framework). Consistent with EPA standards, the County prohibits the placement of conventional septic tanks/subsurface disposal systems within any designated Zone A (classified as potential area of direct microbiological and chemical contamination based on an estimated two-year time of contaminant travel within an aquifer from the wellhead to the potential source of contamination) of an EPA wellhead protection area. During the County's development review process, the applicant would be required to provide substantial evidence of compliance with these regulations.

The following mitigation measures would apply to future development and address the potential wastewater treatment requirements of septic systems.

Mitigation Measures

MM 3.17.1 Conventional septic tanks/subsurface disposal systems shall be prohibited within any designated Zone A of an EPA wellhead protection area. Where a difference between Riverside County and EPA septic tank setback distance requirements exists, the more restrictive standard shall apply.

Timing/Implementation: *Prior to issuance of any development permit and/or approval of any land use application*

Enforcement/Monitoring: *County of Riverside*

MM 3.17.2 The development of septic systems shall be in accordance with applicable standards established by Riverside County and other responsible authorities.

Timing/Implementation: *Prior to issuance of any development permit and/or approval of any land use application*

Enforcement/Monitoring: *County of Riverside*

These mitigation measures would be required as conditions of approval for future development projects to ensure that septic systems would be developed to protect water quality consistent with applicable regulations and would thus be prevented from exceeding wastewater treatment requirements. Therefore, this impact would be reduced to a **less than cumulatively considerable** level.

Water Supply

Impact Analysis 3.17.2 Reliable water supply sources cannot be definitively identified for buildout of the project; therefore, potential impacts associated with water supply and demand are considered **cumulatively considerable**. (Thresholds 2 and 4)

The proposed project would accommodate increased density/intensity throughout the unincorporated County, which has the potential to increase demands on existing water supplies, entitlements, and infrastructure. The average potable water demand for a residential unit in Riverside County is 1.01 acre-feet per year. Using that demand factor, future development from the project could result in the cumulative demand for up to 73,987 acre-feet per year of water demand beyond that anticipated under buildout of the approved General Plan.

The specific water supply sources for each of the neighborhood sites and the impacts of providing water supply at the localized level are discussed in Sections 4.1 through 4.10 of this EIR. At the Countywide level, full buildout of the project would have the potential to result in demand for water supplies where such are insufficient or unavailable to serve the project from existing entitlements and resources, thus necessitating new or expanded entitlements in order to adequately serve future development, or result in development in locations in which water supply adequacy cannot be ascertained. EIR No. 521 and EIR No. 441 determined that buildout of General Plan land uses would increase demand for water services to a degree that exceeds the

limits of existing and currently planned facilities to provide. The project could result in development beyond that previously anticipated, which would further contribute to this significant impact.

As discussed under **Impact Analysis 3.9.2**, the combination of increased demand for water associated with the growth facilitated by the project, unpredictability and the cost of imported water supply, variability in long-term supply scenarios in nonadjudicated groundwater basins, exploitation of new groundwater sources, and the continuing pattern of basin overdraft would all result in or contribute incrementally to substantially decreasing groundwater supplies. This unpredictability and variability mean that significant impacts associated with project buildout cannot be ruled out in association with groundwater, which supplies about 8 percent of the water supply in the South Coast Hydrologic Region and 23 percent of water demand in the Colorado River Hydrologic Region.

Much of the County receives water from the SWP, supplies of which are constrained by key factors such as rainfall amounts, snowpack and stored water levels, and pumping capacity from the Delta, as well as legal and regulatory factors including those related to certain fish species listed as endangered by the state and federal governments. Inconsistencies in rainfall and snowpack, as well as frequently changing regulatory restrictions, mean that the availability of future SWP water supplies is to some degree uncertain. Similarly, the year-to-year availability of Colorado River water (the other primary source of imported water supply utilized in Riverside County) to urban users can be variable and unpredictable because of legal challenges regarding water rights and priorities (see Subsection **Water Supply**, above).

The need for additional supplies would be determined through development review, during which the applicant would be required to provide substantial evidence of compliance with County- and state-required water management and conservation regulations that would assist in reducing the amount of water supplies required by future development. GPA 960 Policy OS 2.2 (RCIP GP Policy 2.1) encourages the installation of water-conserving systems, such as dry wells and graywater systems, in new developments. GPA 960 Policies LU 18.1 through 18.4 (no similar RCIP GP Policies) and Ordinance No. 859, Water-Efficient Landscape Requirements, require new development projects to install water-efficient landscapes, thus limiting water applications and reducing water use. Decreasing irrigation water use would assist in decreasing drawdown of groundwater basins.

In addition, the following mitigation measures would be required as conditions of approval for any future development project facilitated by the project.

Mitigation Measures

MM 3.17.3 Development within unincorporated areas of Riverside County shall not use water of any source of quality suitable for potable domestic use for nonpotable uses, including cemeteries, golf courses, parks, highway landscaped areas, industrial and irrigation uses, or other nondomestic use if suitable recycled water is available as provided in Sections 13550-13566 of the California Water Code and/or PRC Sections 65591-65600 and 65601-65607. Prior to the issuance of any land use permit, the County shall determine to what extent and in which manner the use of recycled water is required for individual water projects. Future development shall be designed, constructed, and maintained in accordance with the recycled water measures mandated by the County.

Timing/Implementation: *Prior to project approval*

Enforcement/Monitoring: *County of Riverside*

Furthermore, mitigation measure **MM 3.9.5** as discussed under **Impact Analysis 3.9.2** requires an applicant for development to submit evidence to Riverside County that all applicable water conservation measures have been met. Nevertheless, in the absence of definitive identification of future water supplies for buildout associated with the project, potential impacts associated with water supply and demand must be considered **cumulatively considerable** and **significant and unavoidable**.

Wastewater Treatment

Impact Analysis 3.17.3 Future development facilitated by the project would incrementally increase the amount of wastewater generated, which could require additional wastewater treatment capacity to serve projected demand, as well as additional wastewater treatment facilities. This would be a **less than cumulatively considerable** impact. (Thresholds 2 and 5)

The proposed project would accommodate increased density/intensity throughout the unincorporated County, which has the potential to increase the number of people and structures generating wastewater. This growth would incrementally increase the amount of wastewater generated, which could require additional wastewater treatment capacity to serve projected demand as well as additional wastewater treatment facilities.

According to Riverside County, the average wastewater generation rate for a residential unit in Riverside County is 230 gallons per day per capita (County of Riverside 2002, 2014). Using that generation factor, future development from the project could result in the cumulative generation of 55.38 million gallons per day (mgd) of wastewater beyond that anticipated under buildout of the General Plan. In general, agencies plan future infrastructure needs, including for wastewater treatment, on the basis of a five-year capital improvement program and use regional (for example, SCAG) and local demographics, as well as the general plans of affected cities and counties, to determine their needs. The specific wastewater treatment service providers for each of the neighborhood sites and the impacts of the project at the localized level are discussed in Sections 4.1 through 4.10 of this EIR. The cumulative increase in wastewater generated by the project over what was previously anticipated would be considerable if the project were fully built out. Without the expansion of facilities to treat wastewater, development might not be able to occur on a long-term basis.

However, increased demand would more likely occur incrementally as the result of many individual implemented projects scattered across the unincorporated County over a period of many years. Therefore, it is feasible that wastewater service providers in Riverside County would continue to expand their treatment capacities consistent with demand. Conservation methods and the increased use of reclaimed water would help decrease the need for treatment and storage capacity and provide for beneficial reuse of water. Also, the construction of additional wastewater treatment plants, as well as water reclamation and storage facilities, would be subject to additional environmental analysis to determine on-site impacts.

The need for specific facilities/capacity is determined through subsequent development review performed at the time of implementing project review. These measures are implemented, enforced, and verified through their inclusion in project conditions of approval. Additionally, Ordinance No. 659, DIF Program, is intended to mitigate growth impacts in Riverside County by ensuring fees are collected and expended to provide necessary facilities commensurate with the ongoing levels of development. This would include any potential future expansion wastewater treatment facilities. Future development would also be subject to Riverside County Ordinance No.

592, Regulating Sewer Use, Sewer Construction and Industrial Wastewater Discharges in County Service Areas. This ordinance sets various standards for sewer use, construction, and industrial wastewater discharges to protect both water quality and the infrastructure conveying and treating wastewater by establishing construction requirements for sewers, laterals, house connections, and other sewerage facilities, and by prohibiting the discharge to any public sewer (which directly or indirectly connects to Riverside County's sewerage system) any wastes that may have an adverse or harmful effect on sewers, maintenance personnel, wastewater treatment plant personnel or equipment, treatment plant effluent quality, or public or private property or which may otherwise endanger the public or the local environment or create a public nuisance. As a result, this ordinance serves to protect water supplies, water and wastewater facilities, and water quality for both surface water and groundwater.

In addition, where sewer services are not available, the County regulates the construction of septic tanks for adequate capacity as described under **Impact Analysis 3.17.1**.

These existing wastewater treatment requirements would ensure that adequate sewer capacity would be available to serve future development and that future development would not exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board. Therefore, this impact would be **less than cumulatively considerable**.

Mitigation Measures

None required.

Stormwater Drainage

Impact Analysis 3.17.4 Future development facilitated by the project would require new stormwater drainage facilities or expansion of existing facilities. This would be a **potentially cumulatively considerable** impact. (Threshold 3)

As discussed under **Impact Analysis 3.9.4**, NPDES and County requirements would ensure that future development would control the amount and quality of stormwater runoff leaving construction and development sites, which would also reduce the amount of stormwater runoff entering the County's storm drainage system. Furthermore, mitigation measure **MM 3.9.8,** as discussed in Subsection 3.9, Hydrology and Water Quality, would be required as a condition of approval for each new development project. The measures addresses drainage requirements for new development projects, including requiring appropriate site BMPs to lessen stormwater runoff, requiring the incorporation of on-site small drainages and pervious materials to retain absorption and allow more percolation of stormwater into the ground, and encouraging the construction of detention basins or holding ponds and/or constructed wetlands within a project site to capture and treat dry weather urban runoff. The measure would ensure that postdevelopment stormwater runoff flow rates do not differ from the predevelopment stormwater runoff flow rates. Finally, GPA 960/RCIP GP Policy S 4.10 specifically requires all proposed projects anywhere in Riverside County to address and mitigate any adverse impacts that they may have on the carrying capacity of local and regional storm drain systems. During the County's development review process, the applicant would be required to provide substantial evidence of compliance with these regulations.

Additionally, the County's DIF program covers all portions of unincorporated Riverside County and provides funds for flood control and storm drain facilities. The construction of any storm drain facilities necessary to serve future development would be subject to site-specific CEQA review and mitigation of impacts.

Implementation of the above regulations and mitigation measures would ensure that the construction of new stormwater drainage facilities or expansion of existing facilities would occur as needed to serve new development and that the environmental effects of such facilities would be reduced to a **less than cumulatively considerable** level.

Mitigation Measures

MM 3.9.8 (see Subsection 3.9, Hydrology and Water Quality)

Solid Waste

Impact Analysis 3.17.5 Solid waste resulting from future development facilitated by the project could hasten the end of the usable lives of county landfills and contribute to the cumulative need for new or expanded landfills and other solid waste facilities. This is a **potentially cumulatively considerable** impact. (Thresholds 6 and 7)

The proposed project would accommodate future development of both high-density residential and mixed-use development that would generate solid waste to be disposed of in county landfills. Because the project would cumulatively result in the capacity for up to 73,255 more dwelling units in comparison to buildout of the adopted General Plan (see **Impact Analysis 3.13.1**), the project could generate solid waste beyond that already anticipated for buildout of current land use designations. If areas are fully built out, solid waste resulting from future development facilitated by the project could hasten the end of the usable lives of county landfills and contribute to the cumulative need for new or expanded landfills and other solid waste facilities. This is a **potentially cumulatively considerable** impact.

Riverside County uses a residential solid waste generation factor of 0.41 tons per dwelling unit. Using that factor, the project would generate 30,034 tons of waste per year beyond that already planned for by the General Plan (73,255 du x 0.41 tons per du = 30,034 tons). As shown in **Table 3.17-2**, the serving landfills have a collective remaining capacity of 63,095,267 tons to serve future development resulting from the proposed project. Solid waste generated by full buildout of the proposed project would represent 0.05 percent of this remaining capacity. Furthermore, these generation assumptions do not consider the effects of compliance with mandatory recycling and diversion programs, which would further reduce the amount of waste sent to landfills.

All new development approved in unincorporated Riverside County would be required to comply with the County's recycling and diversion programs via standard conditions of approval for new projects. Standard measures require that recycling facilities (enclosures, etc.) be provided for all new commercial and multifamily developments. Further, all plot plans are required to comply with the RCDWR's Design Guidelines for Refuse and Recyclables Collections and Loading Areas, as well as to submit a waste recycling plan for each building proposed. To verify AB 341 compliance for the recycling of construction and demolition (C&D) materials, the RCDWR requires that accurate records for both C&D recycling and solid waste disposal be kept. According to RCDWR procedures, County occupancy permits will not be cleared for issuance unless the required evidence (e.g., receipts) demonstrating appropriate waste recycling plan compliance is presented to the RCDWR. For residential, commercial, and industrial developments, as well as public facilities, other conditions of approval are added through issuance of a clearance letter by the RCDWR. The clearance letter outlines the additional project-specific requirements to ensure that individual project developers provide adequate areas for collecting and loading recyclable materials, such as paper products, glass, and green wastes. No building permits will be issued unless/until the RCDWR verifies compliance with the clearance letter conditions.

The following mitigation measures would be required as a condition of approval for development projects facilitated by the project.

Mitigation Measure

MM 3.17.4 The County of Riverside shall require all future commercial, industrial, and multifamily residential development to provide adequate areas for the collection and loading of recyclable materials (i.e., paper products, glass, and other recyclables) in compliance with the State Model Ordinance, implemented on September 1, 1994, in accordance with AB 1327, Chapter 18, California Solid Waste Reuse and Recycling Access Act of 1991.

Timing/Implementation: *Prior to issuance of any development permit and/or approval of any land use application*

Enforcement/Monitoring: *County of Riverside*

MM 3.17.5 The County of Riverside shall require all development projects to coordinate with appropriate County departments and/or agencies to ensure that there is adequate waste disposal capacity to meet the waste disposal requirements of the project. The County shall recommend that all development projects incorporate measures to promote waste reduction, reuse, recycling and composting.

Timing/Implementation: *Prior to issuance of any development permit and/or approval of any land use application*

Enforcement/Monitoring: *County of Riverside*

Because there is adequate capacity at existing landfills to serve future development resulting from the increase in density/intensity potential associated with the project, and future development would be required to meet County and state recycling requirements to further reduce demands on area landfills (mitigation measures **MM 3.17.4** and **MM 3.17.5**), this impact would be reduced to a **less than cumulatively considerable** level.

Mitigation Measures

None required.

3.18 ENERGY CONSUMPTION

Public Resources Code Section 21100(b)(3) and CEQA Guidelines Section 15126.4 require EIRs to describe, where relevant, the wasteful, inefficient, and unnecessary consumption of energy caused by a project. In 1975, largely in response to the oil crisis of the 1970s, the California legislature adopted Assembly Bill (AB) 1575, which created the California Energy Commission (CEC). The statutory mission of the CEC is to forecast future energy needs, license thermal power plants of 50 megawatts or larger, develop energy technologies and renewable energy resources, plan for and direct state responses to energy emergencies, and—perhaps most importantly—promote energy efficiency through the adoption and enforcement of appliance and building energy efficiency standards. AB 1575 also amended Public Resources Code Section 21100(b)(3) to require EIRs to consider the wasteful, inefficient, and unnecessary consumption of energy caused by a project. Thereafter, the State Resources Agency created Appendix F of the CEQA Guidelines.

CEQA Guidelines Appendix F is an advisory document that assists EIR preparers in determining whether a project will result in the inefficient, wasteful, and unnecessary consumption of energy. For the reasons set forth below, this EIR concludes that the proposed project would not result in this type of energy consumption and therefore would not create a significant impact on energy resources.

SETTING

Energy consumption is analyzed in this EIR due to the potential direct and indirect environmental impacts associated with the project. Such impacts include the depletion of nonrenewable resources (e.g., oil, natural gas, coal, etc.) and emissions of pollutants during both the construction and long-term operational phases.

Electricity/Natural Gas Services

Southern California Edison (SCE) provides electrical services to the majority of Riverside County through State-regulated public utility contracts. While the Anza Electric Cooperative and Imperial Irrigation District also provide electrical service to portions of Riverside County, the proposed project does not propose to instigate new residential development on lands served by these service providers. The Southern California Gas Company provides natural gas services. Electricity and natural gas service is available to locations where residential land uses could be developed.

The City's ongoing development review process includes a review and comment opportunity for privately owned utility companies, including SCE and the Southern California Gas Company, to allow informed input from each utility company on all development proposals. The input facilitates a detailed review of all projects by service purveyors to assess the potential demands for utility services on a project-by-project basis.

The ability of utility providers to provide services concurrently with each project is evaluated during the development review process. Utility companies are bound by contract to update energy systems to meet any additional demand.

Energy Usage

Energy usage is typically quantified using the British Thermal Unit (Btu). Total energy usage in California was 7,684 trillion Btu's in 2013 (the most recent year for which this specific data is available), which equates to an average of 201 million BTUs per capita. Of California's total energy

usage, the breakdown by sector is 38 percent transportation, 24 percent industrial, 19 percent commercial, and 19 percent residential. Electricity and natural gas in California are generally consumed by stationary users such as residences and commercial and industrial facilities, whereas petroleum consumption is generally accounted for by transportation-related energy use (EIA 2015). In 2014, taxable gasoline sales (including aviation gasoline) in California accounted for 14,921,441,859 gallons of gasoline (BOE 2016).

The electricity consumption attributable to residential land uses in Riverside County from 2007 to 2014 is shown in **Table 3.18-1**. As indicated, the demand has remained relatively constant, with no substantial increase, even as the population has increased.

TABLE 3.18-1
RESIDENTIAL ELECTRICITY CONSUMPTION IN RIVERSIDE COUNTY 2007–2014

Year	Residential Electricity Consumption (in millions of kilowatt hours)
2007	6,683
2008	6,772
2009	6,613
2010	6,341
2011	6,585
2012	6,680
2013	6,608
2014	6,774

Source: ECDMS 2015

The natural gas consumption attributable to residential land uses in Riverside County from 2007 to 2014 is shown in **Table 3.18-2**. As shown, the demand has decreased, even with an increase in population.

TABLE 3.18-2
RESIDENTIAL NATURAL GAS CONSUMPTION IN RIVERSIDE COUNTY 2007–2014

Year	Residential Natural Gas Consumption (in millions of therms)
2007	274
2008	272
2009	257
2010	267
2011	269
2012	242
2013	253
2014	207

Source: ECDMS 2015

Automotive fuel consumption in Riverside County from 2007 to 2015 is shown in **Table 3.18-3**. (Projections for the year 2016 are also shown.) As shown, automotive fuel consumption has declined in the county since 2007.

TABLE 3.18-3
AUTOMOTIVE FUEL CONSUMPTION IN RIVERSIDE COUNTY 2007–2016

Year	Automotive Fuel Consumption
2007	805,145,835
2008	759,508,790
2009	738,538,810
2010	748,935,105
2011	741,361,355
2012	732,702,825
2013	704,702,580
2014	714,417,420
2015	720,354,145
2016 (projected)	728,894,415

Source: CARB 2014b

THRESHOLDS OF SIGNIFICANCE

In accordance with State *CEQA Guidelines*, the effects of a project are evaluated to determine whether they would result in a significant adverse impact on the environment. An EIR is required to focus on these effects and offer mitigation measures to reduce or avoid any significant impacts that are identified. The criteria used to determine the significance of impacts may vary depending on the nature of the project. According to Appendix F of the State *CEQA Guidelines*, the proposed project would have a significant impact related to energy, if it would:

The impact analysis is based on the CEQA Guidelines Appendix G thresholds of significance. A utilities impact is considered significant if implementation of the project would:

1) Develop land uses and patterns that cause wasteful, inefficient, and unnecessary consumption of energy or construct new or retrofitted buildings that would have excessive energy requirements for daily operation.

Based on these standards, the effects of the proposed project have been categorized as either a "less than significant impact" or a "potentially significant impact." Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a significant and unavoidable impact.

METHODOLOGY

The impact analysis focuses on the three sources of energy that are relevant to the proposed project: electricity, natural gas, and transportation fuel for vehicle trips associated with new development.

The analysis of electricity/natural gas usage is based on California Emissions Estimator Model (CalEEMod) greenhouse gas emissions modeling, which quantifies energy use for occupancy. The results of the CalEEMod modeling are included in **Appendix 3.0-1** of this EIR. Modeling was based primarily on the default settings in the computer program for Riverside County. The amount of operational fuel use was estimated using the California Air Resources Board's EMFAC2014 computer program, which provides projections for typical daily fuel usage in Riverside County. The results of EMFAC2014 modeling and construction fuel estimates are included in **Appendix 3.0-4** of this EIR.

POTENTIAL IMPACTS AND MITIGATION MEASURES

Impact Analysis 3.18.1 Subsequent land use activities associated with implementation of the proposed project could result in the use of fuel or energy in a wasteful manner. This is considered a **less than cumulative considerable** impact. (Threshold 1)

Energy consumption associated with the proposed project is summarized in **Table 3.18-4**.

TABLE 3.18-4
PROPOSED PROJECT ENERGY CONSUMPTION

Energy Type	Annual Energy Consumption	Percentage Increase Countywide
Electricity Consumption[1]	270,351,000 kilowatt-hours	3.9%
Natural Gas Consumption[1]	8,413,508 therms	4.0%
Automotive Fuel Consumption[2]	28,386,415	3.9%

Sources: [1]CalEEMod v. 2013.2.2; [2]EMFAC2014 (CARB 2014b)

Notes: The project increases in electricity and natural gas consumption are compared with all of the residential buildings in Riverside County in 2014. The project increases in automotive fuel consumption are compared with the countywide fuel consumption in 2015.

As shown in **Table 3.18-4**, the increase in electricity usage as a result of the project would constitute an approximate 3.9 percent increase in the typical annual electricity consumption and an approximate 4.0 percent increase in the typical annual natural gas consumption attributable to all residential buildings in Riverside County. The increase in automotive fuel would increase use in the county by 3.9 percent.

The residential development allowed under the proposed project would be required to comply with Title 24 Building Energy Efficiency Standards, which provide minimum efficiency standards related to various building features, including appliances, water and space heating and cooling equipment, building insulation and roofing, and lighting. Implementation of the Title 24 standards significantly reduces energy usage. Furthermore, the electricity provider, SCE, is subject to California's Renewables Portfolio Standard (RPS). The RPS requires investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 33 percent of total procurement by 2020 and to 50 percent of total procurement by 2030. Renewable energy is generally defined as energy that comes from

resources which are naturally replenished within a human timescale such as sunlight, wind, tides, waves, and geothermal heat. The increase in reliance of such energy resources further ensures projects will not result in the waste of the finite energy resources.

SCE currently provides electrical services, while natural gas is provided by the Southern California Gas Company. These utility companies would continue to provide these services and are required by the California Public Utilities Commission to update existing systems to meet any additional demand.

As shown in **Table 3.18-4**, the increase in electricity, natural gas, and automotive fuel consumption over existing conditions is minimal. For the reasons described above, the proposed project would not place a substantial demand on regional energy supply or require significant additional capacity, or significantly increase peak and base period electricity demand, or cause wasteful, inefficient, and unnecessary consumption of energy during project construction, operation, and/or maintenance, or preempt future energy development or future energy conservation. Therefore, this impact would be **less than cumulatively considerable**.

Mitigation Measures

None required.

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