SAN BERNARDINO
ASSOCIATED GOVERNMENTS

SAN BERNARDINO COUNTY REGIONAL GREENHOUSE GAS EMISSIONS INVENTORIES AND REDUCTION PLAN

Environmental Impact Report

SCH No. 2012111046

Volume XVI: Draft EIR (Section 4.15 [City of Redlands])

Prepared for

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4.15 CITY OF REDLANDS

4.15.0 Introduction to the Analysis

This section of the EIR analyzes the potential environmental effects in the City of Redlands from implementation of the Regional Reduction Plan. The City of Redlands is located in the far southeastern portion of the San Bernardino Valley, south of Highland and northwest of the San Gorgonio pass on Interstate 10 (I-10) (Figure 4.15-1 [Location Map]). The city's history is tied to the railroads (late 1800s), the citrus industry (early 1900s) and the growth of the aerospace industry (1950s). Redlands contains numerous historic landmarks and homes. Most of the city consists of residential land uses, parks, agriculture, and resources preservation. Only the city's far western areas are allocated to industrial uses. Attractions such as the Fox Event Center, Redlands Bowl, University of Redlands, and San Bernardino County Museum bring visitors from both San Bernardino and Riverside Counties.

Redlands's population in 2010 was 68,747 (68,576 in 2008) and is expected to increase to 75,494 by 2020, an increase of 10 percent over 2008. The City was the tenth largest city in San Bernardino County in 2008. Employment in Redlands is expected to increase by a similar amount before 2020.

Table 4.15-1 (Socioeconomic Data for Redlands) presents socioeconomic data for Redlands, including population, housing (single-family and multifamily), and employment (agricultural, industrial, retail, and nonretail).

Table 4.15-1 Socioeconomic Data for Redlands

Category	*2008*	*2020*
Population	68,576	75,494
Housing (du)	24,701	28,262
Single-Family (du)	16,004	18,218
Multifamily (du)	8,697	10,044
Employment (jobs)	41,435	46,682
Agricultural (jobs)	33	60
Industrial (jobs)	4,461	6,447
Retail Commercial (jobs)	9,579	10,176
Nonretail Commercial (jobs)	27,182	29,999

du = dwelling unit

Two documents are used in reviewing the potential environmental impacts and mitigation within the City of Redlands from implementation of the Regional Reduction Plan. The first document is the City of Redlands General Plan, which is the planning document for the City and includes the required General Plan elements and General Plan goals and policies. Within the General Plan are policies that are used in the environmental analysis to form thresholds of significance including the level of service (LOS) standard for traffic impacts, as one example, and the basis for programmatic mitigation measures. The

second document is the Regional Reduction Plan City of Redlands chapter that describes the reduction measures and reduction targets chosen by the City of Redlands. This document is the proposed project as it pertains to the City of Redlands.

Redlands General Plan

The Redlands General Plan includes the mandatory Land Use, Circulation, Open Space, Conservation, Health & Safety, Noise and Housing elements. The City of Redlands has chosen to adopt additional optional elements including Growth Management, Human Services, Economic Development and City Design and Preservation.

The Redlands General Plan policies that are relevant to the Regional Reduction Plan implementation are listed in Table 4.15-2 (Redlands General Plan Policies).

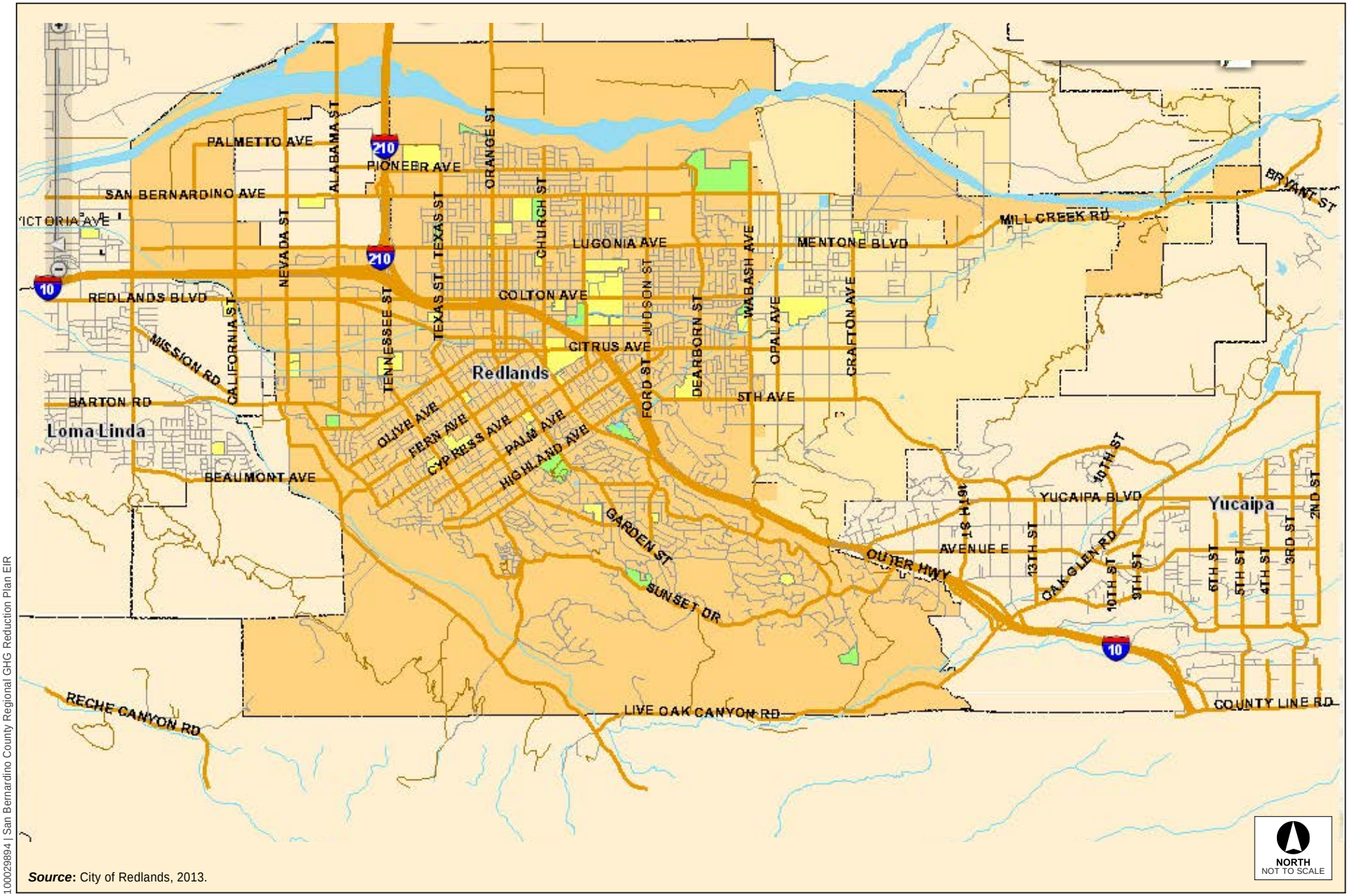
The Redlands Chapter of the San Bernardino County Regional GHG Reduction Plan

The City of Redlands has selected a goal to reduce its community GHG emissions to a level that is 15 percent below its 2008 GHG emissions level by 2020. The City will meet and exceed this goal through a combination of state (~63 percent) and local (~37 percent) efforts. The Pavley vehicle standards, the state's low carbon fuel standard, the RPS, and other state measures will reduce GHG emissions in Redlands' on-road and building energy sectors in 2020. An additional reduction of 92,573 metric tons (MT) carbon dioxide equivalent (CO_2e) will be achieved primarily through the following local measures, in order of importance: Implement SBX 7-7 (Water-4); Methane Capture at Landfills (Waste1); and GHG Performance Standard for New Development (PS-1). Redlands' Plan has the greatest impacts on GHG emissions in the solid waste management, on-road transportation, and building energy sectors.

Figure 4.15-2 (Emissions Reduction Profile for Redlands) shows Redlands' 2008 GHG emissions total, 2020 BAU emissions forecast total, and the total emissions remaining after meeting the city's emissions reduction target (i.e., 15 percent below the 2008 emissions level). The contribution of state/county and local reductions are overlaid on the 2020 BAU emissions forecast total ("2020 Plan"), representing the total emissions reductions achieved in 2020. As stated above, state/county reductions account for the majority (~63 percent) of the total reductions needed to achieve the 2020 target.

Figure 4.15-3 (Emissions by Sector for Redlands) presents emissions by sector, for both the 2020 BAU and the 2020 reduction or "Plan" scenarios. The largest emissions contributions are in the on-road transportation, building energy, and off-road equipment emissions sectors.

Table 4.15-3 (Emissions Reduction by Sector for Redlands) summarizes the 2008 inventory, 2020 BAU forecast, and GHG reduction ("Plan") results by sector. It shows the percent reduction in each sector's emissions in 2020 and demonstrates that Redlands exceeds its emissions reduction goal. Emissions sectors with the greatest percent reduction include the solid waste management, on-road transportation, and building energy sectors.



***Source*:** City of Redlands, 2013.

Figure 4.15-1
Location Map

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Table 4.15-2 Redlands General Plan Policies

Policy No.	*Policies*
	CITY DESIGN AND PRESERVATION ELEMENT
City Design	
3.10b	Retain the character of the neighborhoods, streets, and buildings that established Redlands' reputation as an ideal Southern California city.
3.10e	Preserve the natural appearance of steep hillsides and ridges.
3.10h	Maintain the village-like character of Downtown Redlands.
Historic and Scenic Preservation	
3.20a	Identify, maintain, protect, and enhance Redlands' cultural, historic, social, economic, architectural, agricultural, archaeological, and scenic heritage. In so doing, Redlands will preserve its unique character and beauty, foster community pride, conserve the character and architecture of its neighborhoods and commercial and rural areas, enable citizens and visitors to enjoy and learn about local history, and provide a framework for making appropriate physical changes.
3.20d	Encourage retention of the character of existing historic structures and urban design elements that define the built environment of the City's older neighborhoods.
3.20e	Encourage retention of historic structures in their original use or reconversion to their original use where feasible. Encourage sensitive, adaptive re-use where original use is no longer feasible.
3.20f	Encourage preservation of and public access to significant scenic vistas, viewpoints and view corridors.
3.20g	Coordinate preservation of historic resources with policies designed to preserve affordable housing.
3.20h	Encourage consideration of urban design quality as well as safety when street or other public improvements are proposed.
	LAND USE ELEMENT
Residential	
4.40d	Encourage a variety of housing types to serve all economic segments of the community.
4.40g	Locate High- and Medium-density development near regional access routes, employment centers, shopping areas, and public services.
4.40i	Encourage incorporation of residential units in Downtown mixed-use projects.
4.40m	Establish a range of residential densities and development standards which encourage a mix of housing types.
Office	
4.50a	Encourage development of office space in Downtown Redlands and in the East Valley Corridor.
Neighborhood Shopping	
4.51b	Preserve and encourage neighborhood stores that enable shoppers to walk or bike for everyday needs.
Downtown	
4.61a	Develop the Specific Plan Area (between Redlands Boulevard and I-10 Freeway) as an extension of Downtown Redlands, providing a high-quality pedestrian-oriented development character consistent with the rest of the Town Center.
4.61c	Provide public improvements for traffic circulation, flood control, utility services and aesthetic amenities that will attract new private investment and economic development.
4.61d	Preserve historic buildings and sites.
4.61e	Encourage mixed-use projects which integrate retail, restaurant and/or office uses along with urban housing permitted at a density up to the High-Density Residential standard.
East Valley Corridor	
4.62e	Design a comprehensive, functional and efficient circulation system of sufficient capacity to accommodate projected traffic demands at all phases of development, which is consistent with regional master transportation plans.

Table 4.15-2 Redlands General Plan Policies

Policy No.	*Policies*
4.62f	Adopt energy-efficient transportation strategies to implement state and county goals for reduced energy consumption and improved air quality.
Commercial Strips	
4.63b	Improve the accessibility, traffic flow, and parking availability within commercial strips.
	CIRCULATION ELEMENT
Standards for Traffic Service	
5.20a	Maintain LOS C or better as the standard at all intersections presently at LOS C or better.
5.20b	Within the area identified in GP Figure 5.3, including that unincorporated County area identified on GP Figure 5.3 as the donut hole, maintain LOS C or better; however, accept a reduced LOS on a case by case basis upon approval by a four-fifths (4/5ths) vote of the total authorized membership of the City Council.
5.20c	Where the current level of service at a location within the City of Redlands is below the Level of Service (LOS) C standard, no development project shall be approved that cannot be mitigated so that it does not reduce the existing level of service at that location except as provided in Section 5.20b.
Circulation Network and Classification	
5.30a	Use the Circulation Network to identify, schedule and implement roadway improvements as development occurs in the future, and as a standard against which to evaluate future development and roadway improvements.
5.30b	Review the Circulation Network with neighboring jurisdictions and seek agreement on actions needing coordination.
5.30c	Review and coordinate circulation requirements with Caltrans as it pertains to the freeways and state highways.
Arterials	
5.31a	Provide adequate capacity on arterials to meet LOS standards and to avoid traffic diversion to local streets or freeways.
5.31b	Locate high traffic-generating uses so that they have direct access or immediate secondary access to arterials.
5.31c	Establish a funding system that will enable completion of arterial roadway improvements before the projects that require them are occupied.
Collector and Local Streets	
5.32a	Design residential collector streets and implement traffic control measures to keep traffic on collectors at 3,000 vehicles per day or less, where possible.
5.32b	Design local residential streets and implement traffic control measures to keep traffic below 500 vehicles per day.
Freeway Improvements	
5.33a	Work with California Department of Transportation (Caltrans) to achieve timely construction of freeway and interchange improvements.
Travel Demand Management	
5.40a	Ensure that employers implement TDM programs to reduce peak period trip generation.
5.40b	Cooperate with public agencies and other jurisdictions to promote local and regional public transit serving Redlands.
5.40c	Support the Congestion Management Program for San Bernardino County.
5.40d	In accordance with the CMP, develop and implement a comprehensive trip reduction and TDM ordinance for all employers in Redlands. The goal should be to reduce peak period trip generation by 15 percent from the vehicle trip generation currently observed at similar sites without a TDM program. The TDM ordinance should incorporate a regular monitoring program to assess compliance and success. Future employment will be concentrated in the East Valley Corridor Specific Plan area, where congestion will make TDM most necessary and most effective.

Table 4.15-2 Redlands General Plan Policies

Policy No.	*Policies*
5.40e	Favor TDM measures that limit vehicle use over those that extend the commute hour. *Programs such as ridesharing and public transit reduce overall vehicle travel while flex time and staggered work hours simply shift traffic to less congested times of day.*
5.40f	Support local feeder bus service to and from current and future regional transit lines.
5.40g	Preserve options for future transit use when designing improvements to roadways. *Currently, segments of Banon Road/Brookside Avenue, Cypress Street, Cajon Street, Fern Avenue, Orange Street, Lugonia Avenue, San Bernardino Avenue and Brockton Avenue are used by Omnitrans bus lines. Other streets, particularly in the East Valley Corridor, will be likely candidates for bus service as growth occurs.*
5.40h	Work with Omnitrans to plan for local bus routes that are better able to penetrate neighborhoods to improve service for potential riders. Designate local bus routes in Specific Plan areas.
5.40i	Future commuter rail services are planned within the Santa Fe rail corridor, with stops at California Street, Orange Street and Mentone Blvd. Improvements to these streets should be planned for feeder transit services, and park-and-ride provisions should be made at these locations. Another logical stop would be at University Street to serve the campus at the University of Redlands. Other potential stops could be at Judson Street and at Crafton Avenue. Residents in these areas might use short, trip commuter rail to downtown Redlands, either to work or shop.
5.40j	Work with Omnitrans to plan for bus shelters and turnouts.
Bikeways	
5.50a	Establish a comprehensive network of on- and off-roadway bike routes to encourage the use of bikes for both commute and recreational trips.
5.50b	Seek assistance from major employers in providing support facilities to encourage use of bikes for commuter purposes.
5.50c	Develop bike routes that provide access to schools and parks.
5.50l	Incorporate bike storage and other support facilities into TDM plans at employment sites and public facilities, when feasible based upon distance from bikeways. *Studies have indicated the importance of providing well-located, secure bike storage facilities at employment sites, shopping and recreational areas and schools in order to facilitate bike use. Employers often provide shower and changing facilities where sizable numbers of employees use bikes.*
5.50m	Prepare a bikeways implementation program that includes priorities and a schedule.
Pedestrianways	
5.60a	Treat pedestrians as if they are more important than cars. *Except on freeways and a few hillside residential streets, pedestrians should have direct, safe routes to the same destinations.*
5.60b	Make walking interesting. *Avoiding long, uniform frontages and creating pedestrian paths that do not follow streets give people a reason to want to walk.*
5.60c	Provide direct pedestrian routes. *Owners' desires to live on cui-de-sacs, builders' desires to build less street, and the City's desire to minimize intersections combine to make pedestrian access circuitous in many neighborhoods. Direct paths to arterial street bus stops can increase transit patronage.*
5.60d	Provide a safe and healthful pedestrian environment. *This means providing separate pedestrianways in parking lots, avoiding excessive driveway widths, and providing planting strips between sidewalks and streets where feasible.*
5.60e	Develop a program to remove all barriers to disabled persons on arterial and collector streets.

Table 4.15-2 Redlands General Plan Policies

Policy No.	*Policies*
Airports	
5.70h	Evaluate the compatibility of surrounding development with airport operations by using the Comprehensive Airport Land Use Plan during discretionary projects.
HOUSING ELEMENT (2010)	
7.1a	Designate and zone sufficient land to meet housing needs as determined by the regional housing allocation.
7.5d	Preserve and protect residential historical and architectural resources.
7.8a	Promote policies and actions that reduce residential energy use.
OPEN SPACE AND CONSERVATION ELEMENT	
Parks and Recreational Open Space	
7.10b	Provide adequate park acreage and recreation facilities conveniently accessible to all present and future residents.
Trails	
7.11a	Create and maintain a system of trails serving both recreational and emergency access needs. The system is to accommodate walking, hiking, jogging, and equestrian and bicycle use.
7.11b	Prepare a Trails Plan depicting regional multi-purpose trails, community trails, local feeder trails, and including design standards.
Biotic Resources	
7.21a	Minimize disruption of wildlife and valued habitat throughout the Planning Area.
7.21b	Preserve, protect, and enhance natural communities of special status.
7.21d	Preserve, protect, and enhance wildlife corridors connecting the San Bernardino National Forest, Santa Ana River Wash, Crafton Hills, San Timoteo/Live Oak Canyons, the Badlands, and other open space areas.
7.21e	Preserve, restore, protect, and enhance riparian corridors throughout the Planning Area.
7.21f	Where feasible, landscape public areas using native vegetation.
Water Supply and Conservation	
7.22a	Minimize dependence on imported water by increasing entitlement in local surface sources, using wise groundwater management practices, conservation measures, and the use of reclaimed wastewater and nonpotable water for irrigation of landscaping and agriculture, where feasible.
7.22c	The City of Redlands recognizes that the water sources that constitute the water supply of the City of Redlands are a limited and renewable resource subject to increasing demands; that the conservation and efficient use of urban water supplies are of statewide concern; but that planning for that use and the implementation of those plans can best be accomplished at the local level.
7.22d	The City of Redlands believes it is in the best interest of its citizens to conserve the highest quality of water reasonably available to it for domestic use. Effort by its water users to achieve water conservation and efficient use of water will produce a sustainable lifestyle consistent with Redlands' unique heritage and community goals.
Energy Resources and Conservation	
7.23a	Conserve scarce or nonrenewable energy resources.
7.23b	Support San Bernardino County in implementation of its energy-related policies.
7.23c	Consider energy efficiency in architectural design.
Waste Management and Recycling	
7.24a	Reduce the generation of solid waste, including household hazardous waste, and recycle those materials which are used, to slow the filling of local and regional landfills.

Table 4.15-2 Redlands General Plan Policies

Policy No.	*Policies*
Preservation of Archaeological and Paleontological Resources	
7.30a	Protect archaeologic and paleontologic resources for their aesthetic, scientific, educational, and cultural values.
Construction Aggregates	
7.42a	Conserve sufficient aggregate resources to allow conversion of two 50-year supplies (approximately 2400 acres) of aggregate reserves to meet the Planning Area's contribution to future regional needs.
HEALTH AND SAFETY ELEMENT	
Air Quality	
8.11a	Support the County in its efforts to coordinate air quality improvements in the portion of the South Coast Air Basin within the County and in its efforts to coordinate improvements in air quality through reductions in pollutants from Orange and Los Angeles counties.
8.11b	Coordinate with other jurisdictions in San Bernardino County to establish and integrate parallel or related air quality plans, implementation programs, and monitoring and reporting.
8.11c	Cooperate with the County's establishment of an ongoing air quality implementation and project referral process within the San Bernardino County portion of the South Coast Air Basin, adapting it as necessary to the City's circumstances, resources and procedures.
8.11d	Support the County in its efforts to cooperate actively with Los Angeles, Orange and Riverside counties to comprehensively improve air quality at the emission source, and cooperate with these jurisdictions directly, where possible.
8.11e	Involve environmental groups, the business community, special interests and the general public in the formulation and implementation of programs which effectively reduce airborne pollutants.
8.11f	Advocate and support innovative strategies to improve air quality.
8.12a	Aim for a diverse and efficiently operated ground transportation system which generates the minimum feasible pollutants.
8.12b	Reduce vehicle miles traveled and peak period auto travel by increasing average vehicle ridership during peak commute hours.
8.12c	Cooperate in efforts to expand bus, rail and other forms of mass transit in the portion of the South Coast Air Basin within San Bernardino County.
8.12d	Promote expansion of all forms of mass transit in the urbanized portions of San Bernardino, Orange, Los Angeles and Riverside counties.
8.12e	Support public transit providers in efforts to increase funding for transit improvements to supplement other means of travel.
8.12f	Jointly support efforts to establish a regionwide bus pass.
8.12g	Promote non-motorized transportation.
8.12h	Promote a regional approach in utilizing parking costs as a means to discourage low vehicle occupancy.
8.12i	Aim for a pattern of land uses which can be efficiently served by a diversified transportation system and land development projects which directly and indirectly generate the minimum feasible air pollutants.
8.12j	Integrate air quality planning with the land use and transportation process.
8.12k	Establish and implement a Transportation Demand Management (TDM) Program.
8.12l	Define and implement auto limitation procedures in selected areas and at selected times, provided that alternative transportation modes are available.
8.12m	Establish incentives and regulations to eliminate work trips.
8.12n	Use incentives, regulations and Transportation Demand Management (TDM) in cooperation with other jurisdictions in the South Coast Air Basin to eliminate vehicle trips which would otherwise be made, and to reduce the vehicle miles traveled for auto trips which still need to be made.
8.12o	Establish and maintain telecommunications strategies to reduce the length of auto trips.

Table 4.15-2 Redlands General Plan Policies

Policy No.	*Policies*
8.12p	Promote and establish modified work schedules which reduce peak period auto travel.
8.12q	Establish incentives and regulations to spread work trips over a longer period to reduce peak period congestion.
8.12r	Participate in efforts to achieve increased designation, construction, and operation of HOV lanes on freeways in Los Angeles, Orange, Riverside and San Bernardino counties.
8.12s	Jointly, through the County, SANBAG, and SCAG, participate with adjacent counties in expanding HOV lanes on the freeway system within those counties.
8.12t	Coordinate overlapping components of the State-mandated Congestion Management Program and the Regional Air Quality Plan.
8.12u	Promote market-based incentives and disincentives to relieve peak hour/peak direction congestion within highly congested travel corridors.
8.12v	Cooperatively initiate a pilot program to explore jointly with Los Angeles, Orange and Riverside counties, methods and workability of Congestion Fees for peak hour/peak direction use to be levied within highly congested travel corridors, particularly those which generate emissions transported to San Bernardino County.
8.12w	Participate with public transit providers serving San Bernardino County in a cooperative program to increase transit services with existing equipment and expand services through transit facility improvements.
8.12x	Coordinate with public transit providers to increase funding for transit improvements to supplement other means of travel.
8.12y	Plan for intraregional commuter and main line rail service development including convenience facilities at rail stops.
8.12z	Develop design standards that promote access to transit facilities.
8.12aa	Influence the expansion of intraregional commuter and main line rail services, particularly those linking with destinations in San Bernardino County.
8.12bb	Provide bicycle and pedestrian pathways to encourage non-motorized trips.
8.12cc	Develop standards and guidelines for support facilities to incorporate into development plans for increased bicycle and pedestrian routes to link appropriate activity centers to nearby residential development.
8.12dd	Manage parking supply to discourage auto use, while ensuring that economic development goals will not be sacrificed. *Modification of parking provisions and development of management strategies shall be done in conjunction with regional efforts so that there is not a competitive disadvantage suffered by the Redlands Planning Area.*
8.12ee	Establish short and long-term parking management strategies at governmental and private facilities in ways that discourage single-occupancy vehicle usage and reward high vehicle occupancy rates without placing the Redlands Planning Area at a competitive disadvantage. *Modification of parking provisions and development of management strategies shall be done in conjunction with regional efforts so that there is not a competitive disadvantage suffered by the Redlands Planning Area.*
8.12ff	Establish parking management strategies for governmental and private facilities in ways that discourage single-occupancy vehicle usage and reward high vehicle occupancy rates without placing the Redlands Planning Area at an economic disadvantage in enticing jobs. *Modification of parking provisions and development of management strategies shall be done in conjunction with regional efforts so that there is not a competitive disadvantage suffered by the Redlands Planning Area.*
8.12gg	Promote State and federal legislation which would improve vehicle/transportation technology and which would establish differential pricing mechanisms to assess the true cost of emissions.
8.12hh	Support legislation to stimulate the development of practical electric vehicles.
8.12ii	Support State legislation which would establish emission fees on gasoline products and differential registration fees on motor vehicles according to the emission levels that they are designed to produce; include exploration of an option that imposes pollution fees on individual vehicles at time of mandated smog inspections, based on actual vehicle performance.
8.12jj	Support legislation which tightens the existing vehicle inspection program, both in terms of standards to be met and requirements for compliance.

Table 4.15-2 Redlands General Plan Policies

Policy No.	*Policies*
8.12kk	Invest in and institute clean fuel systems on new local government fleet vehicles.
8.12ll	Promote the development of Park-and-Ride lots.
8.14c	Incorporate phasing policies and requirements in general plans and development plans to achieve timely provision of infrastructure (particularly transportation facilities) to serve development.
8.14j	Locate and design new development in a manner that will minimize direct and indirect emission of air contaminants.
8.15a	Aim for the minimum practicable particulate emissions from the construction and operation of roads and buildings.
8.15b	Reduce particulate emissions from roads, parking lots, construction sites, mining operations and agricultural lands.
8.15c	Reduce emissions from building materials and methods which generate excessive pollutants.
8.16a	Aim for reduced emissions through reduced energy consumption.
8.16b	Reduce energy consumption through conservation improvements and requirements.
8.16c	Reduce water heating emissions resulting from swimming pool heaters and residential and commercial water heaters.
8.16d	Promote local recycling of wastes and use of recycled materials.
Water Quality	
8.20i	The City will actively protect all water supply sources, to the extent legally possible, from contamination and from a diminution of supply, will undertake all necessary steps to provide a secure supply of high quality water to meet the present and future needs of its citizens.
Drainage and Flooding	
8.40a	Protect lives and property and ensure that structures proposed for sites located on flood plains subject to the 100-year flood are provided adequate protection from floods.
8.40c	Support a multi-use concept of flood plains, flood-related facilities, and waterways, including, where appropriate, the following uses: flood control; groundwater recharge; mineral extraction; open space; nature study; habitat preservation; pedestrian, equestrian, and bicycle circulation; and outdoor sports and recreation.
Seismicity, Geology, and Soils	
8.50a	Investigate and mitigate geologic and seismic hazards, or locate development away from such hazards, in order to preserve life and protect property.
8.50b	Support implementation of San Bernardino County General Plan policies relating to geologic and seismic hazards, and consult with the San Bernardino County Geologist where conflicting information exists or where no published information is available.
NOISE ELEMENT	
9.0a	Protect public health and welfare by eliminating existing noise problems where feasible and by preventing significant degradation of the future acoustic environment.
9.0b	Incorporate noise considerations into land use planning decisions.
9.0c	Support measures to reduce noise emissions by motor vehicles, aircraft, and trains.

SOURCE: City of Redlands, *City of Redlands General Plan* (October 1995); City of Redlands, *Redlands General Plan Housing Element* (April 6, 2010).

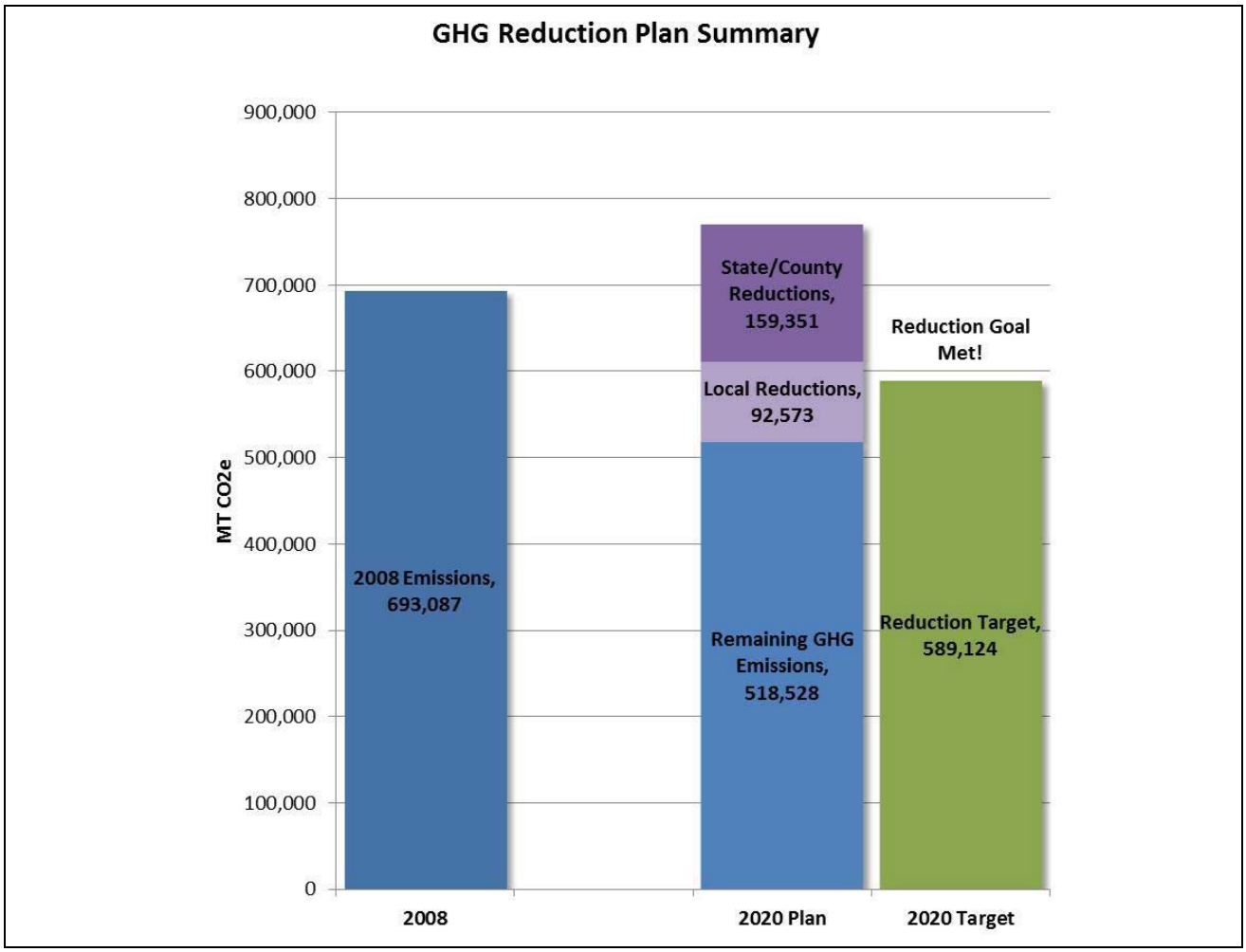

Figure 4.15-2 Emissions Reduction Profile for Redlands

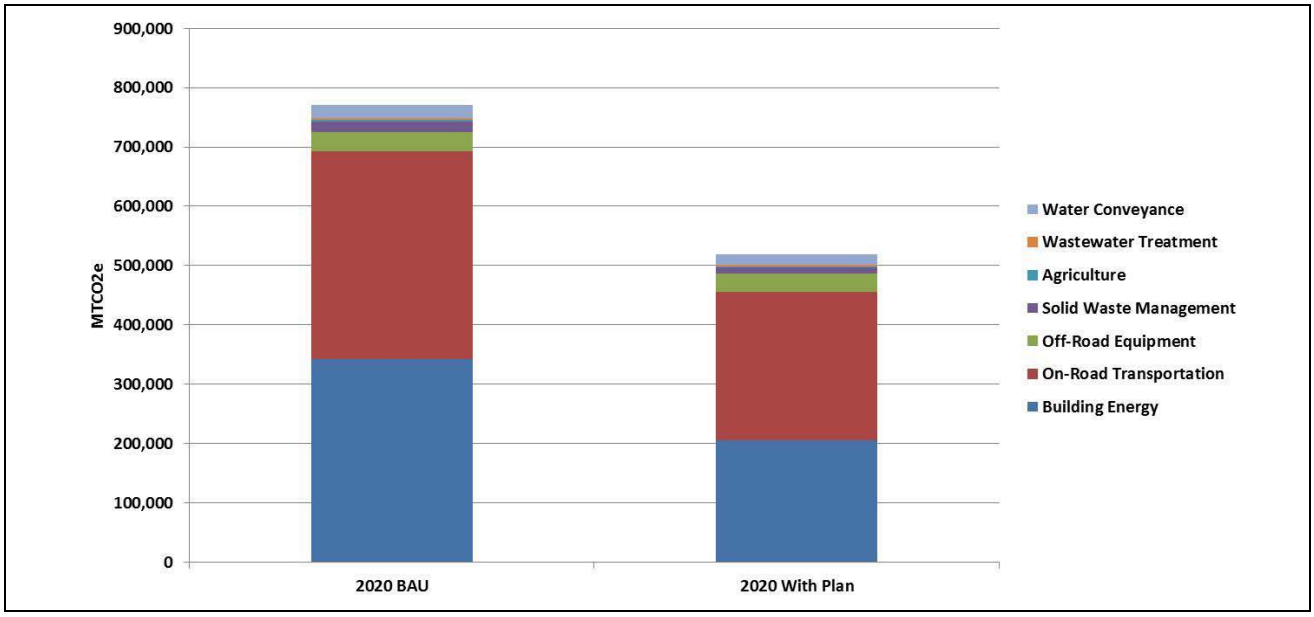

Figure 4.15-3 Emissions by Sector for Redlands

Table 4.15-3 Emission Reduction by Sector for Redlands

Sector	*2008*	*2020 BAU*	*Reductions*	*2020 Emissions with Plan*	*% Reduction*
Building Energy	302,160	342,534	133,576	208,958	39.0%
On-Road Transportation	319,157	349,518	98,342	251,176	28.1%
Off-Road Equipment	30,147	33,528	3,496	30,031	10.4%
Solid Waste Management	16,391	17,877	6,680	11,197	37.4%
Agriculture	3,298	1,681	0	1,681	0.0%
Wastewater Treatment	2,773	3,072	278	2,794	9.0%
Water Conveyance	19,161	22,242	4,772	17,470	21.5%
GHG Performance Standard*	—	—	4,780	—	—
Total Emissions	***693,087***	***770,452***	***251,924***	***518,528***	***32.7%***
Reduction Goal	—	—	**181,328**	**589,124**	**23.5%**
Met Goal?	—	—	Yes	Yes	Yes
Reductions Beyond Goal	—	—	***70,596***	—	—
Per-Capita Emissions	10.1	10.2	—	6.9	—
Per-Job Emissions	16.7	16.5	—	11.1	—
Excluded Stationary Source Emissions	92,324	109,197	—	—	—

SOURCE: San Bernardino Associated Governments, *San Bernardino County Regional Greenhouse Gas Reduction Plan*, Draft, Prepared by ICF International (December 2012). Values may not sum due to rounding.

* The GHG Performance Standard for New Development is not a sector of the inventory, but it provides broad reductions and contributes toward the City's reduction goal by promoting reductions in multiple sectors.

Figure 4.15-4 (Emissions Reduction by Control and Sector for Redlands) presents emission reductions by sector and by control (i.e., state/county control versus local or city control). As stated previously, the majority of emissions reductions are due to state/county measures. Of the state/county measures, the majority of reductions are in the building energy and on-road transportation sectors. Of the local measures, the majority of reductions are in the building energy sector due to the implementation of SBX 7-7 (Water-4).

Table 4.15-4 (GHG Reduction Measures and Estimated 2020 Reductions for Redlands) presents each reduction measure evaluated for Redlands. For each measure, the short title and estimated GHG reductions in 2020 are listed. Measures are organized by state/county control and local control and listed by sector. The physical impacts of implementing the Local Measures are reviewed in this chapter of the EIR to determine the significance of the Regional Reduction Plan as it relates to the City of Redlands.

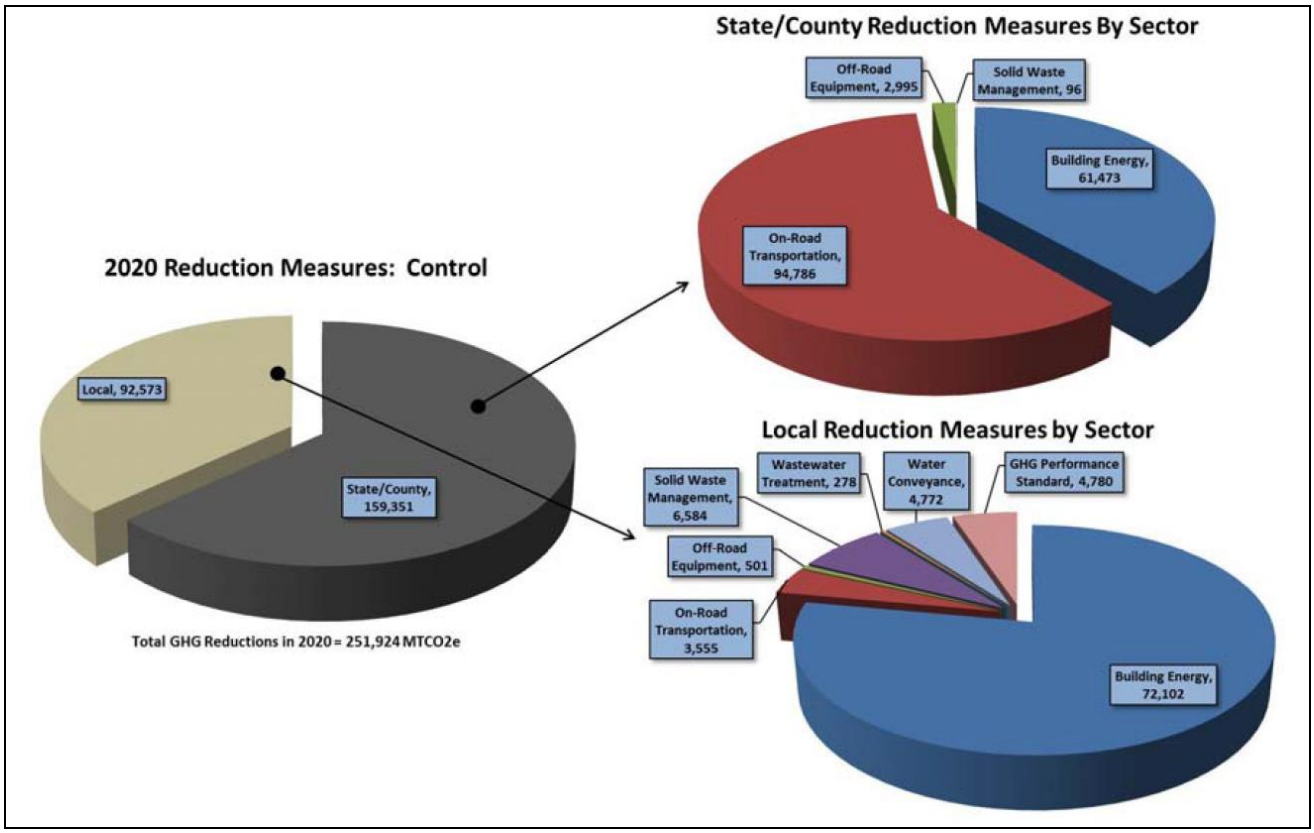

Figure 4.15-4 Emissions Reduction by Control and Sector for Redlands

Table 4.15-4 GHG Reduction Measures and Estimated 2020 Reduced Emissions for Redlands

Reduction Measure Number	*Description*	*Emissions Reductions*
	STATE AND COUNTY MEASURES	
State-1	Renewable Portfolio Standard	38,189
State-2	Title 24	10,081
State-3	AB 1190	10,619
State-4	Solar Water Heating	235
State-5	Industrial Boiler Efficiency	2,350
State-6	Pavley and Low Carbon Fuel Standard	87,041
State-7	AB 32 Transportation Reduction Strategies	7,746
State-8	Low Carbon Fuel Standard-Off-road	2,995
State-9	AB 32 Methane Capture	0
County-1	County GHG Reduction Plan Landfill Controls	96

Table 4.15-4 GHG Reduction Measures and Estimated 2020 Reduced Emissions for Redlands

Reduction Measure Number	*Description*	*Emissions Reductions*
	LOCAL MEASURES	
Building Energy		
Water-4 (BE)	*Implement SBX 7-7*	*74,769*
On-Road Transportation		
Transportation-1	Sustainable Communities Strategy	3,119
Transportation-2	Smart Bus Technologies	436
Wastewater Treatment		
Water-4 (WT)	*Implement SBX 7-7*	*345*
Water Conveyance		
Water-4	Implement SBX 7-7	5,097
	Total Reductions	***243,117***

SOURCE: San Bernardino Associated Governments, *San Bernardino County Regional Greenhouse Gas Reduction Plan*, Draft, Prepared by ICF International (December 2012).

BE = building energy; WT = wastewater treatment; WC = water conveyance

Values may not sum due to rounding.

The Low Carbon Fuel Standard (LCFS) reduces emissions in both the on-road transportation and off-road equipment sectors, because the standard reduces the carbon content of fuels used in both sectors.

Measures in *italics* result in GHG reductions in multiple sectors. For example, Water-1 reduces the amount of water consumed in the city, which reduces emissions for conveying that water (water conveyance sector), the energy needed to heat that water (building energy sector), and the energy required to treat the associated wastewater (wastewater treatment sector).

Summary of Environmental Impacts and Mitigation Measures

The Regional Reduction Plan City of Redlands chapter describes the proposed project including the reduction measures and reduction targets chosen by the City of Redlands. The physical impacts of implementing these reduction measures and achieving the reduction targets is reviewed in this chapter of the EIR to determine the significance of the Regional Reduction Plan as it relates to the City of Redlands. No comment letters specific to the City of Redlands were received in response to the notice of preparation (NOP) circulated for the proposed project.

Table 4.15-5 (Summary of Environmental Impacts of Implementing Local Reduction Measures in Redlands) summarizes the environmental impacts of implementing the Regional Reduction Plan local reduction measures by issue area.

Mitigation measures were identified to reduce the following potentially significant impact to less-than-significant levels:

Cultural Resources (Historical Resources)

MM4.15.5-1 *Prior to activities that would physically affect known historical resources or any buildings or structures 50 years old or older or affect their historic setting, a cultural resource professional who meets the Secretary of the Interior's Professional Qualifications Standards for Architectural History will be*

consulted to determine if the proposed energy-efficiency retrofit or solar installation activities would cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5. The investigation shall include, as determined appropriate by the cultural resource professional and the City of Redlands, archival research, including, if necessary, a records search of the Archaeological Information Center (AIC) of the California Historical Resources Information System (CHRIS) and a pedestrian survey of the proposed improvements area to determine if any significant historic-period resources would be adversely affected by the proposed Regional Reduction Plan activities. The results of the investigation shall be documented in a technical report or memorandum that identifies and evaluates any historical resources within the improvements area and includes recommendations and methods for eliminating or reducing impacts on historical resources. Methods could include, but are not limited to, written and photographic recordation of the resource in accordance with the level of Historic American Building Survey (HABS) documentation that is appropriate to the significance (local, state, national) of the resource.

Table 4.15-5 Summary of Environmental Impacts of Implementing Local Reduction Measures in Redlands

NI = no impact; LS = less than significant; LS/PR = less than significant with implementation of policies/regulations; LS/MM = less than significant with mitigation measures

Environmental Impacts	*Regional Reduction Plan Local Reduction Measure*																			
	Energy-1	*Energy-3*	*Energy-4*	*Energy-5*	*Energy-6*	*Energy-7*	*Energy-8*	*Energy-9*	*Land Use-1*	*Wastewater-1*	*Wastewater-2*	*Wastewater-3*	*Transportation-1*	*Transportation-2*	*Off-Road-1*	*Off-Road-2*	*Water-1*	*Water-3*	*Water-4*	*PS-1*
Aesthetics																				
Scenic vistas	LS	NI	LS/PR	LS/PR	LS/PR	LS/PR	LS/PR	NI	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI
Scenic highways	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Visual character or quality	LS	NI	LS/PR	LS/PR	LS/PR	LS/PR	LS/PR	NI	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI
Light and glare	LS	NI	LS/PR	LS/PR	LS/PR	LS/PR	LS/PR	NI	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI
Cumulative impacts	LS	NI	LS/PR	LS/PR	LS/PR	LS/PR	LS/PR	NI	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI
Agriculture/Forestry Resources																				
Convert farmland to nonagricultural use	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Conflict with existing agricultural zoning or Williamson Act	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Conflict with existing forest land or timberland zoning	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Loss or conversion of forest land to nonforest land	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Other changes causing conversion of farmland to nonfarmland use or forest land to nonforest land use	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Cumulative impacts	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Air Quality																				
Conflict or obstruct air quality management plan	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	NI	LS
Violation of air quality standard	LS	NI	NI	LS	LS	LS	LS	LS	LS	LS	LS	NI	LS	NI	LS	LS	NI	NI	LS	LS
Exposure of sensitive receptors	NI	NI	NI	LS	NI	NI	NI	NI	NI	LS	NI	NI	LS	NI	NI	NI	NI	NI	NI	NI
Creation of objectionable odors	NI	NI	NI	LS	NI	NI	NI	NI	LS	LS	NI	NI	LS	NI	NI	NI	NI	NI	NI	NI

Table 4.15-5 Summary of Environmental Impacts of Implementing Local Reduction Measures in Redlands

NI = no impact; LS = less than significant; LS/PR = less than significant with implementation of policies/regulations; LS/MM = less than significant with mitigation measures

Environmental Impacts	*Regional Reduction Plan Local Reduction Measure*																		
	Energy-1	***Energy-3***	***Energy-4***	***Energy-5***	***Energy-6***	***Energy-7***	***Energy-8***	***Energy-9***	***Land Use-1***	***Wastewater-1***	***Wastewater-2***	***Wastewater-3***	***Transportation-1***	***Transportation-2***	***Off-Road-1***	***Off-Road-2***	***Water-1***	***Water-3***	***Water-4***	***PS-1***
Cumulatively considerable net increase of any nonattainment criteria pollutant	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	NI	NI	LS	LS	LS	LS	LS	LS	LS	LS
Biological Resources																				
Special-status species	NI	NI	NI	LS/PR	NI	LS/PR	NI	NI	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI
Riparian habitat or other sensitive natural community	NI	NI	NI	LS/PR	NI	LS/PR	NI	NI	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI
Protected wetlands	NI	NI	NI	LS/PR	NI	LS/PR	NI	NI	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI
Wildlife movement	NI	NI	NI	LS/PR	NI	LS/PR	NI	NI	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI
Conflict with any local policies or ordinances protecting biological resources	NI	NI	NI	LS/PR	NI	LS/PR	NI	NI	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI
Conflict with habitat conservation plan	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Cumulative impacts	NI	NI	NI	LS/PR	NI	LS/PR	NI	NI	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI
Cultural Resources																				
Substantial adverse change in significance of a historical resource	**LS/MM**	NI	NI	LS/PR	**LS/MM**	**LS/MM**	**LS/MM**	NI	NI	NI	NI	NI	**LS/MM**	NI	NI	NI	NI	NI	NI	NI
Substantial adverse change in significance of a archaeological resource	NI	NI	NI	LS/PR	NI	LS/PR	NI	NI	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI
Destruction of a unique paleontological resource or site or unique geologic feature	NI	NI	NI	LS/PR	NI	LS/PR	NI	NI	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI
Disturb any human remains	NI	NI	NI	LS/PR	NI	LS/PR	NI	NI	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI
Cumulative impacts	LS/MM	NI	NI	LS/PR	LS/PR	LS/MM	LS/MM	NI	NI	NI	NI	NI	LS/MM	NI	NI	NI	NI	NI	NI	NI

Table 4.15-5 Summary of Environmental Impacts of Implementing Local Reduction Measures in Redlands

NI = no impact; LS = less than significant; LS/PR = less than significant with implementation of policies/regulations; LS/MM = less than significant with mitigation measures

Environmental Impacts	*Regional Reduction Plan Local Reduction Measure*																			
	Energy-1	*Energy-3*	*Energy-4*	*Energy-5*	*Energy-6*	*Energy-7*	*Energy-8*	*Energy-9*	*Land Use-1*	*Wastewater-1*	*Wastewater-2*	*Wastewater-3*	*Transportation-1*	*Transportation-2*	*Off-Road-1*	*Off-Road-2*	*Water-1*	*Water-3*	*Water-4*	*PS-1*
Geology/Soils																				
Fault rupture, strong seismic groundshaking, seismic-related ground failure, including liquefaction, landslides	NI	NI	LS/PR	LS/PR	LS/PR	LS/PR	LS/PR	NI	NI	NI	LS	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI
Substantial soil erosion or loss of topsoil	NI	NI	NI	LS/PR	NI	LS/PR	NI	NI	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI
Located on a geologic unit or soil that is unstable, resulting in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse	NI	NI	NI	LS/PR	NI	LS/PR	NI	NI	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI
Located on expansive soil	NI	NI	NI	LS/PR	NI	LS/PR	NI	NI	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI
Soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Cumulative impacts	NI	NI	NI	LS/PR	LS/PR	LS/PR	LS/PR	NI	NI	NI	LS	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI
Greenhouse Gas Emissions/Global Climate Change																				
Generate greenhouse gas emissions	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS
Conflict with an applicable plan, policy, or regulation to reduce greenhouse gas emissions	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS
Hazards/Hazardous Materials																				
Create significant hazard through the routine transport, use, or disposal of hazardous materials	LS/PR	NI	NI	LS/PR	LS/PR	LS/PR	LS/PR	NI	NI	LS/PR	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI
Create significant hazard through release of hazardous materials	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Emit hazardous emissions or handle acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI

Table 4.15-5 Summary of Environmental Impacts of Implementing Local Reduction Measures in Redlands

NI = no impact; LS = less than significant; LS/PR = less than significant with implementation of policies/regulations; LS/MM = less than significant with mitigation measures

Environmental Impacts	*Regional Reduction Plan Local Reduction Measure*																			
	Energy-1	*Energy-3*	*Energy-4*	*Energy-5*	*Energy-6*	*Energy-7*	*Energy-8*	*Energy-9*	*Land Use-1*	*Wastewater-1*	*Wastewater-2*	*Wastewater-3*	*Transportation-1*	*Transportation-2*	*Off-Road-1*	*Off-Road-2*	*Water-1*	*Water-3*	*Water-4*	*PS-1*
Located on a site that is included on a list of hazardous materials sites, creating significant hazard	NI	NI	NI	LS/PR	NI	LS/PR	NI	NI	NI	NI	NI	NI	LS	NI	NI	NI	NI	NI	NI	NI
Located within 2 miles of a public airport or public use airport	NI	NI	NI	LS/PR	NI	LS/PR	NI	NI	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI
Located within the vicinity of a private airstrip	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Impair or interfere with an adopted emergency response plan or emergency evacuation plan	NI	NI	NI	LS/PR	NI	LS/PR	NI	NI	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI
Risk of loss, injury, or death involving wildland fires	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Cumulative impacts	LS/PR	NI	NI	LS/PR	LS/PR	LS/PR	LS/PR	NI	NI	LS/PR	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI
Hydrology/Water Quality																				
Violate any water quality standards or waste discharge requirements	NI	NI	NI	LS/PR	NI	LS/PR	NI	NI	NI	NI	NI	LS	LS/PR	NI	NI	NI	NI	NI	LS	NI
Deplete groundwater supplies or interfere with groundwater recharge	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	LS	LS	NI	NI	NI	NI	NI	NI	NI
Alter the existing drainage pattern of the site or area, resulting in substantial erosion or siltation	NI	NI	NI	LS/PR	NI	LS/PR	NI	NI	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI
Alter the existing drainage pattern of the site or area, resulting in on- or off-site flooding	NI	NI	NI	LS/PR	NI	LS/PR	NI	NI	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI
Exceed the capacity of existing or planned stormwater drainage systems or provide additional sources of polluted runoff	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI
Otherwise degrade water quality	NI	NI	NI	LS	NI	LS	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Place housing within a 100-year flood hazard area	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Place within a 100-year flood hazard area structures that would impede or redirect flood flows	NI	NI	NI	LS/PR	LS/PR	LS/PR	LS/PR	NI	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI

Table 4.15-5 Summary of Environmental Impacts of Implementing Local Reduction Measures in Redlands

NI = no impact; LS = less than significant; LS/PR = less than significant with implementation of policies/regulations; LS/MM = less than significant with mitigation measures

Environmental Impacts	*Regional Reduction Plan Local Reduction Measure*																			
	Energy-1	*Energy-3*	*Energy-4*	*Energy-5*	*Energy-6*	*Energy-7*	*Energy-8*	*Energy-9*	*Land Use-1*	*Wastewater-1*	*Wastewater-2*	*Wastewater-3*	*Transportation-1*	*Transportation-2*	*Off-Road-1*	*Off-Road-2*	*Water-1*	*Water-3*	*Water-4*	*PS-1*
Risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam	NI	NI	NI	LS/PR	LS/PR	LS/PR	LS/PR	NI	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI
Inundation by seiche, tsunami, or mudflow	NI	NI	NI	LS/PR	LS/PR	LS/PR	NI	NI	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI
Cumulative impacts	NI	NI	NI	LS/PR	LS/PR	LS/PR	NI	NI	NI	NI	NI	LS	LS/PR	NI	NI	NI	NI	NI	LS	NI
Land Use/Planning																				
Physically divide an established community	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Conflict with any applicable land use plan, policy, or regulation	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS
Conflict with any applicable habitat conservation plan or natural community conservation plan	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Cumulative impacts	LS	LS	LS	LS	LS	LS/PR	NI	LS	LS	LS	LS	LS	LS/PR	LS	LS	LS	LS	LS	LS	LS
Mineral Resources																				
Loss of availability of a known mineral resource	NI	NI	NI	LS/PR	NI	LS/PR	NI	NI	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI
Loss of availability of a locally important mineral resource recovery site	NI	NI	NI	LS/PR	NI	LS/PR	NI	NI	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI
Cumulative impacts	NI	NI	NI	LS/PR	NI	LS/PR	NI	NI	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI
Noise																				
Noise levels in excess of standards established in the local general plan or noise ordinance	NI	NI	NI	LS/PR	LS/PR	LS/PR	LS/PR	NI	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI
Excessive groundborne vibration or groundborne noise levels	NI	NI	NI	LS/PR	LS/PR	LS/PR	LS/PR	NI	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI
Permanent increase in ambient noise levels	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI
Temporary or periodic increase in ambient noise levels	NI	NI	NI	LS/PR	LS/PR	LS/PR	LS/PR	NI	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI

Table 4.15-5 Summary of Environmental Impacts of Implementing Local Reduction Measures in Redlands

NI = no impact; LS = less than significant; LS/PR = less than significant with implementation of policies/regulations; LS/MM = less than significant with mitigation measures

Environmental Impacts	*Regional Reduction Plan Local Reduction Measure*																			
	Energy-1	*Energy-3*	*Energy-4*	*Energy-5*	*Energy-6*	*Energy-7*	*Energy-8*	*Energy-9*	*Land Use-1*	*Wastewater-1*	*Wastewater-2*	*Wastewater-3*	*Transportation-1*	*Transportation-2*	*Off-Road-1*	*Off-Road-2*	*Water-1*	*Water-3*	*Water-4*	*PS-1*
Excessive noise levels within 2 miles of a public airport or public use airport	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI
Excessive noise levels within the vicinity of a private airstrip	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Cumulative impacts	NI	NI	NI	LS/PR	NI	LS/PR	LS/PR	NI	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI
Population/Housing																				
Induce substantial population growth	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Displace substantial numbers of existing housing	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Displace substantial numbers of people	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Cumulative impacts	NI	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Public Services																				
Provision or need of new or physically altered governmental facilities to maintain acceptable service ratios, response times, or other performance objectives for public services	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Cumulative impacts	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Recreation																				
Physical deterioration of recreational facilities	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Construction or expansion of recreational facilities	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI
Cumulative impacts	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI
Transportation/Traffic																				
Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	LS	LS	NI	NI	NI	NI	NI	LS

Table 4.15-5 Summary of Environmental Impacts of Implementing Local Reduction Measures in Redlands

NI = no impact; LS = less than significant; LS/PR = less than significant with implementation of policies/regulations; LS/MM = less than significant with mitigation measures

Environmental Impacts	*Regional Reduction Plan Local Reduction Measure*																			
	Energy-1	*Energy-3*	*Energy-4*	*Energy-5*	*Energy-6*	*Energy-7*	*Energy-8*	*Energy-9*	*Land Use-1*	*Wastewater-1*	*Wastewater-2*	*Wastewater-3*	*Transportation-1*	*Transportation-2*	*Off-Road-1*	*Off-Road-2*	*Water-1*	*Water-3*	*Water-4*	*PS-1*
Conflict with an applicable congestion management program	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	LS	LS	NI	NI	NI	NI	NI	LS
Change in air traffic patterns that results in substantial safety risks	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Increase hazards due to a design feature or incompatible uses	NI	NI	NI	LS/PR	NI	LS/PR	NI	NI	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI
Inadequate emergency access	NI	NI	NI	LS/PR	NI	LS/PR	NI	NI	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI
Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	LS	LS	NI	NI	NI	NI	NI	LS
Cumulative impacts	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI	NI	LS/PR	LS	NI	NI	NI	NI	NI	LS
Utilities/Service Systems																				
Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	LS	LS	NI	NI	NI	NI	NI	NI	NI	NI
Construction or expansion of new or existing water or wastewater treatment facilities	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	LS	LS	NI	NI	NI	NI	LS	LS	NI	NI
Construction or expansion of new or existing stormwater drainage facilities	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Insufficient water supplies from existing entitlements and resources, or need new or expanded entitlements	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	LS	LS	LS	NI
Inadequate wastewater treatment capacity	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	LS	LS	NI	NI	NI	NI	NI	NI	LS	NI
Insufficient permitted solid waste disposal capacity	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Noncompliance with federal, state, or local statutes and regulations related to solid waste	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	LS	LS	NI	NI
Cumulative impacts	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	LS	LS	NI	NI	NI	NI	LS	LS	LS	NI

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4.15.1 Aesthetics

This section of the EIR analyzes the potential environmental effects on aesthetics in the City of Redlands from implementation of the Regional Reduction Plan. Data for this section were taken from Redlands General Plan (1995a) and associated environmental documents (1995b). Full reference-list entries for all cited materials are provided at the end of this section.

No comment letters addressing aesthetics were received in response to the notice of preparation (NOP) circulated for the Regional Reduction Plan.

Environmental Setting

Visual Character

The City of Redlands is located in the East Valley region of San Bernardino County. The East Valley is rimmed on the west by the Chino, Puente, and San Jose Hills and on the northwest by the San Bernardino Mountains. The San Bernardino Mountains border much of the planning area. The eastern edge of the valley is also bordered by the Yucaipa and Crafton Hills. Alluvial highlands gradually rise southward from the San Bernardino Mountains and end at the southern limits of the valley in canyon foothills, lowlands, and the San Timoteo and Live Oak Canyons.

Redlands' image is derived from its rich agricultural and architectural heritage. Large groves at all edges and remnant groves throughout the City are constant reminders of an agrarian past. The City has retained a traditional downtown area, village-like character of areas outside downtown, high-quality architecture, and historic resources. The care and effort that created the City is evident at many scales, from the well-crafted stone curbs to the exquisitely detailed buildings. The City's diversity of landforms and citrus groves and chaparral-covered foothills and canyons are an essential element of the landscape.

The City does not have large industrial developments, extensive street lighting, and large glass/mirrored building façades. Night lighting levels are relatively low, allowing excellent views of the valley.

Scenic Views

Views of the San Bernardino and San Gabriel mountains form a scenic backdrop for the City. Two prominent visual assets are the views from the Santa Ana Bluff of the San Bernardino Mountains and the University of Redlands.

Regulatory Framework

Federal

There are no federal regulations pertaining to visual quality.

State

Scenic Highways

The California State Legislature established the Scenic Highway Program, which is administered by the California Department of Transportation (Caltrans). The state scenic highway system is a list of highways, mainly state highways, which have been designated by Caltrans as scenic highways. The City of Redlands does not have any officially designated scenic highways or any highways that are considered eligible for scenic highway status.

Outdoor Lighting Energy-Efficiency Standards

California Code of Regulations (CCR) Title 24, Parts 1 and 6 (Building Energy Efficiency Standards), establishes requirements for outdoor lighting for residential and nonresidential development. The standards regulate lighting characteristics such as maximum power and brightness, shielding, and sensor controls to turn lighting on and off. Different lighting standards are set by classifying areas by lighting zone, which are designated as LZ1 (dark), LZ2 (rural), or LZ3 (urban).

Solar Energy Systems

Government Code Section 65850.5 provides statewide standards to promote development of solar energy by providing timely and cost-effective administrative review of these systems for installation within residential, agricultural, and business areas. The law prohibits local jurisdictions from adopting ordinances that create unreasonable barriers to development of solar energy systems and specifically identifies design review for aesthetic purposes as an unreasonable barrier.

State Scenic Highways Program

The State Scenic Highways program administered by the California Department of Transportation identifies scenic highways. No highways located within the City are designated by Caltrans as scenic. I-10 is designated by Caltrans as eligible for state scenic highway status.

The California legislature passed a bill in 2001 requiring the California Energy Commission (CEC) to adopt energy efficiency standards for outdoor lighting for both the public and private sectors. In response to the legislature in November 2003, the CEC adopted changes to the Title 24, Parts 1 and 6, Building Energy Efficiency Standards. These standards became effective on October 1, 2005, and included changes to the requirements for outdoor lighting for residential and nonresidential development. The new standards will likely improve the quality of outdoor lighting and help to reduce the impacts of light pollution, light trespass, and glare. The standards regulate lighting characteristics such as maximum power and brightness, shielding, and sensor controls to turn lighting on and off. Different lighting standards are set by classifying areas by lighting zone. The classification is based on population figures of the 2000 Census. These areas are designated as LZ1 (dark), LZ2 (rural), or LZ3 (urban).

Solar Energy Systems

Government Code Section 65850.5 provides statewide standards to promote development of solar energy by providing timely and cost-effective administrative review of these systems for installation within residential, agricultural, and business areas. The law prohibits local jurisdictions from adopting

ordinances that create unreasonable barriers to development of solar energy systems and specifically identifies design review for aesthetic purposes as an unreasonable barrier.

Regional

San Bernardino County General Plan Open Space Element

The County of San Bernardino General Plan Open Space Element Policy OS-5.2 designates I-10 between the City of Redlands and the City of Yucaipa as a scenic highway.

San Bernardino County Ordinance

Chapter 83.07 regulates glare, outdoor lighting, and night sky protection. For instance, outdoor lighting of commercial or industrial land uses in the Valley Region must be fully shielded to preclude light pollution or light trespass. Lighting fixtures used to illuminate a new off-site sign and exterior illuminated on-site signs in the Mountain and Desert regions are required to be mounted on the top of the sign structure and must comply with the shielding requirements specified in detail in the County Code. The purpose of Chapter 83.07 is to encourage outdoor lighting practices and systems that will minimize light pollution, glare, and light trespass; conserve energy and resources while maintaining nighttime safety, visibility, utility, and productivity; and curtail the degradation of the nighttime visual environment.

Local

City of Redlands Municipal Code

The City's Zoning Code (Municipal Code Chapter 18) sets out some very general development standards to be used for projects in each zone. The City does not have a set of design guidelines, however, to address topics such as site design, building design, materials, fences and walls, design of parking, and landscaping and buffering. Chapter 18 of the City's Zoning Code regulates glare and lighting for facilities. This chapter establishes standard and development criteria height limits, setbacks, design aesthetics. It also addresses the installation of solar collectors and identifies them as a permitted use in all zoning districts.

Redlands General Plan

The Redlands General Plan policies that are applicable to aesthetics[1] are as follows:

City Design and Preservation Element

Policy 3.10b	Retain the character of the neighborhoods, streets, and buildings that established Redlands' reputation as an ideal Southern California city.
Policy 3.10e	Preserve the natural appearance of steep hillsides and ridges.
Policy 3.10h	Maintain the village-like character of Downtown Redlands.
Policy 3.20a	Identify, maintain, protect, and enhance Redlands' cultural, historic, social, economic, architectural, agricultural, archaeological, and scenic heritage. In so

[1] These policies are not a complete listing of all policies contained in the General Plan; those policies that would be most applicable to the proposed project are included here.

doing, Redlands will preserve its unique character and beauty, foster community pride, conserve the character and architecture of its neighborhoods and commercial and rural areas, enable citizens and visitors to enjoy and learn about local history, and provide a framework for making appropriate physical changes.

Policy 3.20d Encourage retention of the character of existing historic structures and urban design elements that define the built environment of the City's older neighborhoods.

Policy 3.20e Encourage retention of historic structures in their original use or reconversion to their original use where feasible. Encourage sensitive, adaptive re-use where original use is no longer feasible.

Policy 3.20f Encourage preservation of and public access to significant scenic vistas, viewpoints and view corridors.

Policy 3.20g Coordinate preservation of historic resources with policies designed to preserve affordable housing.

Policy 3.20h Encourage consideration of urban design quality as well as safety when street or other public improvements are proposed.

Open Space and Conservation Element

Policy 7.21f Where feasible, landscape public areas using native vegetation.

Policy 7.23c Consider energy efficiency in architectural design.

Historic and Scenic Preservation Ordinance

The Redlands Historic and Scenic Preservation Ordinance provides a way for the City to recognize and protect its historic resources. The Ordinance establishes a process for designating historic resources and reviewing alterations to the exterior of these resources. Because there is a large number of resources and designating them is a time-consuming process, the Ordinance provides for the Historic and Scenic Preservation Commission to place all potential resources on a list of "nominated resources." An application to alter the exterior of a nominated resource activates the designation procedure, thus ensuring protection of historic resources that the City has not yet been able to designate. The Commission is responsible for assuring that the properties on the list are surveyed, then preparing a report using this information to determine whether a resource is significant and, therefore, should be officially recognized as a designated resource.

Project Impact Evaluation

Thresholds of Significance

The following thresholds of significance are based on the 2012 CEQA Guidelines Appendix G. For purposes of this EIR, implementation of the San Bernardino County Regional GHG Reduction Plan might have a significant adverse impact on aesthetics if it would do any of the following:

- Have a substantial adverse effect on a scenic vista
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway

- Substantially degrade the existing visual character or quality of the site and its surroundings
- Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area

Analytic Method

Impacts regarding visual character typically include changes to the style or ambiance of a community, the insertion of a prominent feature that changes the original visual character of an area, or the elimination of a significant natural feature (or open space). Regional Reduction Plan reduction measures were reviewed to determine if they would include elements that, if implemented, would result changes in the viewshed that could be subjectively perceived as adverse or negative, or if implementation of the measures would be inconsistent with applicable General Plan goals or City standards pertaining to development and visual quality.

Effects Not Found to Be Significant

Threshold	Would the project have a substantial adverse effect on a scenic vista?

Views of the San Bernardino and San Gabriel mountains form a scenic backdrop for the City. As established in the General Plan, protecting the City's scenic vistas is necessary to preserve the identity and visual character of the planning area.

Measures that would be implemented under On-Road-1, which encourages transit-oriented development and features to promote transit use (e.g., park-and-ride lots), would be situated adjacent to established roadways in existing developed areas, which would not alter a scenic vista. Pedestrian and bicycle network improvements would generally be within existing urbanized areas as well and would not be of a scale that would detract from scenic vistas if developed in less-urbanized areas. Regional Reduction Plan measures that could involve solar energy systems for new residential and existing commercial development could alter the integrity of a scenic vista if not properly sited and designed. General Plan Policies 3.10e and 3.20f provide protection to scenic vistas and visual features. Implementation of these policies would reduce impacts to ***less than significant***. No mitigation is required.

Threshold	Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No scenic roads and highways have been designated within the City of Redlands. There would be ***no impact***.

Threshold	Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

The visual character of the City as a whole has already been established, particularly in the urbanized locations. In particular, the City has retained a traditional downtown area, village-like character of areas outside downtown, and high-quality architecture and historic resources, which is an important visual asset. The natural vegetation and landforms that occupies much of the surrounding area is also an essential component of the visual landscape in the City.

The Regional Reduction Plan does not propose specific development. Rather, it encourages increased sustainability in existing and future development, furthering the goals of the General Plan. Measures that promote transit-oriented development (TOD) along existing and planned transit corridors (e.g., On-Road-1.4) could involve new development. The City would require TOD project design to be consistent with applicable General Plan policies, such as Policies 3.10b, 3.10h, 3.20a, 3.20d, 3.20e, and 3.20h and the Development Code, to minimize visual quality impacts. On-road elements of the Regional Reduction Plan selected by the City of Yucaipa that could result in new or expanded park-and-ride lots and pedestrian/bicycle enhancements would result in a change in the visual quality of a site, but the features would not be of a height, mass, or scale that would contribute to visual quality degradation. Measures that could be implemented under reduction measure PS-1 would, like other aspects of future development, be subject to design review and permitting.

The Regional Reduction Plan includes measures that encourage energy-saving retrofits on existing buildings and incorporation of energy-generating components in new construction, such as solar arrays that could be on buildings, adjacent to them (on site), or, possibly, off site for new commercial uses These features could be visible to visitors, employees, and residents. These projects would be reviewed by the City to ensure compliance with the Zoning Code and Policy 7.23c to ensure that the visual quality of each affected site and surrounding environment is not substantially compromised by the installation of energy-saving measures.

Therefore, implementation of the Regional Reduction Plan in Redlands would not substantially degrade the existing visual character or quality of the site and its surroundings, and the impact would be ***less than significant.*** No mitigation is required.

Threshold	Would the project create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

The City does not have large industrial developments, extensive street lighting, and large glass/mirrored building façades. Night lighting levels are relatively low, allowing excellent views of the valley.

Implementation of Regional Reduction Plan measures that promote TOD would be within urbanized areas or areas planned for development. New TOD projects, along with new transit facilities such as bus shelters and park-and-ride lots, could be a source glare or light. However, the City would require TOD project design to be consistent with applicable General Plan policies and design standards to minimize light and glare impacts. Measures that could be implemented under reduction measure PS-1 would, like other aspects of future development, be subject to design review and permitting to address potential light and glare.

Implementation of the Regional Reduction Plan could result in energy-efficient or energy-generating rooftop structures such as photovoltaic arrays on or near existing and new buildings. Rooftop solar panels, to be effective, must be oriented to maximize solar radiation absorption. Solar panels are designed to maximize sunlight absorption and are generally constructed of dark, light-absorbing materials and are composed of a minimum of reflective surfaces. Therefore, it is not anticipated that solar arrays would result in an increased amount of glare even if they were oriented in such a way as to face sensitive receptors or motorists.

Therefore, implementation of the Regional Reduction Plan measures would not create new sources of light or glare that would adversely affect daytime or nighttime views. The impact would be ***less than significant***. No mitigation is required.

Cumulative Impacts

The City of Redlands concluded the primary visual impact of General Plan implementation would likely reduce the perception of Redlands as a free-standing city dominated by agriculture and natural open space by permanently altering the visual character from agriculture to open space to urban development. However, such impacts would be mitigated to a less-than-significant level through General Plan policies for City design and historic and scenic preservation. Implementation of the policies would retain the traditional town character. Other policies limit development on hillsides. The effects of light and glare would also be addressed by policies requiring attention to lighting design.

The Regional Reduction Plan does not propose specific development. Implementation of projects that could be developed under On-Road-1 and energy-saving retrofits and new solar installations would not result in significant aesthetics impacts, as explained above, because all projects would be required to be consistent with adopted policies and standards to reduce impacts. Therefore, the proposed project would not result in a cumulatively considerable contribution to aesthetics effects. ***Cumulative aesthetics impacts would be less than significant***.

References

Redlands, City of. 1995a. *Redlands General Plan*, October.

———. 1995b. *City of Redlands Master Environmental Assessment and Final Environmental Impact Report for the 1995 General Plan*, October 17 (last updated August 3, 2010).

———. n.d. *City of Redlands Municipal Code*.

San Bernardino, County of. 2007. *County of San Bernardino 2007 General Plan*, March 13.

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4.15.2 Agriculture/Forestry Resources

This section of the EIR analyzes the potential environmental effects on agriculture/forestry resources in the City of Redlands from implementation of the Regional Reduction Plan. Data for this section were taken from Redlands General Plan (1995a) and associated environmental documents (1995b). Full reference-list entries for all cited materials are provided at the end of this section.

No comment letters addressing agriculture/forestry resources were received in response to the notice of preparation (NOP) circulated for the Regional Reduction Plan.

Environmental Setting

The State of California designates land into eight categories of land use designation based on soil quality and existing agriculture uses to produce maps and statistical data. These maps and data are used to help preserve productive farmland and to analyze impacts on farmland. Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance are all Important Farmland and are collectively referred to as Important Farmland in this EIR. The highest rated Important Farmland is Prime Farmland. These maps are created and maintained by the California Department of Conservation (CDC) Farmland Mapping and Monitoring Program (FMMP). Additional information on the FMMP is provided in this section under "Regulatory Framework," "State." The following summarizes the various lands mapped by the State.

- **Prime Farmland**—This has the best combination of physical and chemical features and is able to sustain long-term agricultural production. The land has the soil quality, growing season, and moisture supply needed to produce sustained high yields and it must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.
- **Farmland of Statewide Importance**—This is similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. The land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.
- **Unique Farmland**—This has lesser-quality soils and is used for the production of the state's leading agricultural crops. The land is usually irrigated, but may include non-irrigated orchards or vineyards, as found in some climatic zones in California. The land must also have been cropped at some time during the four years prior to the mapping date.
- **Farmland of Local Importance**—This is of importance to the local agricultural economy, as determined by each county's board of supervisors and a local advisory committee.
- **Grazing Land**—This has existing vegetation that is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities. The minimum mapping unit for Grazing Land is 40 acres.
- **Urban and Built-Up Land**—This land is occupied by structures with a building density of at least one unit to 1.5 acres, or approximately six structures to a 10-acre parcel. This land is used for residential, industrial, commercial, construction, institutional, public administration, railroad,

and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.

- **Other Land**—This land is not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry, or aquaculture facilities; strip mines or borrow pits; and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.
- **Water**—These are areas with perennial water bodies with an extent of at least 40 acres.

The Planning Area contained over 6,700 acres of land classified by the State Important Farmlands Inventory as Prime, of Statewide Importance, or Unique. Despite a two-thirds decline in acreage during the last 30 years, 4,888 acres (16 percent of the Planning Area) are still in citrus. Other agriculture (row crops, livestock, and Christmas tree farms) accounts for 918 acres in the Planning Area. However, buildout of the General Plan may result in the conversion of about 4,700 acres of agriculture to urban land uses. Policies in the General Plan are intended to preserve the City's remaining 622 acres of Prime Agricultural Land, Unique Agricultural Land, and Agricultural Land of Statewide Importance at buildout. Below is a description of the planning area's concentrations of citrus.

Crafton. Generally the area southeast of Fifth Avenue, Wabash Avenue, and Colton Avenue in both the City and the County is the warmest and most productive of the five citrus areas. County zoning requires 5- and 10-acre minimum sites, and there is a market for home sites at this density. Sites as small as 2.5 acres are permitted in a portion of the City Preserve. The Williamson Act contracts were initiated at dates scattered between 1970 and 1995. Citrus occupies 975 acres. There is significant support in Crafton for citrus preservation, although this could be eroded by approval of mass grading for large subdivisions in the Crafton Hills or adjoining the east side of Wabash Avenue.

Mentone. This Planning Sector has about 1,216 acres of citrus, some of which is newly planted. Only four Agricultural Preserve parcels are under contract.

North Redlands. Both soils and trees are the poorest in this Planning Sector, but Redlands Municipal Airport constrains residential development opportunities. Citrus occupies 765 acres in this Planning Sector. Nearly all of these groves are in an Agricultural Preserve.

Northwest Redlands. The Agricultural Preserve, which includes 1,020 acres in the County and 370 acres in the City, was disestablished with adoption of the East Valley Corridor Specific Plan. Even without the industrial development proposed by the Specific Plan, the case for citrus preservation would be weaker than in Crafton. Although the area has good groves and large ownerships, it is subject to cold weather and has no identity as a rural living environment except two homes occupied by grove owners.

West Redlands. There are about fifteen scattered parcels within the East Valley Corridor Specific Plan area which total 141 acres of citrus.

San Timoteo Canyon. An Agricultural Preserve extends from just south of Barton Road through San Timoteo and Live Oak canyons to I-10. San Timoteo Canyon includes 345.63 acres of citrus. Citrus yields are good, although the area is vulnerable to cold weather.

Williamson Act Contracts

As of May 1995, the City had 177 acres under contract. No 1995 data regarding the number or acreage of contracts that are being allowed to expire has been collected, but notices of nonrenewal are numerous within the City.

Regulatory Framework

Federal

There are no federal regulations pertaining to agricultural resources.

State

Williamson Act

The California Land Conservation Act of 1965, or the Williamson Act, allows city or county governments to preserve agricultural land or open space through contracts with landowners. Contracts last 10 years and are automatically renewed unless a notice of nonrenewal is issued. The preservation of agricultural land through Williamson Act contracts is meant to discourage premature and unnecessary conversion to urban uses. Landowners benefit from the contract by receiving property tax assessments that are much lower than the normal rates, based on farming and open space land values rather than urban full market values.

The California Department of Conservation Farmland Mapping and Monitoring Program (FMMP) was established in 1982 to track changes in agricultural land use and to help preserve areas of Important Farmland. It divides the state's land into eight categories of land use designation based on soil quality and existing agriculture uses to produce maps and statistical data. The maps and data are used to help preserve productive farmland and to analyze impacts on farmland.

Regional

County of San Bernardino Development Code

The County of San Bernardino Development Code includes Agricultural Land Use Zoning Districts that provide sites for commercial agricultural operations, agricultural support services, rural residential uses and similar and compatible uses. Open space and recreation uses may occur on nonfarmed lands within these AG (Agriculture) land use zoning district. In addition, the Development Code also includes Additional Agriculture (AA) Overlays, which are intended to create, preserve, and improve areas for small-scale and medium-scale agricultural uses utilizing productive agricultural lands for raising, some processing, and the sale of plant crops, animals, or their primary products. It is an overlay where agricultural uses exist compatibly with a variety of rural residential lifestyles. Agricultural Preserve (AP) Overlays were also established for properties that may be subject to a Land Conservation Contract executed between the landowner and the Board.

Local

There are no local regulations pertaining to agricultural/forestry resources.

Project Impact Evaluation

Thresholds of Significance

The following thresholds of significance are based on the 2012 CEQA Guidelines Appendix G. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. For purposes of this EIR, implementation of the San Bernardino County Regional GHG Reduction Plan might have a significant adverse impact on agriculture/forestry resources if it would do any of the following:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use
- Conflict with existing zoning for agricultural use or with a Williamson Act contract
- Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))
- Result in the loss of forest land or conversion of forest land to nonforest use
- Involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to nonagricultural use or conversion of forest land to nonforest use

Analytic Method

The following analysis reviews potential impacts to agricultural/forestry resources within the City of Redlands.

Effects Not Found to Be Significant

Threshold	Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use?

Implementation of the Regional Reduction Plan includes densification and development of transit oriented development near transit stations in developing the Regional Sustainable Communities Strategy (SCS) and commercial/residential mixed-use development within the urbanized portions of Redlands, but these areas near transit or urbanized mixed-use development do not include changing any existing

agricultural lands. In addition, the Regional Reduction Plan includes energy efficiency retrofits of existing buildings, but does not convert any agricultural use to a nonagricultural use. In addition, the Regional Reduction Plan includes renewable energy generation facilities. The renewable energy generation facilities on existing agricultural land would be complementary to the agricultural use and not be the primary use on agricultural land, such as a solar or wind farm. As an example, a large dairy might include photovoltaic (PV) solar panels on the rooftops and a methane capture system that collects methane as a renewable fuel. However PV solar and the methane capture system described in this example would not change or covert agricultural land to non-agricultural use or in any way degrade the dairy farm as an agricultural use. Therefore, implementation of the proposed Regional Reduction Plan would not convert any of the existing agricultural use to nonagricultural use, and does not include designated Prime Farmland, Unique Farmland, and Farmland of Statewide Importance. There would be ***no impact***.

Threshold	Would the project conflict with existing zoning for agricultural use or with a Williamson Act contract?

Implementation of the Regional Reduction Plan includes densification and development near transit stations and within urbanized portions of Redlands, but does not include conversion of agricultural land that would conflict with existing Williamson Act Contracts. Therefore, there would be ***no impact***.

Threshold	Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

Implementation of the Regional Reduction Plan includes densification and development near transit stations and within urbanized portions of Redlands, but does not include conversion of forest land/timberland that would conflict with existing zoning. There would be ***no impact***.

Threshold	Would the project result in the loss of forest land or conversion of forest land to nonforest use?

The City of Redlands is urbanized and does not contain forest land. There would be ***no impact***.

Threshold	Would the project involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to nonagricultural use or conversion of forest land to nonforest use?

For the reasons described above, no other changes are anticipated that would result in conversion of Farmland to nonagricultural use or conversion of forest land to nonforest use. There would be ***no impact***.

Cumulative Impacts

Implementation of the Regional Reduction Plan in Redlands would not result in any impacts on agricultural or forest lands at the project level. Therefore, impacts would not be cumulatively considerable, and there would be ***no cumulative impact***.

References

Redlands, City of. 1995a. *Redlands General Plan*, October.

———. 1995b. *City of Redlands Master Environmental Assessment and Final Environmental Impact Report for the 1995 General Plan*, October 17 (last updated August 3, 2010).

———. n.d. *City of Redlands Municipal Code*.

San Bernardino Associated Governments (SANBAG). 2012. *San Bernardino County Regional Greenhouse Gas Reduction Plan*. Draft. Prepared by ICF International, December.

4.15.3 Air Quality

This section of the EIR analyzes the potential environmental effects on air quality in the City of Redlands from implementation of the Regional Reduction Plan. Data for this section were taken from Redlands General Plan (1995a), associated environmental documents (1995b), and various sources, including the South Coast Air Quality Management District's (SCAQMD) Air Quality Management Plan (2012 AQMP), SCAQMD's CEQA Air Quality Handbook and online updates (accessed 2012), SCAQMD air monitoring data. Full reference-list entries for all cited materials are provided at the end of this section.

No comment letters addressing air quality were received in response to the notice of preparation (NOP) circulated for the Regional Reduction Plan.

Environmental Setting

The portion of the proposed project under jurisdiction of the City of Redlands is located within the South Coast Air Basin (Basin). The regional climate within the Basin is considered semi-arid and is characterized by warm summers, mild winters, infrequent seasonal rainfall, moderate daytime onshore breezes, and moderate humidity. Climate change within the Basin is influenced by a wide range of emission sources, such as utility usage, heavy vehicular traffic, industry, and meteorology.

The annual average temperature varies little throughout the Basin, ranging from the low to middle 60s, measured in degrees Fahrenheit (°F). With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas. Extreme temperatures range from the low 30s to the low 100s, with an annual mean reading of 64°F. All areas in the Basin have recorded temperatures above 100°F in recent years. January is typically the coldest month in this area of the Basin, with minimum temperatures in the 30s.

In contrast to a very steady pattern of temperature, rainfall is seasonally and annually highly variable. Almost all rain falls from November through April. Summer rainfall is normally restricted to widely scattered thundershowers near the coast with slightly heavier shower activity in the east and over the mountains. Rainfall averages 13 to 20 inches per year in the project area.

Wind patterns across the south coastal region are characterized by westerly and southwesterly onshore winds during the day and easterly or northeasterly breezes at night. Wind speed is somewhat greater during the dry summer months than during the rainy winter season.

Between periods of wind, periods of air stagnation may occur, both in the morning and evening hours. Air stagnation is one of the critical determinants of air quality conditions on any given day. During the winter and fall months, surface high-pressure systems over the Basin, combined with other meteorological conditions, can result in very strong, downslope Santa Ana winds. These winds normally continue a few days before predominant meteorological conditions are reestablished. The mountain ranges surrounding the Basin affect the transport and diffusion of pollutants by inhibiting the eastward transport of pollutants. Air quality in the Basin generally ranges from fair to poor and is similar to air quality in most of coastal Southern California. The entire region experiences heavy concentrations of air pollutants during prolonged periods of stable atmospheric conditions.

In conjunction with the two characteristic wind patterns that affect the rate and orientation of horizontal pollutant transport, there are two similarly distinct types of temperature inversions that 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 are critical determinants in leading to the highly degraded air quality in summer and the generally good air quality in the winter in the project area.

Air Pollutants of Concern

Criteria Air Pollutants

The pollutants emitted into the ambient air by stationary and mobile sources are regulated by federal and state law. These 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. Carbon monoxide (CO), volatile organic compounds (VOC), nitrogen oxides (NO_X), sulfur dioxide (SO_2), coarse inhalable particulate matter (PM_{10}), fine inhalable particulate matter ($PM_{2.5}$), and lead (Pb) are primary air pollutants. VOC 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 pollutants.

Presented below is a description of each of the primary and secondary criteria air pollutants and their known health effects. Other pollutants, such as carbon dioxide, a natural by-product of animal respiration that is also produced in the combustion process, have been linked to such phenomena as global warming (see Section 4.15.7 [Greenhouse Gas Emissions]).

Carbon monoxide (CO) is a colorless, odorless, toxic gas produced by incomplete combustion of carbon substances, such as gasoline or diesel fuel. The primary adverse health effect associated with CO is interference with normal oxygen transfer to the blood, which may result in tissue oxygen deprivation (SCAQMD 2005).

Volatile organic compounds (VOC) are compounds comprised primarily of atoms of hydrogen and carbon. Internal combustion associated with motor vehicle usage is the major source of hydrocarbons. VOCs are synonymous with reactive organic gases. Other sources of VOC include evaporative emissions associated with the use of paints and solvents, the application of asphalt paving, and the use of household consumer products such as aerosols. Adverse effects on human health are not caused directly by VOC, but rather by reactions of VOC to form secondary pollutants such as ozone (SCAQMD 2005).

Nitrogen oxides (NO_X) serve as integral participants in the process of photochemical smog production. The two major forms of NO_X are nitric oxide (NO) and nitrogen dioxide (NO_2). NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure. NO_2 is a reddish-brown irritating gas formed by the combination of NO and oxygen. NO_X acts as an acute respiratory irritant and increases susceptibility to respiratory pathogens (SCAQMD 2005).

NO_2 is a by-product of fuel combustion. The principal form of NO_2 produced by combustion is NO, but NO reacts with oxygen to form NO_2, creating the mixture of NO and NO_2 commonly called NO_X.

NO_2 acts as an acute irritant and, in equal concentrations, is more injurious than NO. At atmospheric concentrations, however, NO_2 is only potentially irritating. There is some indication of a relationship between NO_2 and chronic pulmonary fibrosis. Some increase in bronchitis in children (two and three years old) has also been observed at concentrations below 0.3 part per million (ppm). NO_2 absorbs blue light; the result is a brownish-red cast to the atmosphere and reduced visibility. NO_2 also contributes to the formation of PM_{10}, $PM_{2.5}$, and ozone (SCAQMD 2005).

Sulfur dioxide (SO_2) is a colorless, pungent, irritating gas formed by the combustion of sulfurous fossil fuels. Fuel combustion is the primary source of SO_2. At sufficiently high concentrations, SO_2 may irritate the upper respiratory tract. At lower concentrations and when combined with particulates, SO_2 may do greater harm by injuring lung tissue. A primary source of SO_2 emissions is high-sulfur-content coal. Gasoline and natural gas have very low sulfur content and hence do not release significant quantities of SO_2 (SCAQMD 2005).

Particulate matter (PM) consists of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. Two forms of fine particulates are now recognized. Inhalable course particles, or PM_{10}, include the particulate matter with an aerodynamic diameter of 10 microns (i.e., 10 one-millionths of a meter or 0.0004 inch) or less. Inhalable fine particles, or $PM_{2.5}$, have an aerodynamic diameter of 2.5 microns (i.e., 2.5 one-millionths of a meter or 0.0001 inch) or less. Particulate discharge into the atmosphere results primarily from industrial, agricultural, construction, and transportation activities. However, wind action on arid landscapes also contributes substantially to local particulate loading. Both PM_{10} and $PM_{2.5}$ may adversely affect the human respiratory system, especially in those people who are naturally sensitive or susceptible to breathing problems (SCAQMD 2005). Diesel particulates are classified by the California Air Resources Board (ARB) as a carcinogen.

Fugitive dust primarily poses two public health and safety concerns. The first concern is that of respiratory problems attributable to the particulates suspended in the air. The second concern is that of motor vehicle accidents caused by reduced visibility during severe wind conditions. Fugitive dust may also cause significant property damage during strong windstorms by acting as an abrasive (much like sandblasting). Finally, fugitive dust can result in a nuisance factor due to the soiling of proximate structures and vehicles (SCAQMD 2005).

Ozone (O_3), or smog, is one of a number of substances called photochemical oxidants that are formed when VOC and NO_X (both by-products of the internal combustion engine) react with sunlight. O_3 is present in relatively high concentrations in the South Coast Air Basin (Basin), and the damaging effects of photochemical smog are generally related to the concentrations of O_3. O_3 poses a health threat to those who already suffer from respiratory diseases as well as to healthy people. Additionally, O_3 has been tied to crop damage, typically in the form of stunted growth and premature death. O_3 can also be a corrosive, resulting in property damage such as the degradation of rubber products (SCAQMD 2005).

Toxic Air Contaminants

The public's exposure to toxic air contaminants (TACs) is a significant environmental health issue in California. In 1983, the California Legislature enacted a program to identify the health effects of TACs and to reduce exposure to these contaminants to protect the public health. The Health and Safety Code defines a TAC as "an air pollutant which may cause or contribute to an increase in mortality or in serious

illness, or which may pose a present or potential hazard to human health." A substance that is listed as a hazardous air pollutant pursuant to subsection (b) of Section 112 of the federal Clean Air Act (42 United Sates code Section 7412[b]) is a toxic air contaminant. Under state law, the California Environmental Protection Agency (CalEPA), acting through the California ARB, is authorized to identify a substance as a TAC if it determines the substance is an air pollutant that may cause or contribute to an increase in mortality or to an increase in serious illness, or may pose a present or potential hazard to human health.

California regulates TACs primarily through Assembly Bill (AB) 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics "Hot Spot" Information and Assessment Act of 1987). The Tanner Air Toxics Act sets forth a formal procedure for California ARB to designate substances as TACs. Once a TAC is identified, California ARB adopts an "airborne toxics control measure" for sources that emit designated TACs. If there is a safe threshold for a substance (a point below which there is no toxic effect), the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate toxics best available control technology to minimize emissions. California ARB has, to date, established formal control measures for eleven TACs, all of which are identified as having no safe threshold.

Air toxics from stationary sources are also regulated in California under the Air Toxics "Hot Spot" Information and Assessment Act of 1987. Under AB 2588, toxic air contaminant emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High priority facilities are required to perform a health risk assessment and, if specific thresholds are exceeded, are required to communicate the results to the public in the form of notices and public meetings.

Since the last update to the TAC list in December 1999, California ARB has designated 244 compounds as TACs (California ARB 1999). Additionally, the California ARB 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 relatively few compounds, the most important being particulate matter from diesel-fueled engines.

In 1998, the California ARB identified particulate emissions from diesel-fueled engines (diesel PM) as a TAC. Previously, the individual chemical compounds in the diesel exhaust were considered as 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 2000, SCAQMD conducted a 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 1,400 in a million. The largest contributor to this risk was diesel exhaust, accounting for 71 percent of the air toxics risk. In 2008, the SCAQMD conducted its third update to their 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 approximately 84 percent of the air toxics risk (SCAQMD 2008).

Existing Ambient Air Quality

Existing levels of ambient air quality and historical trends and projections in the vicinity of the project site and the City of Redlands are best documented by measurements made by the SCAQMD. The City is in the center portion of Source Receptor Area (SRA) 35 (San Bernardino Valley [East San Bernardino Valley]). The SCAQMD air quality monitoring station that is closest to the City is the Redlands and San Bernardino Monitoring Station. Data from these two stations are summarized in Table 4.15.3-1 (Ambient Air Quality Monitoring in the City of Redlands). The data show recurring violations of both the state and federal O_3 standards. The data also indicate that the area regularly exceeds the state PM_{10} and federal $PM_{2.5}$ standards. The CO, SO_2, and NO_2 standards have not been violated in the last 5 years at the stations.

Table 4.15.3-1 Ambient Air Quality Monitoring in the City of Redlands

Pollutant/Standard	*Number of Days Air Quality Standards Were Exceeded per Year and Maximum Level of Concentrations in Each Year*[a]				
	2007	*2008*	*2009*	*2010*	*2011*
Ozone (0_3)					
State 1-Hour ≥ 0.09 ppm	48	62	53	27	40
State 8-Hour ≥ 0.07 ppm	74	90	79	63	66
Federal 8-Hour ≥ 0.075 ppm[b]	51	62	62	40	39
Maximum 1-Hour Average Concentration (ppm)	0.153	0.162	0.150	0.143	0.144
Maximum 8-Hour Average Concentration (ppm)	0.122	0.124	0.128	0.105	0.124
Carbon Monoxide (CO)					
State/Federal 8-Hour > 9.0 ppm	0	0	0	0	0
Maximum 8-Hour Average Concentration (ppm)	1.8	1.9	1.9	1.7	1.7
Nitrogen Dioxide (NO_2)					
State 1-Hour ≥ 0.18 ppm[c]	0	0	0	0	0
Maximum 1-Hour Average Concentration (ppm)	0.09	0.10	0.08	0.07	0.08
Sulfur Dioxide					
State 24-Hour ≥ 0.04 ppm	0	0	0	0	0
Federal-24 Hour ≥ 0.14 ppm	0	0	0	0	0
Maximum 24-Hour Average Concentration (ppm)	0.004	0.003	0.002	0.002	0.007
Suspended Particulates (PM_{10})					
State 24-Hour > 50 µg/m^3	33	19	13	9	3
Federal-24 Hour > 150 µg/m^3	0	0	0	0	0
Maximum 24-Hour Average Concentration (µg/m^3)	136	76	75	63	56
Fine Particulates ($PM_{2.5}$)					
Federal-24 Hour ≥ 35 µg/m^3[d]	11	6	3	2	2
Maximum 24-Hour Average Concentration (µg/m^3)	77.5	49.0	46.4	42.6	32.5

SOURCE: SCAQMD, Ambient Air Quality Monitoring Data (obtained January 2012).

ppm = parts per million; µg/m^3 = micrograms per meter cubed

a. Data obtained from the Central San Bernardino Valley 1 or Central San Bernardino Valley 2 Monitoring Stations.

b. USEPA recently updated the 8-hour ozone standard from 0.8 ppm to 0.075 ppm.

c. California ARB updated the state nitrogen dioxide standard in 2007 from 0.25 ppm to 0.18 ppm.

d. USEPA recently updated the 24-hour $PM_{2.5}$ standard from 65 µg/m^3 to 35 µg/m^3.

Regulatory Framework

Federal

U.S. Environmental Protection Agency and the Federal Clean Air Act

The federal Clean Air Act of 1970 (CAA) and the CAA Amendments of 1971 required the U.S. Environmental Protection Agency (USEPA) to establish National Ambient Air Quality Standards (NAAQS), with States retaining the option to adopt more stringent standards or to include other specific pollutants. These NAAQS standards are the levels of air quality considered safe, along with an adequate margin of safety to protect the public health and welfare. They are designed to protect those sensitive receptors most susceptible to further respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

The CAA (and its subsequent amendments) requires each state to prepare an air quality control plan referred to as a State Implementation Plan (SIP). The CAA Amendments dictate that states containing areas violating the NAAQS must revise their SIPs to include extra control measures to reduce air pollution. California's SIP includes strategies and control measures to attain the NAAQS by deadlines established by the CAA. The SIP is periodically modified to reflect the latest emissions inventories, plans and rules and regulations of the various agencies with jurisdiction over the State's air basins. The USEPA has the responsibility to review all SIPs to determine if they conform to the requirements of the CAA.

State

California Air Resources Board

The California ARB, a part of CalEPA, is responsible for the coordination and administration of both federal and State air pollution control programs within California. In this capacity, ARB conducts research, sets State ambient air quality standards (California Ambient Air Quality Standards), compiles emission inventories, develops suggested control measures and provides oversight of local programs. ARB also establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints and barbecue lighter fluid) and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. ARB has primary responsibility for the development of California's SIP and works closely with the federal government and the local air districts.

Table 4.15.3-2 (State and Federal Ambient Air Quality Standards) shows the California Ambient Air Quality Standards and NAAQS for each of the criteria pollutants.

Table 4.15.3-2 State and Federal Ambient Air Quality Standards

Pollutant	*Averaging Time*	*California Standard*	*Federal Primary Standard*	*Major Sources*
Ozone (O_3)[a]	1 hour	0.09 ppm	—	Internal combustion engines, coatings, and solvents
	8 hours	0.070 ppm	0.075 ppm	
Carbon Monoxide (CO)	1 hour	20 ppm	35 ppm	Internal combustion engines
	8 hours	9 ppm	9 ppm	
Nitrogen Dioxide (NO_2)[b]	Annual Average	0.030 ppm	0.053 ppm	Internal combustion engines and industrial processes
	1 hour	0.18 ppm	—	
Sulfur Dioxide	Annual Average	—	0.03 ppm	Internal combustion engines, chemical plants, sulfur recovery, and metal processing
	1 hour	0.25 ppm	—	
	24-hours	0.04 ppm	0.14 ppm	
Suspended Particulates (PM_{10})	Annual Arithmetic Mean	20 µg/m^3	—	Dust from agricultural and construction, combustion, natural activities
	24 hours	50 µg/m^3	150 µg/m^3	
Fine Particulates ($PM_{2.5}$)[c]	Annual Arithmetic Mean	12 µg/m^3	15 µg/m^3	Primarily from Internal combustion engines
	24 hours	—	35 µg/m^3	
Lead (Pb)	Monthly	1.5 µg/m^3	—	Lead smelters and lead battery manufacturing & recycling.
	Quarterly	—	1.5 µg/m^3	
Sulfates (SO_4)	24 hours	25 µg/m^3		Industrial processes

SOURCE: California ARB (2012).
ppm = parts per million; µg/m^3 = micrograms per meter cubed
a. USEPA recently updated the 8-hour ozone standard from 0.8 ppm to 0.075 ppm
b. California ARB updated the state nitrogen dioxide standard in 2007 from 0.25 ppm to 0.18 ppm
c. USEPA recently updated the 24-hour $PM_{2.5}$ standard from 65 µg/m^3 to 35 µg/m^3

Regional

Southern California Association of Governments (SCAG)

The Southern California Association of Governments (SCAG) is a council of governments for Imperial, Los Angeles, Orange, Riverside, San Bernardino and Ventura counties. It is a regional planning agency and serves as a forum for regional issues relating to transportation, the economy, community development and the environment. Although SCAG is not an air quality management agency, it is responsible for developing transportation, land use and energy conservation measures that affect air quality. SCAG's Regional Comprehensive Plan and Guide (RCPG) provide growth forecasts that are used in the development of air quality related land use and transportation control strategies by SCAQMD.

Regional Comprehensive Plan

The Regional Comprehensive Plan (RCP) is a problem-solving guidance document that responds to SCAG's Regional Council directive in the 2002 Strategic Plan to develop a holistic, strategic plan for defining and solving the region's interrelated housing, traffic, water, air quality, and other regional

challenges. The RCP is a voluntary framework that links broad principles to an action plan that moves the region towards balanced goals. The RCP's guiding principles include:

- Improve mobility for all residents. Improve the efficiency of the transportation system by strategically adding new travel choices to enhance system connectivity in concert with land use decisions and environmental objectives.
- Foster livability in all communities.
- Foster safe, healthy, walkable communities with diverse services, strong civic participation, affordable housing, and equal distribution of environmental benefits.
- Enable prosperity for all people. Promote economic vitality and new economies by providing housing, education, and job training opportunities for all people.
- Promote sustainability for future generations.
- Promote a region where quality of life and economic prosperity for future generations are supported by the sustainable use of natural resources.

Further, the RCP seeks to successfully integrate land and transportation planning and achieve land use and housing sustainability by implementing Compass Blueprint and 2 percent Strategy:

- Focusing growth in existing and emerging centers and along major transportation corridors
- Creating significant areas of mixed-use development and walkable, "people-scaled" communities
- Providing new housing opportunities, with building types and locations that respond to the region's changing demographics
- Targeting growth in housing, employment and commercial development within walking distance of existing and planned transit stations
- Injecting new life into under-used areas by creating vibrant new business districts, redeveloping old buildings and building new businesses and housing on vacant lots
- Preserving existing, stable, single-family neighborhoods
- Protecting important open space, environmentally sensitive areas and agricultural lands from development
- Reduce emissions of criteria pollutants to attain federal air quality standards by prescribed dates and state ambient air quality standards as soon as practicable
- Reverse current trends in greenhouse gas emissions to support sustainability goals for energy, water supply, agriculture, and other resource areas
- Minimize land uses that increase the risk of adverse air pollution-related health impacts from exposure to toxic air contaminants, particulates (PM_{10}, $PM_{2.5}$, ultrafine), and carbon monoxide

SCAG Compass Growth Visioning

The Compass Blueprint Growth Vision effort by SCAG is a response, supported by a regional consensus, to the land use and transportation challenges facing Southern California now and in the coming years. The Growth Vision is driven by four key principles:

- **Mobility**—Getting where we want to go
- **Livability**—Creating positive communities
- **Prosperity**—Long-term health for the region
- **Sustainability**—Preserving natural surroundings

The fundamental goal of the Compass Growth Visioning effort is to make the SCAG region a better place to live, work, and play for all residents regardless of race, ethnicity, or income class. Thus, decisions regarding growth, transportation, land use and economic development should be made to promote and sustain for future generations the region's mobility, livability and prosperity.

South Coast Air Quality Management District

SCAQMD is the agency principally responsible for comprehensive air pollution control in the South Coast Air Basin, which includes the counties of Los Angeles, Riverside, San Bernardino, and Orange. In order to provide GHG emission guidance to the local jurisdictions within the Basin, the SCAQMD has organized a Working Group to develop GHG emissions analysis guidance and thresholds.

SCAQMD released a draft guidance document regarding interim CEQA GHG significance thresholds in October 2008. On December 5, 2008, the SCAQMD Governing Board adopted the staff proposal for an interim GHG significance threshold for projects where the SCAQMD is the lead agency. SCAQMD proposed a tiered approach, whereby the level of detail and refinement needed to determine significance increases with a project's total GHG emissions. The tiered approach defines projects that are exempt under CEQA and projects that are within the jurisdiction of and subject to the policies of a GHG Reduction Plan as less than significant.

Air Quality Management Plan

The SCAQMD and the SCAG are the agencies responsible for preparing the Air Quality Management Plan (AQMP) for the Basin. Once adopted, the AQMP becomes a portion of California's SIP describing the plan to bring the Basin into attainment with the NAAQS and California Ambient Air Quality Standards. The most recent plan is the 2012 AQMP adopted on December 7, 2012. The 2012 AQMP is designed to meet the state and federal Clean Air Act planning requirements and focuses on new federal ozone and $PM_{2.5}$standards. The 2012 AQMP incorporates significant new emissions inventories, ambient measurements, scientific data, control strategies, and air quality modeling including transportation conformity budgets that show vehicle miles travelled (VMT) emissions offsets following the recent changes in USEPA requirements.

Table 4.15.3-3 (Attainment Status of Basin) shows the attainment status for criteria air pollutants in the Basin.

Table 4.15.3-3 Attainment Status of Basin

Pollutant	*State*	*Federal*
Ozone: 1-hour	Extreme Nonattainment	Extreme Nonattainment
Ozone: 8-hour	Extreme Nonattainment	Severe-1 Nonattainment
Carbon Dioxide (CO)	Attainment	Attainment
Nitrogen Dioxide (NO_2)	Attainment	Attainment/Maintenance
Sulfur Dioxide (SO_2)	Attainment	Attainment
Suspended Particulates (PM_{10})	Serious Nonattainment	Serious Nonattainment
Fine Particulates ($PM_{2.5}$)	Nonattainment	Nonattainment
Lead	Attainment	Attainment
Sulfates (SO_4)	Unclassified	Unclassified

SOURCE: California ARB (2012).

Local

Redlands General Plan

The Redlands General Plan policies that are applicable to air quality and air pollutant emissions[2] are as follows:

Policy 3.23h Encourage energy conservation alterations that are compatible with preservation.

Policy 4.62f Adopt energy-efficient transportation strategies to implement state and county goals for reduced energy consumption and improved air quality.

Policy 5.40a Ensure that employers implement Transportation Demand Management (TDM) programs to reduce peak period trip generation.

Policy 5.40b Cooperate with public agencies and other jurisdictions to promote local and regional public transit serving Redlands.

Policy 5.40c Support the Congestion Management Program (CMP)for San Bernardino County.

Policy 5.40d In accordance with the CMP, develop and implement a comprehensive trip reduction and TDM ordinance for all employers in Redlands. The goal should be to reduce peak period trip generation by 15 percent from the vehicle trip generation currently observed at similar sites without a TDM program.

The TDM ordinance should incorporate a regular monitoring program to assess compliance and success. Future employment will be concentrated in the East Valley Corridor Specific Plan area, where congestion will make TDM most necessary and most effective.

[2] These policies are not a complete listing of all policies contained in the General Plan; those policies that would be most applicable to the proposed project are included here.

Policy 5.40e Favor TDM measures that limit vehicle use over those that extend the commute hour.

Programs such as ridesharing and public transit reduce overall vehicle travel while flex time and staggered work hours simply shift traffic to less congested times of day.

Policy 5.40f Support local feeder bus service to and from current and future regional transit lines.

Policy 5.40g Preserve options for future transit use when designing improvements to roadways.

Currently, segments of Banon Road/Brookside Avenue, Cypress Street, Cajon Street, Fern Avenue, Orange Street, Lugonia Avenue, San Bernardino Avenue and Brockton Avenue are used by Omnitrans bus lines. Other streets, particularly in the East Valley Corridor, will be likely candidates for bus service as growth occurs.

Policy 5.40h Work with Omnitrans to plan for local bus routes that are better able to penetrate neighborhoods to improve service for potential riders. Designate local bus routes in Specific Plan areas.

Policy 5.40i Future commuter rail services are planned within the Santa Fe rail corridor, with stops at California Street, Orange Street and Mentone Blvd. Improvements to these streets should be planned for feeder transit services, and park-and-ride provisions should be made at these locations. Another logical stop would be at University Street to serve the campus at the University of Redlands. Other potential stops could be at Judson Street and at Crafton Avenue. Residents in these areas might use short, trip commuter rail to downtown Redlands, either to work or shop.

Policy 5.40j Work with Omnitrans to plan for bus shelters and turnouts.

Policy 5.50a Establish a comprehensive network of on- and off-roadway bike routes to encourage the use of bikes for both commute and recreational trips.

Policy 5.50b Seek assistance from major employers in providing support facilities to encourage use of bikes for commuter purposes.

Policy 5.50c Develop bike routes that provide access to schools and parks.

Policy 5.501 Incorporate bike storage and other support facilities into TDM plans at employment sites and public facilities, when feasible based upon distance from bikeways.

Studies have indicated the importance of providing well-located, secure bike storage facilities at employment sites, shopping and recreational areas and schools in order to facilitate bike use. Employers often provide shower and changing facilities where sizable numbers of employees use bikes.

Policy 5.50m Prepare a bikeways implementation program that includes priorities and a schedule.

Policy 5.60a Treat pedestrians as if they are more important than cars.

Except on freeways and a few hillside residential streets, pedestrians should have direct, safe routes to the same destinations.

Policy 5.60b	Make walking interesting. *Avoiding long, uniform frontages and creating pedestrian paths that do not follow streets give people a reason to want to walk.*
Policy 5.60c	Provide direct pedestrian routes. *Owners' desires to live on cui-de-sacs, builders' desires to build less street, and the City's desire to minimize intersections combine to make pedestrian access circuitous in many neighborhoods. Direct paths to arterial street bus stops can increase transit patronage.*
Policy 5.60d	Provide a safe and healthful pedestrian environment. *This means providing separate pedestrianways in parking lots, avoiding excessive driveway widths, and providing planting strips between sidewalks and streets where feasible.*
Policy 5.60e	Develop a program to remove all barriers to disabled persons on arterial and collector streets.
Policy 7.8a	Promote policies and actions that reduce residential energy use.
Policy 7.22f	If the City's updated Water Master Plan shows water supply to be inadequate, increase supply and reduce demand or curtail development until adequate supplies are secured.
Policy 7.23a	Conserve scarce or nonrenewable energy resources.
Policy 7.23b	Support San Bernardino County in implementation of its energy-related policies.
Policy 7.23e	Minimize energy consumption attributable to transportation within the Planning Area.
Policy 7.23f	Revise applicable City Codes to incorporate criteria for energy efficient design
Policy 7.23g	The City shall implement and enforce Title 24 building standards to improve energy efficiency in new or substantially remodeled construction.
Policy 7.23h	Encourage the investigation and utilization of alternative energy sources to be integrated in individual project designs.
Policy 7.24b	Implement measures specified in the Source Reduction and Recycling Element and the Household Hazardous Waste Element.
Policy 7.24c	Meet the mandatory waste diversion goals set by the State of 25% by 1995 and 50% by 2,000; reduce landfill disposal of household hazardous waste as much as feasibly possible.
Policy 7.24d	Examine alternatives for reuse of the California Street Landfill site after its closure.
Policy 8.12a	Aim for a diverse and efficiently operated ground transportation system which generates the minimum feasible pollutants.
Policy 8.12b	Reduce vehicle miles traveled and peak period auto travel by increasing average vehicle ridership during peak commute hours.
Policy 8.12c	Cooperate in efforts to expand bus, rail and other forms of mass transit in the portion of the South Coast Air Basin within San Bernardino County.

Policy 8.12d Promote expansion of all forms of mass transit in the urbanized portions of San Bernardino, Orange, Los Angeles and Riverside counties.

Policy 8.12e Support public transit providers in efforts to increase funding for transit improvements to supplement other means of travel.

Policy 8.12f Jointly support efforts to establish a regionwide bus pass.

Policy 8.12g Promote non-motorized transportation.

Policy 8.12h Promote a regional approach in utilizing parking costs as a means to discourage low vehicle occupancy.

Policy 8.12i Aim for a pattern of land uses which can be efficiently served by a diversified transportation system and land development projects which directly and indirectly generate the minimum feasible air pollutants.

Policy 8.12j Integrate air quality planning with the land use and transportation process.

Policy 8.12k Establish and implement a Transportation Demand Management (TDM) Program.

Policy 8.12l Define and implement auto limitation procedures in selected areas and at selected times, provided that alternative transportation modes are available.

Policy 8.12m Establish incentives and regulations to eliminate work trips.

Policy 8.12n Use incentives, regulations and Transportation Demand Management (TDM) in cooperation with other jurisdictions in the South Coast Air Basin to eliminate vehicle trips which would otherwise be made, and to reduce the vehicle miles traveled for auto trips which still need to be made.

Policy 8.12o Establish and maintain telecommunications strategies to reduce the length of auto trips.

Policy 8.12p Promote and establish modified work schedules which reduce peak period auto travel.

Policy 8.12q Establish incentives and regulations to spread work trips over a longer period to reduce peak period congestion.

Policy 8.12r Participate in efforts to achieve increased designation, construction, and operation of HOV lanes on freeways in Los Angeles, Orange, Riverside and San Bernardino counties.

Policy 8.12s Jointly, through the County, SANBAG, and SCAG, participate with adjacent counties in expanding HOV lanes on the freeway system within those counties.

Policy 8.12t Coordinate overlapping components of the State-mandated Congestion Management Program and the Regional Air Quality Plan.

Policy 8.12u Promote market-based incentives and disincentives to relieve peak hour/peak direction congestion within highly congested travel corridors.

Policy 8.12v Cooperatively initiate a pilot program to explore jointly with Los Angeles, Orange and Riverside counties, methods and workability of Congestion Fees for peak hour/peak direction use to be levied within highly congested travel corridors,

particularly those which generate emissions transported to San Bernardino County.

Policy 8.12w Participate with public transit providers serving San Bernardino County in a cooperative program to increase transit services with existing equipment and expand services through transit facility improvements.

Policy 8.12x Coordinate with public transit providers to increase funding for transit improvements to supplement other means of travel.

Policy 8.12y Plan for intraregional commuter and main line rail service development including convenience facilities at rail stops.

Policy 8.12z Develop design standards that promote access to transit facilities.

Policy 8.12aa Influence the expansion of intraregional commuter and main line rail services, particularly those linking with destinations in San Bernardino County.

Policy 8.12bb Provide bicycle and pedestrian pathways to encourage non-motorized trips.

Policy 8.12cc Develop standards and guidelines for support facilities to incorporate into development plans for increased bicycle and pedestrian routes to link appropriate activity centers to nearby residential development.

Policy 8.12dd Manage parking supply to discourage auto use, while ensuring that economic development goals will not be sacrificed.

Modification of parking provisions and development of management strategies shall be done in conjunction with regional efforts so that there is not a competitive disadvantage suffered by the Redlands Planning Area.

Policy 8.12ee Establish short and long-term parking management strategies at governmental and private facilities in ways that discourage single-occupancy vehicle usage and reward high vehicle occupancy rates without placing the Redlands Planning Area at a competitive disadvantage.

Modification of parking provisions and development of management strategies shall be done in conjunction with regional efforts so that there is not a competitive disadvantage suffered by the Redlands Planning Area.

Policy 8.12ff Establish parking management strategies for governmental and private facilities in ways that discourage single-occupancy vehicle usage and reward high vehicle occupancy rates without placing the Redlands Planning Area at an economic disadvantage in enticing jobs.

Modification of parking provisions and development of management strategies shall be done in conjunction with regional efforts so that there is not a competitive disadvantage suffered by the Redlands Planning Area.

Policy 8.12gg Promote State and federal legislation which would improve vehicle/ transportation technology and which would establish differential pricing mechanisms to assess the true cost of emissions.

Policy 8.12hh Support legislation to stimulate the development of practical electric vehicles.

Policy 8.12ii	Support State legislation which would establish emission fees on gasoline products and differential registration fees on motor vehicles according to the emission levels that they are designed to produce; include exploration of an option that imposes pollution fees on individual vehicles at time of mandated smog inspections, based on actual vehicle performance.
Policy 8.12jj	Support legislation which tightens the existing vehicle inspection program, both in terms of standards to be met and requirements for compliance.
Policy 8.12kk	Invest in and institute clean fuel systems on new local government fleet vehicles.
Policy 8.12ll	Promote the development of Park-and-Ride lots.
Policy 8.14c	Incorporate phasing policies and requirements in general plans and development plans to achieve timely provision of infrastructure (particularly transportation facilities) to serve development.
Policy 8.14j	Locate and design new development in a manner that will minimize direct and indirect emission of air contaminants.
Policy 8.15a	Aim for the minimum practicable particulate emissions from the construction and operation of roads and buildings.

Project Impact Evaluation

Thresholds of Significance

The following thresholds of significance are based on the 2012 CEQA Guidelines Appendix G. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. For purposes of this EIR, implementation of the San Bernardino County Regional GHG Reduction Plan might have a significant adverse impact on air quality if it would do any of the following:

- Conflict with or obstruct implementation of the applicable air quality plan
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation
- 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 that exceed quantitative thresholds for ozone precursors)
- Expose sensitive receptors to substantial pollutant concentrations
- Create objectionable odors affecting a substantial number of people

The SCAQMD has developed CEQA air pollutant thresholds for projects within the Basin. The SCAQMD thresholds of significance for air quality are shown in Table 4.15.3-4 (SCAQMD Thresholds of Significance).

Table 4.15.3-4 SCAQMD Thresholds of Significance

Pollutant	*Construction Phase*	*Operational Phase*
Volatile Organic Compounds (VOC; an ozone precursor)	75 lb/day	55 lb/day
Nitrogen Oxides (both NO_2 and NO_X as an ozone precursor)	100 lb/day	55 lb/day
Sulfur Oxides (SO_X, both SO_2 and SO_4)	150 lb/day	150 lb/day
Carbon Monoxide (CO)	550 lb/day	550 lb/day
Suspended Particulates (PM_{10})	150 lb/day	150 lb/day
Fine Particulates ($PM_{2.5}$)	55 lb/day	55 lb/day

SOURCE: SCAQMD (2012).

In addition, SCAQMD's health related thresholds associated with toxic air contaminants are as follows:

- Emission of (or exposure to) carcinogenic toxic air contaminants that increase maximum cancer risk by 10 in one million
- Emission of (or exposure to) toxic air contaminants that increase the maximum hazard quotient by 1

Analytic Method

The impact analysis for the Regional Reduction Plan is based on the air quality emissions analysis in the Redlands General Plan EIR, and predicted air pollutant reductions that would be expected from implementation of the Regional Reduction Plan.

Effects Not Found to Be Significant

Threshold	Would the project conflict with or obstruct implementation of the applicable air quality plan?

The 2012 AQMP is the applicable air quality management plan for the region and is designed to meet the state and federal Clean Air Act planning requirements with a focus on new federal ozone and $PM_{2.5}$ standards. The 2012 AQMP incorporates significant new control strategies, including transportation conformity budgets that show VMT emissions offsets following the recent changes in USEPA requirements.

The proposed project (Regional Reduction Plan) would implement measures within Redlands designed to increase energy efficiency and reduce VMT. While these reduction strategies were formulated to reduce greenhouse gases, they also act to improve overall air quality by reducing emissions of criteria pollutants.

The City will implement transportation measures to improve air quality. These include VMT reduction strategies such as Regional Reduction Plan reduction Transportation-1 (Sustainable Communities Strategy) and Transportation-2 (Smart Bus Technologies). Implementation of Transporation-1 would reduce regional VMT through land use planning and associated transportation patterns. Transporation-2 would lead to more fuel-efficient bus operations for Omnitrans and could potentially attract more transit riders who may switch modes from automobile use.

Energy efficiency measures to reduce electricity use and renewable energy generation will reduce both GHG emissions and air pollutants at power plants generating electricity in the region. Energy efficiency measures in the Regional Reduction Plan will also reduce natural gas combustion at residential, commercial, and industrial land uses within the City, which will reduce criteria air pollution locally. The implementation of the Regional Reduction Plan will further the goals of the Air Quality Management Plan for the Basin. Therefore, this impact is ***less than significant***. No mitigation is required.

Threshold	Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Construction activities, such as building energy retrofits and grading or excavation activities, if required, for installation of energy-generating structures or bicycle/pedestrian paths and transit infrastructure, would result in temporary, short-term emissions of air pollutants. The primary source of NO_X, CO, and SO_X emissions is the operation of construction equipment. The primary sources of particulate matter (PM_{10} and $PM_{2.5}$) emissions include activities that disturb the soil, such as grading and excavation, road construction, and building demolition and construction. The primary source of VOC emissions is the application of architectural coating and off-gas emissions associated with asphalt paving. Because information regarding specific facilities and building details required to implement the Regional Reduction Plan reduction measures is not available, short-term construction emissions from these activities cannot be quantified. However, these temporary, short-term emissions would not be substantial, and would be offset by the operation of renewable energy project, pedestrian and bicycle paths and transit infrastructure that are part of the reduction measures in the Regional Reduction Plan that would result in an overall reduction in both GHG and criteria air pollutant emissions.

While we may not be able to quantify short-term construction emissions, long-term emissions of criteria pollutants from operation of the energy efficiency measures, renewable energy generation, water conservation measures, solid waste diversion programs, and the various transportation measures are better understood at a regional level. This is because of the level of commitment that the City of Redlands has chosen in implementing the reduction measures in the Regional Reduction Plan, See Table 4.15.3-5 (Emission Reduction by Sector for Redlands).

The proposed project (Regional Reduction Plan) will reduce anticipated criteria air pollutant emissions resulting from buildout of the Redlands General Plan, but the net emissions from buildout of the Redlands General Plan are still over the SCAQMD Thresholds. This significant impact was addressed in the Redlands General Plan EIR. Impacts from the Regional Reduction Plan reduce criteria pollutants and benefit air quality in Redlands. Therefore, the impact for the proposed project is ***less than significant***. No mitigation is required.

Threshold	Would the project expose sensitive receptors to substantial pollutant concentrations?

As discussed in Table 4.15.3-5, the Regional Reduction Plan will reduce criteria pollutant emissions within the City of Redlands. The emissions reduction strategies selected by the City do not include any new facilities that would result in a new source of TAC emissions, including diesel particulate matter. Therefore, the Regional Reduction Plan would not expose sensitive receptors in the City to substantial pollutant concentrations. This impact would be ***less than significant***. No mitigation is required.

Table 4.15.3-5 Emission Reduction by Sector for Redlands

Sector	*2008*	*2020 BAU*	*Reductions*	*2020 Emissions with Plan*	*% Reduction*
Building Energy	302,160	342,534	133,576	208,958	39.0%
On-Road Transportation	319,157	349,518	98,342	251,176	28.1%
Off-Road Equipment	30,147	33,528	3,496	30,031	10.4%
Solid Waste Management	16,391	17,877	6,680	11,197	37.4%
Agriculture	3,298	1,681	0	1,681	0.0%
Wastewater Treatment	2,773	3,072	278	2,794	9.0%
Water Conveyance	19,161	22,242	4,772	17,470	21.5%
GHG Performance Standard[a]	—	—	4,780	—	—
Total Emissions	***693,087***	***770,452***	***251,924***	***518,528***	***32.7%***
Reduction Goal	—	—	**181,328**	**589,124**	**23.5%**
Met Goal?	—	—	Yes	Yes	Yes
Reductions Beyond Goal	—	—	***70,596***	—	—
Excluded Stationary Source Emissions	92,324	109,197	—	—	—

SOURCE: San Bernardino Associated Governments, *San Bernardino County Regional Greenhouse Gas Reduction Plan*, Draft, Prepared by ICF International (December 2012). Values may not sum due to rounding.

a. The GHG Performance Standard for New Development is not a sector of the inventory, but it provides broad reductions and contributes toward the City's reduction goal by promoting reductions in multiple sectors.

Threshold	Would the project create objectionable odors affecting a substantial number of people?

Implementation of the Regional Reduction Plan will not create objectionable odors. None of reduction measures in the Regional Reduction Plan selected by the City of Redlands include components that typically generate odors. Therefore, this impact would be ***less than significant***. No mitigation is required.

Cumulative Impacts

Threshold	Would the project 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 that exceed quantitative thresholds for ozone precursors)?

As shown in Table 4.15.3-5, the Regional Reduction Plan will reduce criteria pollutant emissions within the City of Redlands. Regionally, additional air pollutant reductions will take place at power plants due to reductions in electrical demand and increases in renewable energy generation. Therefore, the Regional Reduction Plan will have a cumulatively net reduction in criteria air pollutants. However, this environmental benefit does not reduce air pollutants enough to cause buildout of the Redlands General Plan to be less than cumulatively considerable. Therefore, the net emissions resulting from the Redlands General Plan with implementation of The Regional Reduction Plan reductions is still a ***cumulatively considerable*** contribution to criteria air pollutants for which the Basin is in nonattainment (ozone,

suspended particulates, and fine particulates). This significant impact of the Redlands General Plan was identified in the Redlands General Plan EIR.

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4.15.4 Biological Resources

This section of the EIR analyzes the potential environmental effects on biological resources in the City of Redlands from implementation of the Regional Reduction Plan. Data for this section were taken from Redlands General Plan (1995a) and associated environmental documents (1995b). Full reference-list entries for all cited materials are provided at the end of this section.

No comment letters addressing biological resources were received in response to the notice of preparation (NOP) circulated for the Regional Reduction Plan.

Environmental Setting

Special Status Wildlife, Plants, and Habitat

Special status wildlife species are those listed under federal or state Endangered Species acts, listed as *species of special concern* by the state, protected under official conservation programs (e.g., Multi-Species Conservation Programs), and/or those designated by local legislation as requiring protection. Special status plants are those listed under federal or state endangered species acts, protected under official conservation programs (e.g., Multi-Species Conservation Programs), and/or considered *sensitive*, such as those listed by the California Native Plant Society (CNPS).

Although much of Redlands is urbanized, portions of the planning area accommodate native and other vegetation. Specific biological resources in the Planning Area which are listed as endangered by state and federal agencies are two plants (Santa Ana River Wooly Star, Slender-Homed Spineflower) and one animal (Least Bell's Vireo). A third plant, Nevin's Barberry is listed only by the State as endangered. Another animal, the Stephen's Kangaroo Rat is listed as threatened by the State, while it is federally listed as endangered. Finally, two other animals listed as endangered are the Least Bell's Vireo (federal) and the Western Yellow Billed Cuckoo (state). Most of the Planning Area's valued habitat for rare, threatened or endangered species is designated as Flood Control, Resource Conservation, or Parks/Golf Courses on the General Plan Map.

Regulatory Framework

Federal

Endangered Species Act

The federal Endangered Species Act of 1973 (FESA), as amended, was promulgated to protect and conserve any species of plant or animal that is endangered or threatened with extinction and the habitats in which these species are found. "Take" of endangered species is prohibited under FESA Section 9. Take, as defined under the FESA, means to "harass, harm, pursue, hunt, wound, kill, trap, capture, collect, or attempt to engage in any such conduct." FESA Section 7 requires federal agencies to consult with the U.S. Fish and Wildlife Service (USFWS) on proposed federal actions that may affect any endangered, threatened, or proposed (for listing) species or critical habitat that may support the species.

FESA Section 4(a) requires that critical habitat be designated by the USFWS "to the maximum extent prudent and determinable, at the time a species is determined to be endangered or threatened."

Critical habitat consists of specific areas, both occupied and unoccupied by a federally protected species, that are essential to the conservation of a listed species and that may require special management considerations or protection. The location of a proposed project within critical habitat typically warrants a habitat assessment and, if suitable habitat is present, focused (protocol) surveys to determine presence or absence of the listed species. Any project involving a federal agency, federal monies, or a federal permit that falls within an area designated as critical habitat requires the project proponent to consult with the USFWS regarding potential impacts to the listed species and conservation measures to offset identified impacts.

Critical habitat is formally designated by USFWS to provide guidance for planners/managers and biologists with an indication of where suitable habitat may occur and where high priority of preservation for a particular species should be given. Critical habitat receives protection under FESA Section 7 through the prohibition against destruction or adverse modification of critical habitat with regard to actions carried out, funded, or authorized by a federal agency. Federal agencies and proponents of other projects involving federal funding or permits that are proposing projects within critical habitat are required to consult with USFWS as to the impacts such projects may have on protected species, and mitigation for any such impacts. FESA Section 10 provides the regulatory mechanism that allows the incidental take of a listed species by private interests and nonfederal government agencies during lawful activities. Habitat conservation plans (HCPs) for the impacted species must be developed in support of incidental take permits for nonfederal projects to minimize impacts to the species and develop viable mitigation measures to offset the unavoidable impacts.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act of 1918 (MBTA) is the domestic law that affirms and implements the United States' commitment to four international conventions with Canada, Japan, Mexico, and Russia for the protection of shared migratory bird resources. The MBTA governs the taking, killing, possession, transportation, and importation of migratory birds, and their eggs, parts, and nests. It prohibits the take, possession, import, export, transport, sale, purchase, barter, or offering of these activities, except under a valid permit or as permitted in the implementing regulations. USFWS administers permits to take migratory birds in accordance with the regulations promulgated by the MBTA.

Clean Water Act, Sections 401 and 402

Federal Clean Water Act (CWA) Section 401(a)(1) specifies that any applicant for a federal license or permit to conduct any activity that may result in any discharge into navigable waters shall provide the federal permitting agency a certification, issued by the state in which the discharge originates, that any such discharge will comply with the applicable provisions of the CWA. In California, the applicable RWQCB must certify that the project will comply with water quality standards. Permits requiring Section 401 certification include USACE Section 404 permits and National Pollutant Discharge Elimination System (NPDES) permits issued by the U.S. Environmental Protection Agency (USEPA) under CWA Section 402. NPDES permits are issued by the applicable Regional Water Quality Control Board (RWQCB). The City of Redlands is within the jurisdiction of the Lahontan RWQCB (Region 6).

Clean Water Act, Section 404

USACE regulates discharges of dredged or fill material into waters of the United States including wetlands and nonwetland bodies of water that meet specific criteria. Pursuant to CWA Section 404, a permit is required for any filling or dredging in waters of the US. The permit review process entails an assessment of potential adverse impacts to USACE wetlands and jurisdictional waters, wherein the USACE may require mitigation measures. Where a federally listed species may be affected, a Section 7 consultation with USFWS may be required. Also, where a Section 404 permit is required, a Section 401 Water Quality Certification would also be required from the RWQCB.

State

California Endangered Species Act

The California Endangered Species Act (CESA) generally parallels the main provisions of the FESA and is administered by the California Department of Fish and Wildlife (CDFW). Its intent is to prohibit take and protect state-listed endangered and threatened species of fish, wildlife, and plants. Unlike its federal counterpart, CESA also applies the take prohibitions to species petitioned for listing (state candidates). Candidate species may be afforded temporary protection as though they were already listed as threatened or endangered at the discretion of the Fish and Game Commission. Unlike the FESA, CESA does not include listing provisions for invertebrate species. Under certain conditions, CESA has provisions for take through a 2081 permit or memorandum of understanding. In addition, some sensitive mammals and birds are protected by the state as Fully Protected Species. California Species of Special Concern are species designated as vulnerable to extinction due to declining population levels, limited ranges, and/or continuing threats. Known and recorded occurrences of sensitive species are listed on the CDFW's California Natural Diversity Data Base (CNDDB) project. Informally listed taxa are not protected per se, but warrant consideration in the preparation of biological resources assessments.

California Fish and Game Code, Section 1600

California Fish and Game Code Section 1600 requires that a project proponent notify the CDFW of any proposed alteration of streambeds, rivers, and lakes. The intent is to protect habitats that are important to fish and wildlife. CDFW may review a project and place conditions on the project as part of a Streambed Alteration Agreement. The conditions are intended to address potentially significant adverse impacts within CDFW's jurisdictional limits.

Local

Redlands General Plan

The Redlands General Plan policies that are applicable to biological resources[3] are as follows:

Policy 7.21a Minimize disruption of wildlife and valued habitat throughout the Planning Area.

Policy 7.21b Preserve, protect, and enhance natural communities of special status.

[3] These policies are not a complete listing of all policies contained in the General Plan; those policies that would be most applicable to the proposed project are included here.

Policy 7.21c Recognize the links between biotic resources in discrete locations throughout Redlands.

Policy 7.21d Preserve, protect, and enhance wildlife corridors connecting the San Bernardino National Forest, Santa Ana River Wash, Crafton Hills, San Timoteo/Live Oak Canyons, the Badlands, and other open space areas.

Policy 7.21e Preserve, restore, protect, and enhance riparian corridors throughout the Planning Area.

Policy 7.21h Require a biological assessment of any proposed project site where species or the habitat of species defined as sensitive or special status by the Department of Fish and Game or the U.S. Fish and Wildlife Service might be present.

Policy 7.21i Require that proposed projects adjacent to, surrounding, or containing wetlands, riparian corridors, or wildlife corridors be subject to a site-specific analysis which will determine the appropriate size and configuration of a buffer zone.

Project Impact Evaluation

Thresholds of Significance

The following thresholds of significance are based on the 2012 CEQA Guidelines Appendix G. For purposes of this EIR, implementation of the San Bernardino County Regional GHG Reduction Plan might have a significant adverse impact on biological resources if it would do any of the following:

- 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 California Department of Fish and Wildlife or U.S. Fish and Wildlife Service
- 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 California Department of Fish and Wildlife or U.S. Fish and Wildlife Service
- 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, etc.) through direct removal, filling, hydrological interruption, or other means
- 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
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan

Analytic Method

The following analysis reviews potential impacts to biological resources within the City of Redlands.

Effects Not Found to Be Significant

Threshold	Would the project 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 California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Implementation of the Regional Reduction Plan would not directly result in removal of vegetation or wildlife in the City because the Regional Reduction Plan does not confer entitlements for development. The Regional Reduction Plan does include an increase in renewable energy sources within the City. Renewable energy generation facilities could potentially be built on vacant land that might contain habitat.

Sensitive plant and animal species that may occur within the City are discussed above under Environmental Setting. As discussed in this section, a large portion of the City is developed and does not have high potential for containing sensitive species. However, the undeveloped areas of the City contain a variety of habitats with the potential to support sensitive species.

Renewable energy projects considered for approval on vacant land under the Regional Reduction Plan would be required to provide independent CEQA review and would be required to comply with the City's project approval process. If sensitive species were found, the project proponent would be required to consult with the CDFW regarding impacts to sensitive species and ensuing mitigation. Mitigation for impacts to sensitive species is often in the form of acquisition or restoration of habitat, on site or off site, at a ratio to the area of impacted land that would be determined by the CDFW or USFWS. For projects proposed by federal agencies, or projects that would involve federal permits or funding, and that are sited within critical habitat for a listed species, the project proponent would be required under the FESA to consult with the USFWS regarding impacts and mitigation respecting listed species.

After compliance with the requirements of the City's development process, and the California and federal endangered species acts, including requirements of the USFWS regarding critical habitat, implementation of the proposed Regional Reduction Plan would not have substantial adverse impacts on sensitive animal species. Therefore, this impact would be ***less than significant***. No mitigation is required.

Threshold	Would the project 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 California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Implementation of the Regional Reduction Plan would not directly result in removal of vegetation or wildlife in the City because the Regional Reduction Plan does not confer entitlements for development. The Regional Reduction Plan does include an increase in renewable energy sources within the City. Renewable energy generation facilities could potentially be built on vacant land that might contain riparian habitat; however, impacts to these habitats would be limited with compliance with the City's General Plan.

In addition, as stated previously, individual projects undergoing the City's development approval process would be required to survey for sensitive biological resources. The City requires compliance with all applicable regulations pertaining to riparian habitat. Prior to the issuance of grading permits for any project potentially affecting riparian habitat, the applicant is required to provide evidence that all necessary permits have been obtained from the CDFW (California Fish and Game Code Sections 1601-1603). If there are any impacts to riparian areas, the impacts would be required to be mitigated by the California Fish and Game Code Sections 1601–1603. In conclusion, projects affecting riparian habitat in the City would be required through the existing permitting process to mitigate potential impacts to riparian areas. Consequently, impacts would be ***less than significant***. Mitigation is not required

Threshold	Would the project 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, etc.) through direct removal, filling, hydrological interruption, or other means?

There are several drainages that that traverse the planning area that could contain federally protected wetlands. Implementation of the Regional Reduction Plan includes energy efficiency standards for new development and smart bus technologies. However, implementation of these types of reduction measures will not affect bodies of water or wetlands.

Increased renewable energy generation will also be developed during implementation of the proposed Regional Reduction Plan. However, these types of projects are not likely to affect bodies of water or wetlands. In the unlikely event that a renewable energy project results in impacts to federally protected wetlands or waters of the state, that project would be subject to approval by the USACE through a Section 404 Permit and/or approval by the CDFW through Streambed Alteration Agreements. If a Section 404 Permit from the USACE is required, a Section 401 Water Quality Certification will also be required from the RWQCB. The applicable permits would require mitigation as determined by the USACE, RWQCB, and/or CDFW for any consequent impacts. Consequently, impacts would be ***less than significant***. No mitigation is required.

Threshold	Would the project 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?

Wildlife corridors within the Redlands planning area include to the north, the Santa Ana River Wash and Mill Creek provide habitat and function as wildlife corridors which connect the Wash and Creek habitats with the wildlands of the San Bernardino National Forest. The Crafton Hills, whose slopes are covered primarily with introduced European species, perform an important role as a physical link between the Santa Ana River–Mill Creek–San Bernardino Mountains habitats and the Live Oak–San Timoteo canyons-Badlands area which frames the southern Planning Area. The Badlands, while physically peripheral to the Planning Area, is ecologically linked with San Timoteo and Live Oak canyons, sharing some of the same vegetative associations and wildlife. San Timoteo Canyon Creek reconnects with the Santa Ana River west of the Planning Area, closing the circle which outlines a rough ring of habitat areas and wildlife corridors around the Planning Area.

The Regional Reduction Plan does include an increase in renewable energy sources within the City. Renewable energy generation facilities could potentially be built on vacant land that might contain a wildlife corridor; however, impacts would be limited with compliance with the City's General Plan. Therefore, implementation of the Regional Reduction Plan is not anticipated to impair the use of the Santa Ana Wash, Mill Creek, Crafton Hills, San Timoteo Canyon, and Live Oak Canyon.

There are trees and shrubs scattered throughout the City that may be used for nesting or roosting by migrating birds. The Regional Reduction Plan would not grant specific entitlements for development; therefore, implementation of the Regional Reduction Plan would not directly impact vegetation that could be used by migrating birds. Development of renewable energy generation projects under the Regional Reduction Plan would be required to comply with the federal MBTA. Therefore, the Regional Reduction Plan is not anticipated to have substantial adverse impacts to migratory birds and impacts would be ***less than significant***. No mitigation is required.

Threshold	Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Implementation of the Regional Reduction Plan would be required to comply with the City's General Plan and Municipal Code, which require proper assessment of biological resources before authorizing development, and incorporation of mitigations for any identified sensitive biological resources. Projects that implement the Regional Reduction Plan would be required to demonstrate compliance with the General Plan policies and the City's Municipal Code during the City's development review process. Consequently, impacts would be ***less than significant***. No mitigation is required.

Threshold	Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

There are no local habitat conservation plans or natural community conservation plans that apply to the City. Consequently, ***no impact*** would occur.

Cumulative Impacts

Threshold	Would the project 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 California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

As discussed at a project-level analysis, the Regional Reduction Plan does not directly result in removal of vegetation or wildlife in the City because the Regional Reduction Plan does not confer entitlements for development. The Regional Reduction Plan does include an increase in renewable energy sources within the City. Renewable energy generation facilities could potentially be built on vacant land that might contain habitat. After compliance with the City's survey requirements and applicable requirements of the California and federal endangered species acts, including requirements of the USFWS regarding critical habitat, renewable energy facilities built during implementation of the proposed Regional Reduction Plan would not have substantial adverse impacts on sensitive animal species at a project level. Because the

City, state, and federal biological resources requirements are intended to protect biological resources at a regional level, and individual projects implementing the Regional Reduction Plan would be in compliance with these regional protections, the project's cumulative impact would also be ***less than significant***.

Threshold	Would the project 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 California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Increased renewable energy generation could be proposed during implementation of the proposed Regional Reduction Plan. As stated previously, individual projects undergoing development review in the City would be required to determine whether there is potential habitat on site for sensitive species. If sensitive species were found on site, the project proponent would be required to consult with the CDFW and other agencies as applicable regarding impacts to sensitive species and ensuing mitigation. Projects affecting riparian habitat in the City would be required through the existing permitting process to mitigate potential impacts to riparian areas. This existing permitting process substantially limits degradation of habitat on a regional level. Therefore, on a cumulative level, implementation of the proposed project would not substantially degrade the riparian habitat on a regional basis, and the cumulative impact would be ***less than significant***.

Threshold	Would the project 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, etc.) through direct removal, filling, hydrological interruption, or other means?

Increased renewable energy generation could be proposed during implementation of the proposed Regional Reduction Plan. However, these types of projects are not likely to affect bodies of water or wetlands. In the unlikely event that a renewable energy project results in impacts to waters of the state, that project would be subject to approval by the USACE through a Section 404 permit and/or the CDFW through Streambed Alteration Agreements and would require mitigation as determined by the USACE and/or CDFW for any consequent impacts. With Section 404 permits and Streambed Alteration Agreements, impacts to water bodies would be minimal and not result in cumulative impacts. The cumulative impact would be ***less than significant***.

Threshold	Would the project 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?

Santa Ana Wash, Mill Creek, Crafton Hills, San Timoteo canyons, and Live Oak canyon within the City could serve as corridors for movement. However, implementation of the Regional Reduction Plan will not impair the use of these areas in the City as wildlife movement corridors. Development of renewable energy generation projects under the Regional Reduction Plan would be required to comply with the federal MBTA. Therefore, the Regional Reduction Plan is not anticipated to have substantial adverse impacts to migratory birds. Because the Regional Reduction Plan would have no impact on wildlife corridors at a project level, the Regional Reduction Plan will not participate in a cumulative impact. Furthermore, compliance with the MBTA reduces both potential project-level and cumulative impacts to

migratory birds to less than significant. Consequently, the cumulative impact would be ***less than significant***.

Threshold	Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Projects proposed under the Regional Reduction Plan and cumulative projects in the City would be required to demonstrate compliance with City requirements related to biological resources during the project's development review process. Therefore, there would be ***no cumulative impact***.

Threshold	Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

There are no local habitat conservation plans or natural community conservation plans that apply to the City. Consequently, ***no cumulative impact*** would occur.

References

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4.15.5 Cultural Resources

This section of the EIR analyzes the potential environmental effects on cultural resources in the City of Redlands from implementation of the Regional Reduction Plan. Data for this section were taken from Redlands General Plan (1995a), associated environmental documents (1995b), and searches conducted on-line for resources listed in the NRHP and CRHR (Redlands 1995a; Redlands 1995b; OHP 2013). Full reference-list entries for all cited materials are provided at the end of this section.

No comment letters addressing cultural resources were received in response to the notice of preparation (NOP) circulated for the Regional Reduction Plan.

Environmental Setting

Cultural resources are frequently defined in terms of tangible materials attributed to a culture. These include districts, sites, structures, artifacts, and other evidence of human use considered important to a culture or community for scientific, traditional, religious, or other reasons. Resources may be historical, archaeological, architectural, or archival in nature. Cultural resources may also consist of less tangible attributes, such as landscapes considered sacred to particular groups.

Prehistoric Setting

The City of Redlands lies within an area known to contain prehistoric archaeological resources, which include the material culture reflective of groups that preceded Euro-American contact and settlement. Springs and streams, such as San Timoteo Creek, Yucaipa Creek in Live Oak Canyon, tributaries and their canyons, and areas adjacent to larger water bodies, such as bluffs, terraces, and hillsides above the Santa Ana River and Mill Creek, have been identified as areas likely to contain prehistoric artifacts (Redlands 1995a; 1995b). The prehistoric setting is defined by four periods or horizons (MBA 2009), as outlined below:

- Horizon I: Early Man (17,000 BCE to 9,500 Before Present [BP])
- Horizon II: Millingstone (9,500 BCE to 3,000 BP)
- Horizon III: Intermediate (3,000 BCE to 1,250 BP)
- Horizon IV: Late Prehistoric (1,250 BP to Spanish Contact [1769])

Ethnohistoric Setting

Redlands is found in an ethnographic transitional region, and is situated near the borders of the traditional use areas of the Gabrieliño/Tongva, Serrano and Cahuilla groups. The City is found in the eastern-most portion of the Gabrieliño/Tongva tribal territory, which is mapped as extending north from Aliso Creek to just beyond Topanga Canyon along the Pacific Coast, and inland to the City of San Bernardino. The Serrano traditional use is mapped as encompassing the San Bernardino Mountains from the Cajon Pass in the west to beyond modern Twentynine Palms in the east, and from about Victorville in the north to near the San Gorgonio Pass in the south. The City is also located adjacent to the northwestern-most portion of documented Cahuilla territory, mapped as extending just beyond the City

of Riverside (Heizer 1978). The City notes the exploitation of natural resources in the area by all three groups (Redlands 1995a; 1995b).

Historic Setting

The history of the modern City of Redlands relates to the Mission San Gabriel, established in 1771 in the Los Angeles area. In the early decades of the nineteenth century, the Missions began establishing ranchos for the purpose of expanding their agricultural holdings. The first documented Spanish settlement within San Bernardino Valley was established in 1810, and was dedicated as the Rancho de San Bernardino of Mission San Gabriel. In 1819, a second Rancho de San Bernardino was established at a site known as the Guachama Rancheria. This site is located within the modern City of Loma Linda. In 1820, and at the instigation of the missionaries, the local Serrano and Gabrieliño built the zanja, which is a 12-mile long irrigation ditch (Redlands 1995a; 1995b). The zanja originated at the mouth of Mill Creek to the northeast of the Crafton Hills (MBA 2009), and allowed for the irrigation of the first crops within the San Bernardino Valley. Today, the Mill Creek Zanja is listed on the National Register of Historic Places (NRHP) and is used for local drainage, spreading and flood control (Redlands 1995a).

Mexico achieved independence from Spain in 1821, and the former mission lands were secularized and subdivided into land grants under a law adopted by the Mexican congress in 1833. In 1842, the Lugo family was granted lands in the San Bernardino and Yucaipa Valleys, and the City of Redlands is located on lands associated with the San Bernardino Rancho (Redlands 1995a and MBA 2009). Don Lugo and family moved in and made the rancho their permanent home. Lugo expanded his cattle operations and made use of the old zanja. This allowed for the property along the majority of the length of the ditch to be used for agriculture (MBA 2009).

California was ceded to the United States under the Treaty of Guadalupe Hidalgo at the end of the Mexican-American War, and thereafter, Mexican ranchos were subdivided or sold. In 1851, nearly 500 Mormons arrived in the valley. After purchasing 35,000 acres of the San Bernardino Rancho, the Mormon settlers built a stockade around the rancho and named it Fort San Bernardino. The immigrants established an irrigation system and farmlands outside of the fort. When Brigham Young recalled the Mormons to Salt Lake City in 1857, their lands were purchased by homesteaders and farmers (Redlands 1995a; MBA 2009). Of note, Dr. Ben Barton constructed a brick house at Barton Ranch in the area in 1866 (Redlands 1995a).

In 1881, E.G. Judson and Frank E. Brown built a canal from the Santa Ana Canyon to Reservoir Canyon, and laid out a townsite. Due to the red hue of the dry soils in the area, the townsite was named Redlands. Three years later, Brown built the Bear Valley Dam and Reservoir at Big Bear Lake, which assured a water supply for the new town (Redlands 1995a). In 1885, the first water was brought to Redlands from the Big Bear Lake via flumes and canals, and intensive development of the area began in association with the citrus industry (MBA 2009). During this same year, two transcontinental railroads traversed the San Bernardino Valley, although neither of the lines stopped in Redlands. The first spur to Redlands was built in 1887. The advent of the railroad and the success of the citrus industry led to a land boom in the region and Redlands prospered. The City was incorporated in 1888 (Redlands 1995a).

Around the turn of the century, Redlands became a tourist destination for wealthy easterners and a packing and shipping center for citrus growers in the surrounding areas. By 1905, over one million boxes

of navel oranges were shipped from the twenty-two Redlands packing houses. The entirety of the town was influenced by the citrus industry and this led to a reliable economic base and long-term ownership of land by the citrus growers. In 1910, most of the streets were paved, and were complete with sidewalks and stone curbs. In addition, sewer and electricity systems were fully operational. At this time, the population had swelled to 10,000 residents. Another boom occurred after World War I, and between 1920 and 1930. During this time, the citrus industry fully recovered from a devastating freeze that occurred in 1913 and the University of Redlands was expanded. Construction of commercial structures in the downtown also increased during the 1920s (Redlands 1995a).

The City continued to grow and prosper over time, and by 2010, the City boasted a population of 68,747 people (Redlands 2013).

Historical Resources in Redlands

Designation Process

There are three general types of designations for significant cultural resources within the City, including archaeological resources, historical structures, historical districts, traditional cultural properties, and landscapes. The system includes federal designation in the NRHP for resources of importance and relevance to national heritage, state-level designation in the California Register of Historical Resources (CRHR), and local designation as historic resources, including districts, as outlined by Chapter 2.62 (Historic and Scenic Preservation) of the City of Redlands Municipal Code (also see Chapter 2.24). Each of these registers employs different criteria to determine whether a resource could be determined eligible for inclusion, and these criteria are further discussed below, in the Regulatory Framework.

Resources Listed on the National Register of Historic Places

The NRHP is the nation's official list of buildings, structures, objects, sites, and districts worthy of preservation, and the NRHP recognizes resources of local, state, and national significance. Eight resources in the City of Redlands are listed on the NRHP (Redlands 1995a; 1995b; OHP 2013):

- A.K. Smiley Public Library
- Barton Villa
- Beverly Ranch
- Kimberly Crest
- Mill Creek Zanja
- Redlands Central Railway Company Car Barn
- Redlands Santa Fe Depot District
- Redlands Main U.S. Post Office

Resources Listed on the California Register of Historical Resources

The state Historic Resources Commission has designed the CRHR for use by state and local agencies, private groups, and citizens to identify, evaluate, register, and protect California's historical resources. The CRHR is the authoritative guide to the state's significant historical and archaeological resources. The

CRHR program encourages public recognition and protection of resources of architectural, historical, archaeological, and cultural significance; identifies historical resources for state and local planning purposes; determines eligibility for state historic preservation grant funding; and affords certain protections under the CEQA. Properties listed in the NRHP are automatically listed in the CRHR and certain CHLs and PHIs are also listed or considered eligible for the CRHR. Eight properties in the City of Redlands (also listed on NRHP above) are also listed on the CRHR.

California Historical Landmarks and Points of Historical Interest

CHLs are sites, buildings, features, or events that are of statewide significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value. In order to be considered a CHL, the landmark must meet at least one of the following criteria: (1) associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States; (2) associated with the lives of persons important to local, California, or national history; (3) embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of a master; or possesses high artistic values; and (4) has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

If a site is primarily of local or countywide interest, it may meet the criteria for the California PHI Program. PHIs are sites, buildings, features, or events that are of local (city or county) significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value. To be eligible for designation as a PHI, a resource must meet at least one of the following criteria: (1) the first, last, only, or most significant of its type in the local geographic region (city or county); (2) be associated with an individual or group having a profound influence on the history of the local area; (3) a prototype of, or an outstanding example of, a period, style, architectural movement or construction; or (4) is one of the more notable works or the best surviving work in the local region of a pioneer architect, designer, or master builder. PHIs designated after December 1997 and recommended by the State Historical Resources Commission are also listed in the CRHR. No historical resource may be designated as both a CHL and a PHI. If a PHI is subsequently granted status as a CHL, the PHI designation will be retired.

The CHLs in the City of Redlands are (OHP 2013):

- A.K. Smiley Public Library
- Guachama Rancheria
- San Bernardino Asistencia
- Zanja

The California PHIs in the City of Redlands are (OHP 2013):

- A.C. Burrage Mansion
- Atchison, Topeka, and Santa Fe Railway, Redlands Station
- Crafts House

- Fisher House
- Lugonia School Monument
- Morey House/Morey-Cheney House
- Mound City
- Nordoff Home
- Partridge House/Paul F. Allen House
- Prospect Park
- Wells House

Resources Listed in the City of Redlands

In 1976, the City of Redlands received a grant to survey historic structures, and this study documented 568 properties. These findings were updated in 1985 through an inventory. At that time, 2,000 structures were identified that required future inventory and these structures were generally residential and institutional in nature. Thereafter, the City Council, upon recommendation of the Commission, placed more than sixty structures and eight districts on its Register of Historic and Scenic Properties. The following districts are listed in the City of Redlands (Redlands 1995b):

- **Eureka Street Historic District**—Five Victorian cottages dating from 1885 to 1900.
- **West Highland Avenue Historic and Scenic District**—Historical homes mainly constructed between 1887 and 1914.
- **Early Redlands Historic and Scenic District**—Victorian and turn-of-the-century homes and churches.
- **Normandie Court Historic District**—18 "Hansel and Gretel" cottages built in 1926.
- **East Fern Avenue Historic and Scenic District**—A spectrum of architectural styles built between 1900 and 1956.
- **Garden Hill Historic and Scenic District**—An adobe house, California Mediterranean houses and other styles enhanced by significant views.
- **La Verne Street Historic District**—Victorian and early twentieth century cottages.
- **Smiley Park Neighborhood**—Includes Redlands Bowl, the A.K. Smiley Public Library, the Lincoln Memorial Shrine, City Hall, and surrounding residential uses.

Archaeological Resources in the City of Redlands

Archaeological resources are the physical remains of past human activities and can be either prehistoric or historic. Archaeological sites contain significant evidence of human activity. Generally a site is defined by a significant accumulation or presence of: food remains, waste from the manufacturing of tools, tools, concentrations or alignments of stones, modification of rock surfaces, unusual discoloration or accumulation of soil, and/or human skeletal remains. Known archaeological resources in the City include a prehistoric village and two historic refuse sites in the southeastern portion of the planning area; a possible prehistoric village site at Crystal Springs and another disturbed site nearby; an artifact in the

vicinity of Sunrise Ranch; and three separate prehistoric sites containing sediments conducive to the preservation of fossil resources in the San Timoteo Canyon. Prehistoric and historic archaeological resources are generally located in the Santa Ana River Wash, Mill Creek, Crafton Hills, San Timoteo Canyon and Live Oak Canyon (Redlands 1995b), and areas of sensitivity are depicted in Figure 4.15.5-1 (Archaeological Resources Sensitivity Map).

Paleontological Resources in the City of Redlands

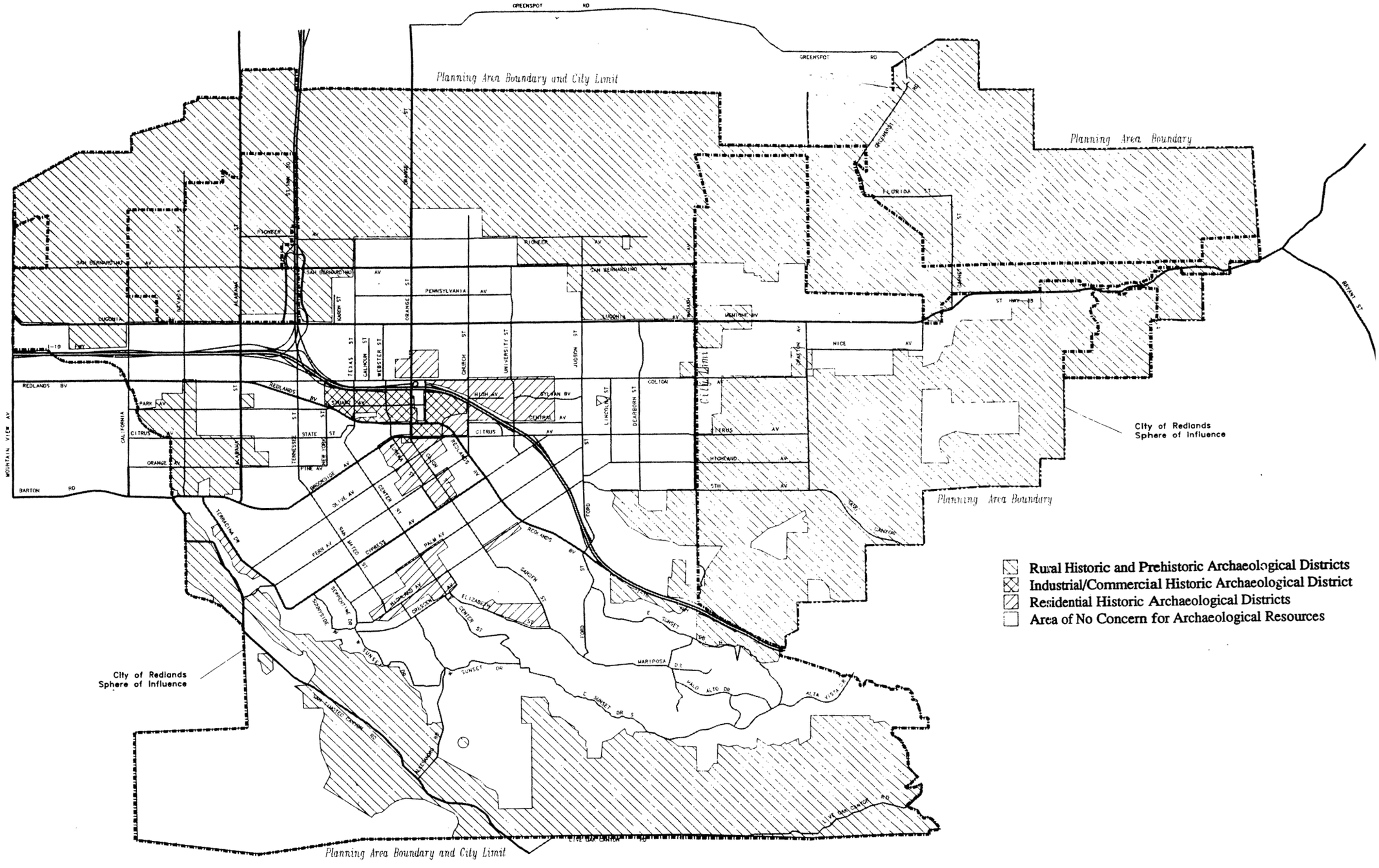
Paleontological resources are the fossilized remains of organisms from prehistoric environments found in geologic strata. These are valued for the information they yield about the history of the earth and its past ecological settings. There are two types of resources, vertebrate and invertebrate. These resources are found in geologic strata conducive to their preservation, typically sedimentary formations. Paleontological sites are those areas that show evidence of prehuman activity. Often they are simply small outcroppings visible on the surface or sites encountered during grading. Potentially sensitive areas for the presence of paleontological resources are based on the underlying geologic formation, and are known within the City. Specifically, the San Timoteo Canyon contains geologic units known to yield fossil resources (Redlands 1995b).

Regulatory Framework

Federal

Federal regulations for cultural resources are primarily governed by National Historic Preservation Act of 1966 (NHPA) Section 106, which applies to actions taken by federal agencies. The goal of the Section 106 review process is to offer a measure of protection to sites that are listed or determined eligible for listing on the NRHP. The criteria for determining NRHP eligibility are found in 36 Code of Federal Regulations (CFR) Part 60. NHPA Section 106 requires federal agencies to take into account the effects of their undertakings on Historic Properties and affords the federal Advisory Council on Historic Preservation a reasonable opportunity to comment on such undertakings. The Council's implementing regulations, "Protection of Historic Properties," are found in 36 CFR 800. The NRHP criteria (36 CFR 60.4) are used to evaluate resources when complying with NHPA Section 106. Those criteria state that eligible resources comprise districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and any of the following:

(a) Are associated with events that have made a significant contribution to the broad patterns of our history
(b) Are associated with the lives of persons significant in our past
(c) Embody the distinctive characteristics of a type, period, or method of construction, or that possess high artistic values, or that represent a significant distinguishable entity whose components may lack individual distinction
(d) Have yielded or may be likely to yield, information important to history or prehistory



***Source*:** City of Redlands Master Environmental Assessment and Final Environmental Impact Report for 1995 General Plan, October 17 (last updated August 3, 2010).

Figure 4.15.5-1
Archaeological Resources Sensitivity Map

ATKINS

Eligible properties must meet at least one of the criteria and exhibit integrity. Historical integrity is measured by the degree to which the resource retains its historical attributes and conveys its historical character, the degree to which the original fabric has been retained, and the reversibility of changes to the property.

Historic Districts derive their importance from being considered a unified entity, even though they are often composed of a variety of resources. The identity of a district results from the interrelationship of its resources, which can be an arrangement of historically or functionally related properties. A district is defined as a geographically definable area of land containing a significant concentration of buildings, sites, structures, or objects united by past events or aesthetically by plan or physical development. A district's significance and integrity should help determine the boundaries.

Within historic districts, resources are identified as contributing and noncontributing. A contributing building, site, structure, or object adds to the historic associations, historic architectural qualities, or archaeological values for which a district is significant because it was either present during the period of significance, relates to the significance of the district, and retains its physical integrity; or it independently meets the criteria for listing in the NRHP.

Archaeological site evaluation assesses the potential of each site to meet one or more of the criteria for NRHP eligibility based upon visual surface and subsurface evidence (if available) at each site location, information gathered during the literature and records searches, and the researcher's knowledge of and familiarity with the historic or prehistoric context associated with each site.

Paleontological resources are considered under NHPA Section 106 primarily when found in a culturally related context (i.e., fossil shells included as mortuary offerings in a burial or a rock formation containing petrified wood used as a chipped stone quarry). In such instances, the material is considered a cultural resource and is treated in the manner prescribed for the site by Section 106.

The Antiquities Act of 1906 (Title 16, United States Code Sections 431-433) protects any historic or prehistoric ruin or monument, or any object of antiquity, situated on lands owned or controlled by the Government of the United States from appropriation, excavation, injure or destruction without the permission of the Secretary of the Department of the Government having jurisdiction over the lands on which the antiquities are situated. The California Department of Transportation, the National Park Service, Bureau of Land Management, U.S. Forest Service, and other federal agencies have interpreted objects of antiquity to include fossils. The Antiquities Act provides for the issuance of permits to collect fossils on lands administered by federal agencies and requires projects involving federal lands to obtain permits for both paleontological resource evaluation and mitigation efforts.

The federal Paleontological Resources Preservation Act of 2002 was enacted to codify the generally accepted practice of limiting the collection of vertebrate fossils and other rare and scientifically significant fossils to qualified researchers; these researchers must obtain a permit from the appropriate state or federal agency and agree to donate any materials recovered to recognized public institutions, where they will remain accessible to the public and to other researchers.

State

Under CEQA, public agencies must consider the impacts of their actions on both historical resources and unique archaeological resources. Pursuant to Public Resources Code (PRC) Section 21084.1, a "project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment." Section 21083.2 requires agencies to determine whether proposed projects would have effects on unique archaeological resources.

Historical resource is a term with a defined statutory meaning (refer to PRC Section 21084.1 and CEQA Guidelines, Section 15064.5(a) and (b)). The term applies to any resource listed in or determined to be eligible for listing in the CRHR. The CRHR includes California resources listed in or formally determined eligible for listing in the NRHP, as well as certain CHLs and PHIs.

Properties of local significance that have been designated under a local preservation ordinance (local landmarks or landmark districts) or that have been identified in a local historical resources inventory may be eligible for listing in the CRHR and are presumed to be historical resources for purposes of CEQA unless a preponderance of evidence indicates otherwise (PRC Section 5024.1 and California Code of Regulations, Title 14, Section 4850). Unless a resource listed in a survey has been demolished, lost substantial integrity, or there is a preponderance of evidence indicating that it is otherwise not eligible for listing, a lead agency should consider the resource to be potentially eligible for the CRHR.

In addition to assessing whether historical resources potentially impacted by a proposed project are listed or have been identified in a survey process, lead agencies have a responsibility to evaluate them against the CRHR criteria prior to making a finding as to a proposed project's impacts to historical resources (PRC Section 21084.1 and CEQA Guidelines Section 15064.5(a)(3)). In general, a historical resource, under this approach, is defined as any object, building, structure, site, area, place, record, or manuscript that:

> (a) Is historically or archeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political or cultural annals of California; and
>
> (b) Meets any of the following criteria:
>
> 1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
>
> 2) Is associated with the lives of persons important in our past;
>
> 3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
>
> 4) Has yielded, or may be likely to yield, information important in prehistory or history.
>
> (CEQA Guidelines Section 15064.5(a)(3))

Archaeological resources can sometimes qualify as historical resources (CEQA Guidelines Section 15064.5(c)(1)). In addition, PRC Section 5024 requires consultation with the Office of Historic Preservation when a project may impact historical resources located on state-owned land.

For historic structures, CEQA Guidelines Section 15064.5(b)(3) indicate that a project that follows the Secretary of the Interior (SOI) Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings, or the SOI Standards for

Rehabilitation and Guidelines for Rehabilitating Historic Buildings, shall mitigate impacts to a level of less than significant. Potential eligibility also rests upon the integrity of the resource. Integrity is defined as the retention of the resource's physical identity that existed during its period of significance. Integrity is determined through considering the setting, design, workmanship, materials, location, feeling, and association of the resource.

As noted above, CEQA also requires lead agencies to consider whether projects will impact unique archaeological resources. PRC Section 21083.2(g) states that 'unique archaeological resource means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
- Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

(PRC Section 21083.2(g))

Treatment options under Section 21083.2 include activities that preserve such resources in place and in an undisturbed state. Other acceptable methods of mitigation under Section 21083.2 include excavation and curation, or study in place without excavation and curation (if the study finds that the artifacts would not meet one or more of the criteria for defining a unique archaeological resource).

Advice on procedures to identify cultural resources, evaluate their importance, and estimate potential effects is given in several agency publications such as the series produced by the Governor's Office of Planning and Research (OPR). The technical advice series produced by OPR strongly recommends that Native American concerns and the concerns of other interested persons and corporate entities, including, but not limited to, museums, historical commissions, associations, and societies, be solicited as part of the process of cultural resources inventory. In addition, California law protects Native American burials, skeletal remains, and associated grave goods regardless of their antiquity and provides for the sensitive treatment and disposition of those remains.

CEQA affords protection to paleontological resources, as CEQA Guidelines indicate that a project would have a significant environmental impact if it would disturb or destroy a unique paleontological resource or site or unique geologic feature. Although CEQA does not specifically define a unique paleontological resource or site, the definition of a unique archaeological resource (Section 21083.2) can be applied to a unique paleontological resource or site and a paleontological resource could be considered a historical resource if it has yielded, or may be likely to yield, information important in prehistory or history under Section 15064.5(a)(3)(D).

California Public Resources Code 5097.5

California PRC Section 5097.5 provides protection for cultural and paleontological resources, where PRC Section 5097.5(a) states, in part, that:

> No person shall knowingly and willfully excavate upon, or remove, destroy, injure, or deface, any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, rock art, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over the lands.

California Health and Safety Code Sections 7050.5, 7051, and 7054

California Health and Safety Code Section 7050.5(b) specifies protocol when human remains are discovered. The code states:

> In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined, in accordance with Chapter 10 (commencing with section 27460) of Part 3 of Division 2 of Title 3 of the Government Code, that the remains are not subject to the provisions of section 27492 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of death, and the recommendations concerning treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in section 5097.98 of the Public Resources Code.

California Public Resources Code Section 5097.98

Section 5097.98 requires the NAHC to notify the most likely descendants regarding the discovery of Native American human remains upon notification by a county coroner. This enables the descendants to inspect the site of the discovery of Native American human remains within 48 hours of notification by the NAHC, and to recommend to the landowner or the person responsible for the excavation work means for treating or disposition, with appropriate dignity, the human remains and any associated grave goods. Further, this section requires the owner of the land upon which Native American human remains were discovered, in the event that no descendant is identified, or the descendant fails to make a recommendation for disposition, or the land owner rejects the recommendation of the descendant, to reinter the remains and burial items with appropriate dignity on the property in a location not subject to further disturbance.

Senate Bill 18

As of March 1, 2005, Senate Bill 18 (Government Code Sections 65352.3 and 65352.4) requires that, prior to the adoption or amendment of a general plan proposed on or after March 1, 2005, a city or county must consult with Native American tribes with respect to the possible preservation of, or the mitigation of impacts to, specified Native American places, features, and objects located within that jurisdiction.

Regional

County of San Bernardino Development Code

The County of San Bernardino Development Code defines Cultural Resources Preservation (CP) Overlays. The CP Overlay is established by Development Code Sections 82.01.020 and 82.01.030, and is intended to provide for the identification and preservation of important archaeological resources. The County requires that a proposed project within the CP Overlay includes a report prepared by a qualified professional archaeologist that determines the presence or absence of archaeological and/or historical resources on the project site, as well as appropriate data recovery or protection measures. The CP Overlay may be applied to areas where archaeological and historic sites that warrant preservation are known or are likely to be present, as determined by cultural resources research and/or inventory. In highly sensitive CP Overlay Districts, the local Native American tribe would be notified in the event of uncovering evidence of Native American cultural resources. If requested by the tribe, a Native American Monitor shall be required during such grading or excavation to ensure all artifacts are properly protected and/or recovered (Section 82.12.050).

A Paleontologic Resources (PR) Overlay is also defined by the County under San Bernardino County Development Code Sections 82.01.020 (Land Use Plan and Land Use Zoning Districts) and 82.01.030 (Overlays). The PR Overlay may be applied to those areas where paleontological resources are known to occur or are likely to be present (determined through a paleontological records search). Detailed criteria for evaluation of paleontological resources and paleontologist qualifications are described in Development Code Sections 82.20.030 and 82.20.40.

The CP and PR Overlays are applicable to County lands; however, each local municipality has its own criteria for the preservation of local historic and prehistoric resources within their jurisdiction, as outlined below.

Local

City of Redlands Municipal Code

Historic and Scenic Preservation Ordinance (Title 2 [Administration and Personnel], Chapter 2.62 [Historic and Scenic Preservation]) The City addresses historic and scenic resource preservation through this ordinance, and establishes the Historic and Scenic Preservation Commission in Chapter 2.24. The Commission serves in an advisory capacity to the City Council and makes recommendations and determinations relating to the designation, preservation, protection, enhancement and perpetuation of the City's Historical and scenic properties. Further, Chapter 2.24 outlines the procedures for designation of historical and/or scenic properties (in association with Section 2.62.180), and provides for their definition. The following definition applies to historical and/or scenic Properties:

A. The property is the first, last, only or most significant historical or scenic property of its type in the City.
B. The property is associated with an individual or group having significant influence on the history or development of the City.
C. The property is an example or contains an example of a period, style, architectural movement, or construction of historical, aesthetic, or architectural interest.

D. The property is a part of or contributes aesthetically to the historical or scenic heritage of the City. This category includes, but is not limited to, landscaping, light standards, trees, curbings and signs.
E. The property is located within a geographically definable area possessing a concentration of historical or scenic properties that contribute to each other and are unified aesthetically by plan or by physical development.

Chapter 2.62 establishes a list of nominated resources and provides the criteria for designation. The criteria are as follows:

A. It has significant character, interest, or value as part of the development, heritage or cultural characteristics of the City of Redlands, state of California, or the United States.
B. It is the site of a significant historic event.
C. It is strongly identified with a person or persons who significantly contributed to the culture, history or development of the City.
D. It is one of the few remaining examples in the City possessing distinguishing characteristics of an architectural type or specimen.
E. It is a notable work of an architect or master builder whose individual work has significantly influenced the development of the city.
F. It embodies elements of architectural design, detail, materials, or craftsmanship that represents a significant architectural innovation.
G. It has a unique location or singular physical characteristics representing an established and familiar visual feature of a neighborhood, community, or the City.
H. It has unique design or detailing.
I. It is a particularly good example of a period or style.
J. It contributes to the historical or scenic heritage or historical or scenic properties of the City (to include, but not be limited to, landscaping, light standards, trees, curbings, and signs).
K. It is located within a historic and scenic or urban conservation district, being a geographically definable area possessing a concentration of historic or scenic properties which contribute to each other and are unified aesthetically by plan or physical development.

Finally, Chapter 2.62 requires a Certificate of Appropriateness for any exterior alteration to any designated historic resource, for new construction on the site of a designated historic resource, and for a lot split, lot line adjustment or subdivision relating to property which is or has a designated historic resource. A Certificate of Appropriateness is also required to erect, alter or relocate any sign which is in a designated district or associated with property which is or has a designated historic resource. New construction in a historic and/or scenic district also requires a Certificate of Appropriateness.

Redlands General Plan

The City of Redlands addresses architectural resources in the City Design and Preservation Element. Archaeological and paleontological resources are also generally covered by the City Design and

Preservation Element, but are specifically discussed in the Open Space and Conservation Element (Redlands 1995a). The following Guiding and Implementing Policies apply to cultural resources:[4]

Historic and Scenic Preservation

Policy 3.20a Identify, maintain, protect, and enhance Redlands cultural, historic, social, economic, architectural, agricultural, archaeological, and scenic heritage. In so doing, Redlands will preserve its unique character and beauty, foster community pride, conserve the character and architecture of its neighborhoods and commercial and rural areas, enable citizens and visitors to enjoy and learn about local history, and provide a framework for making appropriate physical changes.

Policy 3.20d Encourage retention of the character of existing historic structures and urban design elements that define the built environment of the City's older neighborhoods.

Policy 3.20e Encourage retention of historic structures in their original use or reconversion to their original use where feasible. Encourage sensitive, adaptive re-use where original use is no longer feasible.

Policy 3.20f Encourage preservation of and public access to significant scenic vistas, viewpoints and view corridors.

Historic and Scenic Conservation Areas

Policy 3.21a Designate Historic and Scenic Districts and Urban Conservation Districts whenever areas are qualified and supported by a significant majority of the property owners.

Policy 3.21b Establish priorities for protection of potential districts based on both significance and endangerment. Seek to establish support of property owners in high priority areas.

Policy 3.21c Establish zoning regulations that implement Historic and Scenic Preservation policies.

Policy 3.21h Establish design guidelines for parking lots and structures that reduce visual impacts on neighborhood and streetscape.

Policy 3.2li Establish lot sizes for in-fill development that relate to existing lot sizes nearby.

Policy 3.21k Provide incentives and standards to encourage preservation of citrus groves.

Policy 3.21l Recognize and mitigate the ill effects of the following on historic areas:

- Inappropriate commercial development;
- Inappropriate scale, materials, setbacks and landscaping;
- Interruption of the established street pattern;
- Inadequate off street parking, where development of off street parking does not cause loss of historic buildings;
- Excessive automobile traffic.

[4] These policies are not a complete listing of all policies contained in the General Plan; those policies that would be most applicable to the proposed project are included here.

Policy 3.21o Pursue policies of street management to control traffic in such areas, because historic areas are especially vulnerable when threatened by too much traffic.

City Property

Policy 3.22a Maintain and improve City-owned historic buildings and houses in an architecturally and environmentally sensitive manner.

Policy 3.22b Maintain and improve Redlands' streets, trees, streetlights, parkways, parks, stone curbs, and citrus groves in a manner that enhances the City's beauty and historic fabric.

Privately-Owned Historic Resources

Policy 3.23a Ensure that permanent changes to the exterior or setting of a designated historic resource are in keeping with the intent of the General Plan by requiring a Certificate of Appropriateness for such changes.

Policy 3.23c Encourage appropriate adaptive reuse of historic resources in order to prevent disuse, disrepair, and demolition, taking care to protect surrounding neighborhoods from disruptive intrusions.

Policy 3.23e Endeavor, should demolition of a designated historic resource occur, to ensure that a building of equal or greater design quality and/or use of equal or greater benefit to the community be constructed. Require that archival-quality drawings and/or photographic records be prepared to document the historic resource.

Policy 3.23f Institute an architectural salvage program to preserve architectural artifacts from buildings that must be demolished.

Policy 3.23h Encourage energy conservation alterations that are compatible with preservation.

Policy 3.23i Encourage the highest maintenance of historic resources by pursuing funding programs to assist people in doing needed repairs, by requiring code compliance, and by providing information to homeowners as to how to maintain their property and where to go for assistance and advice.

New Development

Policy 3.24a Encourage developers to construct new buildings and settings of such quality that preservationists of the future will wish to protect them. Encourage appropriate scale, materials, setbacks, and landscaping to enhance the City's beauty and historic fabric.

Policy 3.24b Establish design review guidelines for historic areas to ensure that new architecture will relate to and respect the environmental context.

Policy 3.24c Encourage compatibility of new land uses and new construction adjacent to buildings listed on the Inventory of Historical Structures. Construction should be physically and aesthetically complementary to the historic buildings.

Government Decision-Making:

Policy 3.26a Protect residential, agricultural, and natural areas that may be eligible for designation by rezoning such areas and/or amending the zoning code to promote conservation of the existing built environment and agricultural and scenic areas.

Policy 3.26b Consider the effect of proposed amendments to the General Plan and Zoning Ordinance on preservation concerns. Consider amending the Zoning Ordinance to allow historic district overlays and historic building site overlays.

Policy 3.26c Consider adopting additional provisions which enable the Historic and Scenic Preservation Commission to review permanent changes to the exterior or setting of designated historic resources, require minimum maintenance, encourage designation of agricultural and scenic areas, and establish significant penalties for demolition without a permit.

Policy 3.26d Consider developing ordinance language and procedures to allow designation of thematic resources. Examples include thematic designation of works of architect Davis Donald; thematic designation of buildings from "boom period" (1886-1888); and thematic designation of buildings related to citrus industry.

Policy 3.26e Consider measures to prevent unnecessary demolition when development projects do not materialize.

Policy 3.26f Establish a list of potential historic resources, historic districts, citrus groves, palm rows, and historic scenic areas. Set up a priority system for designation and proceed with designation.

Policy 3.26g Make the Certificate of Appropriateness process as streamlined and efficient as possible while not slighting its duty to protect the character of the neighborhood or structure in question.

Policy 3.261 Maintain a preservation program with adequate City staffing and integrate preservation concerns into government decision making.

Policy 3.26m Establish clear and efficient procedures for processing historic property applications.

Commercial and Redevelopment Areas

Policy 3.27a Encourage removal of inappropriately altered or tacked-on facades on commercial buildings and restoration of original facades.

Policy 3.27b Encourage new construction that ties the new with the old in a harmonious fashion, enhancing the historic pattern.

Policy 3.27c Encourage preservation, maintenance, enhancement and reuse of existing buildings in redevelopment areas, retention and renovation of existing residential structures, and relocation of existing residential structures within the City where retention on-site is not feasible.

Agricultural and Scenic Areas

Policy 3.29a Encourage preservation of citrus groves and other agricultural areas that are designated as having cultural or scenic significance. Encourage retention of existing privately owned citrus groves of all sizes, especially in historic neighborhoods.

Policy 3.29c Define and implement measures to preserve citrus groves, scenic views, vistas, and streetscapes for the community.

Preservation of Older Neighborhoods

Policy 3.30a Promote neighborhood preservation and stabilization.

Policy 3.30b Permit densities, design, and uses that will help preserve the character and amenities of existing older neighborhoods.

Policy 3.30c Discourage changes in residential areas that would disturb the character or clearly have a destabilizing effect on the neighborhood.

Policy 3.30d In multiple family areas with a predominance of houses built as single family residences, create "tailor-made" zones that will protect the single family appearance of the neighborhood.

Policy 3.30e In transitional areas, allow no new uses that would contribute to expansion of commercial uses and subsequent deterioration of neighborhoods.

Policy 3.30f Encourage shared parking or in-lieu parking in older neighborhoods.

Policy 3.30g Encourage preservation of historic public and private improvements, such as street curbs, street trees, specimen trees, street lights, hitching posts, masonry walls, unpaved and early paved sidewalks, etc.

Archaeological and Paleontological Resources

Policy 7.30a Protect archaeological and paleontological resources for their aesthetic, scientific, educational, and cultural values. (Also see Policies included in Section 3.20).

Policy 7.30b Using the Archaeological Resource Sensitivity Map, review proposed development projects to determine whether the site contains known prehistoric or historic cultural resources and/or to determine the potential for discovery of additional cultural resources; refer all applications affecting sensitive areas to the Archaeological Information Center for further study. [Refer to Figure 4.15.5-1 (Archaeological Resources Sensitivity Map)].

Policy 7.30e Require that applicants for projects identified by the Archaeological Information Center as potentially affecting sensitive resource sites hire a consulting archaeologist to develop an archaeologic resource mitigation plan; monitor the project to ensure that mitigation measures are implemented.

Policy 7.30d Require that areas found during construction to contain significant historic or prehistoric archaeologic artifacts be examined by a qualified consulting archaeologist or historian for appropriate protection and preservation.

The California Environmental Quality Act (CEQA) requires evaluation of any archaeological resource on the site of a development project. Unique resources, as defined by State law, should be protected, either by physical measures or by locating development away from the site. A preferred preservation method involves covering a site with earth fill for potential future, leisurely excavation; immediate excavation by qualified archaeologists may be undertaken if such protection is infeasible. If human remains are recovered, State law requires immediate notification of the County coroner, and cessation of work until the situation is resolved.

Policy 7.30e For projects involving Federal land, or requiring Federal permission or funding, ensure that applicants meet stricter criteria for archaeologic resource review, prior to commencement of work.

Projects involving the Federal government fall under a stricter set of review standards than those projects reviewed under CEQA. Federal-related projects include, for example, all drainage improvements in which the U. S. Army Corps of Engineers has an involvement.

Policy 7.30f Work with the San Bernardino County Museum to identify and protect Redlands' significant nonrenewable paleontological resources.

The Museum has prepared paleontologic sensitivity maps for some portions of San Bernardino County.

Project Impact Evaluation

Thresholds of Significance

The following thresholds of significance are based on the 2012 CEQA Guidelines Appendix G. For purposes of this EIR, implementation of the San Bernardino County Regional GHG Reduction Plan might have a significant adverse impact on cultural resources if it would do any of the following:

- Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature
- Disturb any human remains, including those interred outside of formal cemeteries

Analytic Method

The following analysis considers the presence and absence of historical, archaeological, or paleontological resources within the City. Historical resources include any resource listed in or determined to be eligible for listing in the NRHP, CRHR, certain CHLs and PHIs, as well as resources of regional or local significance that have been identified in a local historical resources inventory. Such regional or locally designated resources are presumed to be historical resources for purposes of CEQA unless a preponderance of evidence indicates otherwise. The presence of historical, archaeological, or paleontological resources is then considered against the potential impacts on such resources from implementation of the Regional Reduction Plan. To gather information on known resources within Redlands, City planning documents were reviewed, and searches were conducted on-line for resources listed in the NRHP and CRHR (Redlands1995a; Redlands 1995b; OHP 2013).

Effects Not Found to Be Significant

Threshold	Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

The City is known to have been home to Native American groups prior to settlement by Euro-Americans. Archaeological materials associated with occupation of the planning area are known to exist and have the potential to provide important scientific information regarding history and prehistory. Ground-disturbing activities, particularly in areas that have not previously been developed with urban uses ("native soils," which include agricultural lands), the Santa Ana River Wash, Mill Creek, Crafton Hills, San Timoteo Canyon and Live Oak Canyon (Redlands 1995b), and areas of sensitivity are depicted in Figure 4.15.5-1, have the potential to damage or destroy historic or prehistoric archaeological resources that may be present on or below the ground surface. Such resources may be considered as historical resources, as defined in Section 15064.5(a)(3)(D) ("[h]as yielded, or may be likely to yield, information important in history or prehistory"). In addition to the status of archaeological resources as historical resources, a resource may also be a "unique archaeological resource," as defined in Section 21083.2(g)(1)–(3) of CEQA. Further, archaeological resources are often of cultural or religious importance to Native American groups.

Adoption of land use planning policies that promote transit-oriented development along existing and planned transit corridors (e.g. On-Road-1.4) could involve some limited amount of ground disturbance. Such ground disturbance would be an indirect effect of the Regional Reduction Plan, as the Regional Reduction Plan does not directly confer development approvals for such land uses. Thus, the Regional Reduction Plan does not include activities that would directly result in extensive ground disturbing activities in previously undisturbed soils, and the potential for impacts to archaeological resources is considered low.

Policies in the Redlands General Plan address archaeological resources, and include directives for identifying areas containing such resources; adequate mitigation; and treatment in the event of inadvertent discovery (Guiding and Implementing Policies 7.30a through 7.30e). All projects within the City of Redlands are required to follow these policies. Adherence to these policies reduces impacts to archaeological resources to a less than significant level by requiring the protection of resources through identification and adequate mitigation, which would ensure that important scientific information regarding history or prehistory is not lost. Consequently, potential impacts to archaeological resources as a result of implementation of the Regional Reduction Plan would be ***less than significant***.

Threshold	Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Sediments known to yield paleontological resources are located within the City, and the San Timoteo Canyon contains particularly sensitive geologic units (Redlands 1995b). Thus, impacts to such sediments could result in the damage or destruction of paleontological resources. Adoption of land use planning policies that promote transit-oriented development along existing and planned transit corridors (e.g., On-Road-1.4) could involve some limited amount of ground disturbance. Such ground disturbance would be an indirect effect of the Regional Reduction Plan, as the Regional Reduction Plan does not

directly confer development approvals for such land uses. Thus, the Regional Reduction Plan does not include activities that would directly result in extensive ground disturbing activities in previously undisturbed soils, and the potential for impacts to paleontological resources is considered low.

A policy in the Redlands General Plan addresses paleontological resources and includes directives for identifying areas containing such resources and their protection (Implementing Policy 7.30f). Adherence to this policy reduces impacts to paleontological resources to a less than significant level by coordinating with the San Bernardino County Museum to protect resources in areas identified as being sensitive. Thus, potential impacts to paleontological resources as a result of implementation of the Regional Reduction Plan would be ***less than significant***.

Threshold	Would the project disturb any human remains, including those interred outside of formal cemeteries?

The Regional Reduction Plan does not include activities that would directly result in extensive ground disturbing activities within previously undisturbed soils, which renders it unlikely that human burials would be disturbed as a result of project implementation. In addition, and in the event human remains are encountered, the discovery is required to comply with State of California Public Resources Health and Safety Code Section 7050.5-7055. Specifically, Health and Safety Code Section 7050.5 describes the requirements if any human remains are discovered during excavation of a site. As required by state law, the requirements and procedures set forth in Section 5097.98 of the California Public Resources Code would be implemented, including notification of the County Coroner, notification of the Native American Heritage Commission, and consultation with the individual identified by the Native American Heritage Commission to be the Most Likely Descendant. If human remains are found during excavation, excavation must stop in the vicinity of the find and any area that is reasonably suspected to overlie adjacent remains until the County Coroner has been contacted, the remains investigated, and appropriate recommendations made for the treatment and disposition of the remains. The need for cessation of work in the vicinity of human remains and contacting the County Coroner is also reiterated by Redlands General Plan Implementing Policy 7.30e. Given compliance with existing City policy and state regulations that detail the appropriate actions necessary in the event human remains are encountered, potential impacts associated with the implementation of the Regional Reduction Plan would be reduced to ***less than significant***.

Project Impacts and Mitigation Measures

Threshold	Would the project cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?

There are several historical resources in the City of Redlands, including NRHP and CRHR listed properties, as well as numerous locally designated resources. Implementation of the Regional Reduction Plan will include energy-efficiency retrofit activities and the installation of solar on existing housing and existing commercial/industrial properties. These activities could be proposed at the site of an historical resource or at the site of a resource considered to be a potential historical resource. Future energy-efficiency retrofit activities and the installation of solar have the potential to result in significant impacts on historical resources within the City, including resources listed in or eligible for listing in the NRHP

and/or CRHR. Significant impacts could include the delisting or loss of eligibility of such resources. In addition, the completion of energy-efficiency retrofit activities and the installation of solar have the potential to result in significant impacts on buildings or structures of historic age (50 years old or older), or buildings or structures which may eventually be of historic age, and which may qualify as historical resources pursuant to CEQA upon evaluation.

CEQA Guidelines Section 15064.5(b) states that "a project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment." The Regional Reduction Plan may allow for energy-efficiency retrofit activities and solar installation on existing housing and existing commercial/industrial buildings, and these activities have the potential to cause a substantial adverse change in the significance of an historical resource through alteration of a historical resource's physical characteristics that conveys its historical significance. This is considered a potentially significant impact. Goals and policies in the Redlands General Plan address historical resources, including directives for identifying potential resources and designating resources, as well as protecting such resources through compatible zoning and design guidelines (Guiding and Implementing Policies 3.20 through 3.30).

With the application of the General Plan Guiding and Implementing Policies, as well as mitigation measure MM4.15.5-1, impacts would be reduced to ***less than significant***.

MM4.15.5-1 *Prior to activities that would physically affect known historical resources or any buildings or structures 50 years old or older or affect their historic setting, a cultural resource professional who meets the Secretary of the Interior's Professional Qualifications Standards for Architectural History will be consulted to determine if the proposed energy-efficiency retrofit or solar installation activities would cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5. The investigation shall include, as determined appropriate by the cultural resource professional and the City of Redlands, archival research, including, if necessary, a records search of the Archaeological Information Center (AIC) of the California Historical Resources Information System (CHRIS) and a pedestrian survey of the proposed improvements area to determine if any significant historic-period resources would be adversely affected by the proposed Regional Reduction Plan activities. The results of the investigation shall be documented in a technical report or memorandum that identifies and evaluates any historical resources within the improvements area and includes recommendations and methods for eliminating or reducing impacts on historical resources. Methods could include, but are not limited to, written and photographic recordation of the resource in accordance with the level of Historic American Building Survey (HABS) documentation that is appropriate to the significance (local, state, national) of the resource.*

Cumulative Impacts

The cumulative analysis for impacts on cultural resources considers a broad regional system of which the resources are a part. The cumulative context for the cultural resources analysis is the San Bernardino Valley and Prado Basin within San Bernardino and Riverside Counties. In these areas, common patterns of prehistoric and historic development have occurred. The analysis accounts for anticipated cumulative growth within the region.

Past development has disturbed human remains, including those interred outside of formal cemeteries. This has led to the implementation of specific requirements to preserve such remains, as codified in

CEQA Guidelines Section 15064.5(e) and PRC Section 5097.98. There is always the possibility that ground-disturbing activities during future construction may uncover previously unknown and buried human remains. Treatment of human remains is covered under these standard regulatory requirements. Therefore, there is no significant cumulative impact with respect to disturbance of human remains. The proposed Regional Reduction Plan would be subject to the same regulations, and the Regional Reduction Plan's cumulative impact on human remains is ***less than significant***.

Based upon existing studies outlining intense resource use in this region, and the documented, observable material culture (i.e., artifacts) recovered from the prehistoric era to the present, the San Bernardino Valley and Prado Basin are known to have high archaeological sensitivity, and past development has resulted in substantial adverse changes in the significance of various archaeological resources prior to the implementation of regulations enacted for the purpose of avoiding disturbance, damage, or degradation of these resources. Future development may uncover or disturb known or previously unknown archaeological resources. Impacts to such resources would be determined on a discretionary case-by-case basis, and follow CEQA, existing City of Redlands Ordinances, and the Redlands General Plan Guiding and Implementing Policies 7.30a through 7.30e. For future discretionary projects occurring under the Regional Reduction Plan, environmental review would occur at project-level. This would include studies to determine the presence or absence of resources in areas with a documented or inferred archaeological resource presence. Thereafter, properties with resources would be addressed through mitigation, as appropriate, and based on the recommendations of a qualified consulting archaeologist. Therefore, the proposed Regional Reduction Plan's cumulative impact on archaeological resources is ***less than significant***.

Past development has resulted in destruction of unique paleontological resources and unique geologic features. Based upon the geologic history of the San Bernardino Valley and Prado Basin, and the paleontological sensitivity of the rock units within this region, there is always the possibility that ground-disturbing activities during future construction may uncover previously unknown paleontological resources or sites or unique geologic features. Impacts to such resources would be determined on a discretionary case-by-case basis, and follow CEQA and the Redlands General Plan Implementing Policy 7.30f. For future discretionary projects occurring under the Regional Reduction Plan, environmental review would occur at project-level. This would include coordination with the San Bernardino County Museum to determine if the project was occurring within an area of documented or inferred paleontological resource presence. Thereafter, significant resources would be protected. Therefore, the proposed Regional Reduction Plan's cumulative impact on paleontological resources is ***less than significant***.

Urban development that has occurred over the past several decades in the San Bernardino Valley and Prado Basin has resulted in the demolition and alteration of innumerable historical resources, and it is reasonable to assume that present and future development activities will continue to result in impacts on historical resources. Because all historical resources are unique and nonrenewable members of finite classes, all adverse effects or negative impacts erode a dwindling resource base. Federal, state, and local laws protect historical resources in most instances. Even so, it is not always feasible to protect historical resources, particularly when preservation in place would prevent implementation of projects. However, compliance with existing City Guiding and Implementing Policies, as outlined in the General Plan, and

the implementation of mitigation measure MM4.15.5-1, requires qualified professionals to conduct site-specific cultural resource investigations for future activities associated with the Regional Reduction Plan. Compliance with existing policies and MM4.15.5-1 will ensure that impacts on historical resources are appropriately assessed and that mitigation is performed, as necessary. In this manner, the project's incremental contribution to cumulative effects on historical resources would not be cumulatively considerable, and cumulative impacts are considered ***less than significant***.

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4.15.6 Geology/Soils

This section of the EIR analyzes the potential environmental effects on geology/soils in the City of Redlands from implementation of the Regional Reduction Plan. Data for this section were taken from Redlands General Plan (1995a) and associated environmental documents (1995b). Full reference-list entries for all cited materials are provided at the end of this section.

No comment letters addressing geology/soils were received in response to the notice of preparation (NOP) circulated for the Regional Reduction Plan.

Environmental Setting

Geology and Physiography

The Redlands area lies within the San Bernardino Valley, which is the lowland area south of the San Bernardino Mountains and north of the hills and mountains of the Peninsular Ranges Geomorphic Province. The valley is geologically young and is the result of the merging of two major fault systems, the San Andreas and the San Jacinto. Interaction of these two faults produced the valley by disrupting the existing bedrock and offsetting the Redlands area from its original position near the Salton Sea. During this offset, sediments derived from the mountains filled the valley and developed geologic units such as the San Timoteo Badlands.

The oldest rocks in the planning area are associated with the regional geologic history and include Precambrian to Mesozoic (several hundreds of million years old) granitic and metamorphic rocks that comprise the San Bernardino Mountains in the northern part of the planning area. Redlands is located on geologically young alluvial floodplain deposits of the Santa Ana River derived from erosion of the adjacent mountains surrounding the valley. Most of the City is flat, with the exception of steep slopes in San Timoteo Canyon, the Crafton Hills, and north of the Mill Creek channel.

Faults and Seismic Hazards

Redlands is located between two of the most active Southern California fault zones, the San Jacinto and San Andreas. According to the Southern California Earthquake Center, the 30-year probability for magnitude M 7.3 earthquakes on the San Jacinto and San Andreas faults is 37 and 28 percent, respectively. The San Andreas and San Jacinto faults, as well as the less-well-known Western Heights and Chicken Hill fault zones east of the City's planning area, have also been classified as Earthquake Fault Zones under the Alquist-Priolo Earthquake Fault Zoning Act. The locations of these fault zones in the City are shown on Figure 4.15.6-1 (Geologic Hazards).

Several active, potentially active, and non-active faults also either transect or are in close proximity to the planning Area. These include the western fault segments of the Crafton Hills fault system, known locally as the Redlands and Reservoir Canyon-Crafton Hills faults; the Lorna Linda fault, and the Greenspot fault. The latter two faults are segments of the San Jacinto and San Andreas faults, but these fault segments or faults are not presently zoned for Alquist-Priolo earthquake fault zone studies. However, based on current studies, they should be considered active. The western extent of the Banning fault and

the Vincent thrust fault, occur in the San Timoteo Badlands and northern portion of the Crafton Hills, respectively. These faults are considered part of older fault systems and are not considered to be active or potentially active.

The potential for strong groundshaking from local or distant earthquakes is high in the planning area. Secondary effects likely to occur in Redlands include liquefaction and lateral spreading. The northern part of the planning area, generally in the area of the Santa Ana Wash, has a moderate to high potential for liquefaction (see Figure 4.15.6-1). Lateral spreading, phenomenon related to liquefaction, has high potential for occurrence along San Timoteo, Reservoir, and Live Oak Canyon creek channels where alluvial deposits and high groundwater levels are present. During very large earthquakes, it is possible for subsidence or seismically induced settlement to occur in loose granular soils in the flat or gently sloped portions of the planning area. Differential settlement is a form of seismically induced settlement and occurs along areas where the depth to bedrock varies abruptly, such as along the edges of alluvial basins north and west of Crafton Hills and north of the San Timoteo Badlands.

Other Geologic Hazards

Slope Instability

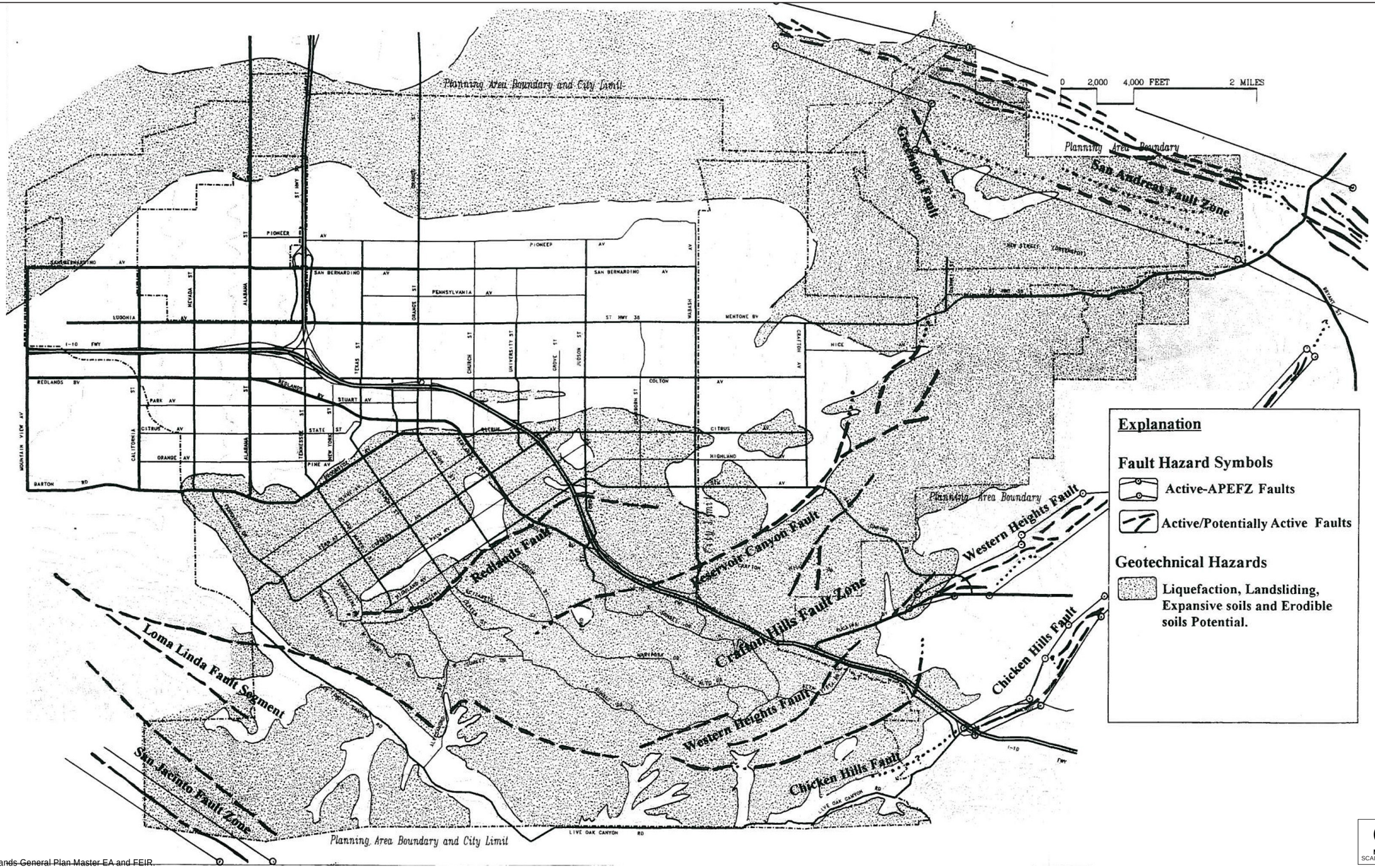
Slope instability includes landslides (both natural and man-made), rockfall, mud/debris flows and soil creep. Slope instability potential can also be related to seismic activity, especially in areas with moderately steep to steep slopes and oversteepened road cuts. Most of the Redlands planning area is considered to have a low potential for slope instability due to its low relief. Some portions of the planning area, such as the base of the San Bernardino Mountains, high elevation portions of the Crafton Hills, and the Badlands are considered to have moderate to high slope instability potential. Existing slope instability in these areas is generally manifested by surficial soil slips, mud/debris flows, soil creep within expansive clayey soils, and rockfall on moderately steep slopes and within natural drainages (tributaries). A majority of the Crafton Hills in northeastern part of the planning area, and the hills north of the Badlands have low to moderate landslide potential. Large bedrock landslides have been mapped in the Crafton Hills, south San Timoteo Badlands, and in the steeper slopes of the northeast part of the planning area.

Compressible/Collapsible Soils

Compressible or collapsible soils are those which decrease in volume with an increase in overlying weight or water. This condition results in settlement of the ground surface. Soils susceptible to a decrease in volume generally occur in surficial deposits in the low lying or gently sloped portions of the planning area. Surficial soils of alluvial valleys, stream bottoms and the base of slopes in the northwestern half of the Planning Area, as well as Reservoir, Live Oak and San Timoteo Canyon and Mill Creek areas, are considered as having a moderate to high potential for collapse.

Expansive Soils

Expansive soils are those possessing a shrink-swell potential or a potential for change in volume with changes in moisture content. They generally consist of clays, silty to sandy clay and clayey sand. Expansive soils generally occur in the gentle to moderately steep slopes of the planning area valley floor, alluvial fans, terraces, and hillsides in the San Timoteo Badlands.



***Source*:** City of Redlands General Plan Master EA and FEIR.

Figure 4.15.6-1
Geologic Hazards

ATKINS

Erosion

The potential for natural erosional-type hazards is greater in locations in the planning area where there are steep slopes, loose to unconsolidated soils and sediments, little or no vegetation cover, and uncontrolled surface water runoff. Soils exhibiting moderate to very high erosion potential occur throughout the planning area.

Subsidence

Subsidence, the sinking or downward settling of the earth's surface, has become apparent in many parts of California over the last 50 years. The principal cause has been the removal of large volumes of subsurface fluids, such as groundwater or petroleum hydrocarbons. Subsidence from groundwater withdrawal has occurred in the Yucaipa Graben and in the Lorna Linda community, east and west of the City, respectively.

Regulatory Framework

Federal

There are no federal regulations related to geologic and soil resources and hazards.

State

California Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act was signed into state law in 1972. Its primary purpose is to mitigate the hazard of fault rupture by prohibiting the location of structures for human occupancy across the trace of an active fault. The act requires the State Geologist to delineate "Earthquake Fault Zones" along faults that are "sufficiently active" and "well defined." The act also requires that cities and counties withhold development permits for sites within an Earthquake Fault Zone until geologic investigations demonstrate that the sites are not threatened by surface displacement from future faulting. Pursuant to this act, structures for human occupancy are not allowed within 50 feet of the trace of an active fault. Earthquake Fault Zones have been delineated in Redlands, as shown in Figure 4.15.6-1.

Seismic Hazard Mapping Act

The Seismic Hazard Mapping Act was adopted by the state in 1990 for the purpose of protecting the public from the effects of nonsurface fault rupture earthquake hazards, including strong ground shaking, liquefaction, seismically induced landslides, or other ground failure caused by earthquakes. The goal of the act is to minimize loss of life and property by identifying and mitigating seismic hazards. The California Geological Survey prepares and provides local governments with seismic hazard zone maps that identify areas susceptible to amplified shaking, liquefaction, earthquake-induced landslides, and other ground failures. The State has not published maps that cover the portion of San Bernardino County where Redlands is located.

Senate Bill 547

After the 1933 Long Beach earthquake, building codes changed prohibiting unreinforced masonry buildings, and few have been built in California since then; however, there are unreinforced concrete buildings that remain and pose a danger of collapse during seismic events. Senate Bill 547 (Government Code Sections 8875 et seq.), requires local governments to conduct an inventory of unreinforced concrete buildings within their jurisdiction and assess the hazard posed by this class of building. The Senate bill does not specify the level of performance required or expected, but leaves it up to each community.

California Building Code (2010)

California Code of Regulations (CCR) Title 24, Part 2, the California Building Code (CBC), provides minimum standards for building design in the State. The 2010 CBC, effective January 1, 2011, is the current code and is based on the current (2009) International Building Code (IBC).

Each jurisdiction in California may adopt its own building code based on the 2010 CBC. Local codes are permitted to be more stringent than the 2010 CBC, but, at a minimum, are required to meet all state standards and enforce the regulations of the 2010 CBC beginning January 1, 2011.

Chapter 16 of the CBC addresses structural design requirements governing seismically resistant construction (Section 1604), including, but not limited to, factors and coefficients used to establish seismic site class and seismic occupancy category for the soil/rock at the building location and the proposed building design (Sections 1613.5 through 1613.7). Chapter 18 includes, but is not limited to, the requirements for foundation and soil investigations (Section 1803); excavation, grading, and fill (Section 1804); allowable load-bearing values of soils (Section 1806); and the design of footings, foundations, and slope clearances (Sections 1808 and 1809), retaining walls (Section 1807), and pier, pile, driven, and cast-in-place foundation support systems (Section 1810). Chapter 33 includes, but is not limited to, requirements for safeguards at work sites to ensure stable excavations and cut or fill slopes (Section 3304). Appendix J of the CBC includes, but is not limited to, grading requirements for the design of excavations and fills (Sections J106 and J107) and for erosion control (Sections J109 and J110). Construction activities are subject to occupational safety standards for excavation, shoring, and trenching as specified in Cal-OSHA regulations (CCR Title 8).

Natural Hazards Disclosure Act

The Natural Hazards Disclosure Act requires that sellers of real property and their agents provide prospective buyers with a "Natural Hazard Disclosure Statement" when the property being sold lies within one or more state-mapped hazard areas, including a Seismic Hazard Zone. California law also requires that when houses built before 1960 are sold, the seller must give the buyer a completed earthquake hazards disclosure report and a booklet titled "The Homeowners Guide to Earthquake Safety." This publication was written and adopted by the California Seismic Safety Commission.

Regional

No regional regulations exist pertaining to geologic and soil resources and hazards. Each local jurisdiction has their own criteria for regulating geologic and soil resources and hazards.

Local

City of Redlands Municipal Code

Chapter 17.07 includes regulations specifying procedures for preparing and submitting geotechnical reports to the City in conjunction with development applications. Chapter 18.212 (Land Development Standards) identifies the requirements pertaining to excavation, grading, and earthwork, including fills and embankments, and grading permits. The Redlands Hillside Development Overlay District (Ordinance 2030, Municipal Code Chapter 18.138) bases development density allowances on slope gradients. The City has also adopted regulations pertaining to mudslide (mudflow)-prone areas (Section 15.32.170).

Redlands General Plan

The Redlands General Plan policies that are applicable to geology and soils[5] are as follows:

Open Space and Conservation Element, Seismicity, Geology, Soils

Policy 8.50a Investigate and mitigate geologic and seismic hazards, or locate development away from such hazards, in order to preserve life and protect property.

Policy 8.50b Support implementation of San Bernardino County General Plan policies relating to geologic and seismic hazards, and consult with the San Bernardino County Geologist where conflicting information exists or where no published information is available.

Policy 8.50c Continue to restrict development with Alquist-Priolo Earthquake Fault Zones and other active/potentially active faults which have not yet received Alquist-Priolo classification.

Policy 8.50e Require areas identified as having significant liquefaction potential (including secondary seismic hazards such as differential compaction, lateral spreading, settlement, rockfall, and landslide) to undergo geotechnical study prior to development, mitigate the potential hazard to a level of insignificance; if mitigation is not possible, preserve these areas as open space or agriculture.

Policy 8.50i Continue to regulate development on slopes greater than 15 percent (15-foot rise in 100 feet run) to minimize soil erosion, landslides, water runoff, flood hazards, loss of habitat, and wildfire hazards. Designate land exceeding 30 percent slope as Resource Conservation on the General Plan Diagram and limit development to one housing unit per 10 acres or one housing unit per parcel existing on the date of adoption of the General Plan if under 10 acres. Transferring densities from steeper areas to flatter portions of the site is desirable and preferred.

Policy 8.50k For new construction and exterior building expansions including multi-story additions or lateral expansions as deemed appropriate by the City Building Department, require the preparation of a geotechnical/soils/geologic report by a registered civil geotechnical/soils engineer and a certified engineering geologist. This report shall address erodible, expansive and collapsible soils, existing or

[5] These policies are not a complete listing of all policies contained in the General Plan; those policies that would be most applicable to the proposed project are included here.

potential landslides, areas with unsuitable percolation characteristics, large scale subsidence, non rippable bedrock areas, ground motion parameters, active/potentially active faulting, liquefaction, and any other geotechnical concepts as appropriate and make recommendations for mitigating any potential adverse impacts.

Policy 8.501 Require soil erosion mitigation during construction.

Project Impact Evaluation

Thresholds of Significance

The following thresholds of significance are based on the 2012 CEQA Guidelines Appendix G. For purposes of this EIR, implementation of the San Bernardino County Regional GHG Reduction Plan might have a significant adverse impact on geology/soils if it would do any of the following:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
  - > 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 Division of Mines and Geology Special Publication 42.
  - > Strong seismic groundshaking
  - > Seismic-related ground failure, including liquefaction
  - > Landslides
- Result in substantial soil erosion or the loss of topsoil
- 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
- Be located on expansive soil, as defined in 2010 California Building Code Section 1803.5.2, creating substantial risks to life or property
- 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

Analytic Method

Baseline information to characterize geologic and soils conditions that could affect or be affected by the proposed project was compiled from readily available publications, including the General Plan, and available resource mapping. GHG reduction measures selected by the City of Redlands in the Regional Reduction Plan were reviewed to determine which actions could result in physical changes to the environment that could affect or be affected by seismic hazards, erosion, or other geologic or soils hazards.

Effects Not Found to Be Significant

Threshold	Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: ■ 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 Division of Mines and Geology Special Publication 42. ■ Strong seismic groundshaking ■ Seismic-related ground failure, including liquefaction ■ Landslides

Strong groundshaking can be expected in Redlands as a result of earthquakes on local and regional faults, and there is a moderate to high potential for seismic-related secondary effects including liquefaction, lateral spreading, and slope failures in some locations in the planning area. Implementation of the reduction measures in the Regional Reduction Plan such as transit station improvements, transit-oriented development, park-and-ride lots, and bicycle/pedestrian network enhancements described in reduction measure On-Road Transportation-1 (Sustainable Communities Strategy) could be exposed to damage from seismic hazards. Project-specific geotechnical reports and soil surveys would be required for such projects and would contain site-specific recommendations regarding seismic safety. Projects would also be required to comply with seismic safety provisions of the 2010 CBC. With implementation of General Plan Policy 8.50a and its implementing Policies 8.50c, 8.50e, and 8.50k and Municipal Code requirements, this would reduce potential hazards to the extent required by law. Consequently, potential impacts as a result of implementation of the Regional Reduction Plan would be ***less than significant***. No mitigation is required.

Threshold	Would the project result in substantial soil erosion or the loss of topsoil?

Soils exhibiting moderate to very high erosion potential occur throughout the planning area. Grading associated with improvements that could be implemented for reduction measure Transportation-1 would involve soil disturbance, which could increase erosion potential temporarily. Potential erosion impacts would be specific to future project sites that could be developed as a result of implementing reduction measures in the Regional Reduction Plan such as TOD projects and park-and-ride lots, solar systems for new warehousing, and energy-efficiency features in new development (PS-1) would depend largely on the areas affected and the length of time soils are subject to erosion. Grading and erosion is regulated by the City as part of the project permitting process to ensure projects do not cause or exacerbate erosion. Along with implementation of General Plan Implementing Policy 8.50l, potential erosion impacts as a result of implementation of the Regional Reduction Plan would be ***less than significant***. No mitigation is required.

Threshold	Would the project 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?

Some locations in the Redlands planning area have the potential for slope instability, such as landslides, rockfall, mud/debris flow and soil creep, subsidence, and compressible/collapsible soils, which can pose a hazard to development. Implementation of the reduction measures in the Regional Reduction Plan such as transit station improvements, transit-oriented development, park-and-ride lots, and bicycle/pedestrian network enhancements described in reduction measure On-Road Transportation-1 (Sustainable Communities Strategy) could be exposed to damage from such hazards. Project-specific geotechnical reports and soil surveys would be required for such projects and would contain site-specific recommendations regarding identified hazards. The Redlands Hillside Development Overlay District (Ordinance 2030, Municipal Code Chapter 18.138) bases development density allowances on slope gradients. The City has also adopted regulations pertaining to mudslide (mudflow)-prone areas (Section 15.32.170). With implementation of General Plan Policy 8.50a and its implementing Policies 8.50e, 8.50i, and 8.50k and Municipal Code requirements, this would reduce potential hazards. Consequently, potential impacts as a result of implementation of the Regional Reduction Plan would be ***less than significant***. No mitigation is required.

Threshold	Would the project be located on expansive soil, as defined in 2010 California Building Code Section 1803.5.2, creating substantial risks to life or property?

Expansive soils occur in some locations in Redlands. As described above, project-specific geotechnical reports and soil surveys would be required for projects that could be constructed as a result of implementing Regional Reduction Plan measures such as Transportation-1 and PS-1 and would contain site-specific recommendations regarding identified hazards. With implementation of General Plan Policy 8.50a and its implementing Policies 8.50e and 8.50k and Municipal Code requirements, this would reduce potential expansive soil hazards. Consequently, potential impacts as a result of implementation of the Regional Reduction Plan would be ***less than significant***. No mitigation is required.

Threshold	Would the project 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?

None of the reduction measures are related to or require the need for septic tanks or alternative wastewater disposal systems. There would be ***no impact***.

Cumulative Impacts

Future growth envisioned in the General Plan could be affected by seismic hazards or other geotechnical conditions, or could cause erosion. Geologic and soils hazards and erosion are typically site-specific and do not combine to produce cumulative effects. Policies in the General Plan and adherence to CBC and City standards for development, as established in the Municipal Code, would reduce impacts of new development to the extent required by law.

The Regional Reduction Plan would not result in any direct or indirect significant effects related to geology and soils, and, therefore, implementation of the Regional Reduction Plan would not create impacts that are cumulatively considerable. Therefore, ***cumulative impacts would be less than significant***.

References

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4.15.7 Greenhouse Gas Emissions

This section of the EIR analyzes the potential environmental effects on greenhouse gas (GHG) emissions in the City of Redlands from implementation of the Regional Reduction Plan. Data for this section were taken from Redlands General Plan (1995a), associated environmental documents (1995b), and various sources, including publications prepared by a number of professional associations and agencies that have suggested approaches and strategies for complying with CEQA's environmental disclosure requirements. Such organizations include the California Attorney General's Office (AGO), the California Air Pollution Controls Officers Association (CAPCOA), the United Nations and World Meteorological Organization's Intergovernmental Panel on Climate Change (IPCC), the Climate Registry, and the Association of Environmental Professionals (AEP). Full reference-list entries for all cited materials are provided at the end of this section.

No comment letters addressing greenhouse gas emissions were received in response to the notice of preparation (NOP) circulated for the Regional Reduction Plan.

Environmental Setting

The proposed project is located within the South Coast Air Basin (Basin). The regional climate within the Basin is considered semi-arid and is characterized by warm summers, mild winters, infrequent seasonal rainfall, moderate daytime onshore breezes, and moderate humidity. Climate change within the Basin is influenced by a wide range of emission sources, such as utility usage, heavy vehicular traffic, industry, and meteorology.

The City of Redlands emitted approximately 693,087 metric tons (MT) of carbon dioxide equivalents (CO_2e) in 2008. The emissions were calculated based on the 2012 RTP traffic modeling, data from utilities, and land use. The largest portion of the City's 2008 emissions were from transportation (46.0 percent), followed by emissions from electricity and natural gas use in buildings (43.6 percent). Table 4.15.7-1 (2008 Net Total Emissions) summarizes the City's net 2008 emissions of CO_2e as broken down by emissions category. This represents the baseline against which GHG emissions as a result of implementation of the Regional Reduction Plan are analyzed. A detailed breakdown of 2008 emissions by category is available in the Regional Reduction Plan.

Climate Change Background

Parts of the earth's atmosphere act as an insulating blanket of the right thickness to trap sufficient solar energy and keep the global average temperature in a suitable range. The "blanket" is a collection of atmospheric gases called "greenhouse gases" based on the idea that these gases trap heat like the glass walls of a greenhouse. These gases, mainly water vapor, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), ozone (O_3), and chlorofluorocarbons (CFCs), all act as effective global insulators, reflecting visible light and infrared radiation back to earth. Human activities, such as producing electricity and driving internal combustion vehicles, have contributed to the elevated concentration of these gases in the atmosphere. This in turn is causing the earth's temperature to rise. A warmer earth may lead to changes

in rainfall patterns, smaller polar ice caps, a rise in sea level, and a wide range of impacts on plants, wildlife, and humans.

Table 4.15.7-1 2008 Net Total Emissions

Category	*Metric Tons of CO_2e*
Building Energy	302,160
On-Road Transportation	319,157
Off-Road Equipment	30,147
Solid Waste	16,391
Agriculture	3,298
Wastewater Treatment	2,773
Water Conveyance	19,161
Total	***693,087***
Excluded Stationary Sources under Title V Permits[a]	92,324

a. Excluded from target setting and reductions due to lack of jurisdictional control (see "Analytical Method" section below)

The relationships of water vapor and ozone as GHGs are poorly understood. It is unclear how much water vapor acts as a GHG. The uncertainty is due to the fact that water vapor can also produce cloud cover, which reflects sunlight away from earth and can counteract its effect as a GHG. Also, water vapor tends to increase as the earth warms, so it is not well understood whether the increase in water vapor is contributing to or rather a result of climate change. Ozone tends to break down in the presence of solar radiation but is not understood well enough for evaluation. For these reasons, methodologies approved by the IPCC, United States Environmental Protection Agency (USEPA), and the California Air Resources Board (ARB) focus on carbon dioxide, nitrous oxide, methane, and chlorofluorocarbons. The following provides a brief description of each of these GHGs.

Carbon Dioxide

The natural production and absorption of carbon dioxide occurs through the burning of fossil fuels (e.g., oil, natural gas, and coal), solid waste, trees and wood products, and as a result of other chemical reactions, such as those required to manufacture cement. Globally, the largest source of CO_2 emissions is the combustion of fossil fuels such as coal, oil, and gas in power plants, automobiles, and industrial facilities. A number of specialized industrial production processes and product uses, such as mineral or metal production, and the use of petroleum-based products, leads to CO_2 emissions.

CO_2 is removed from the atmosphere (or sequestered) when it is absorbed by plants as part of the biological carbon cycle. Natural sources of CO_2 occur within the carbon cycle where billions of tons of atmospheric CO_2 are removed by oceans and growing plants and are emitted back into the atmosphere through natural processes. When in balance, total CO_2 emissions and removals from the entire carbon cycle are roughly equal. Since the Industrial Revolution in the 1700s, human activities, including burning of oil, coal, and gas and deforestation, increased CO_2 concentrations in the atmosphere by 35 percent as of 2005.

Methane

Methane is emitted from a variety of both human-related and natural sources. CH_4 is emitted during the production and transport of coal, natural gas, and oil, from livestock and other agricultural practices, and from the decay of organic waste in municipal solid waste landfills. It is estimated that 60 percent of global CH_4 emissions are related to human activities. Natural sources of CH_4 include wetlands, gas hydrates,[6] permafrost, termites, oceans, freshwater bodies, nonwetland soils, and wildfires. CH_4 emissions levels from a particular source can vary significantly from one country or region to another. These variances depend on many factors, such as climate, industrial and agricultural production characteristics, energy types and usage, and waste management practices. For example, temperature and moisture have a significant effect on the anaerobic digestion process, which is one of the key biological processes resulting in CH_4 emissions from both human and natural sources. Also, the implementation of technologies to capture and utilize CH_4 from sources such as landfills, coal mines, and manure management systems affects the emissions levels from these sources.

Nitrous Oxide

Concentrations of nitrous oxide also began to rise at the beginning of the Industrial Revolution reaching 314 parts per billion (ppb) by 1998. Microbial processes in soil and water, including those reactions that occur in fertilizer containing nitrogen, produce nitrous oxide. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to the atmospheric load of N_2O.

Chlorofluorocarbons

Chlorofluorocarbons have no natural source, but were synthesized for uses as refrigerants, aerosol propellants, and cleaning solvents. Since their creation in 1928, the concentrations of CFCs in the atmosphere have been rising. Due to the discovery that they are able to destroy stratospheric ozone, a global effort to halt their production was undertaken, and levels of the major CFCs are now remaining static or declining. However, their long atmospheric lifetimes mean that some of the CFCs will remain in the atmosphere for over 100 years. Since they are also a GHG, along with such other long-lived synthesized gases as CF_4 (carbontetrafluoride) and SF_6 (sulfurhexafluoride), they are of concern. Another set of synthesized compounds called HFCs (hydrofluorocarbons) are also considered GHGs, though they are less stable in the atmosphere and therefore have a shorter lifetime and less of an impact. CFCs, CF_4, SF_6, and HFCs have been banned and are no longer available. Therefore, these GHGs are not included further in this analysis.

Potential Effects of Global Climate Change

Climate change could have a number of adverse effects. Although these effects would have global consequences, in most cases they would not disproportionately affect any one site or activity. In other words, many of the effects of climate change are not site-specific. Emission of GHGs would contribute

[6] Gas hydrates are crystalline solids that consist of a gas molecule, usually methane, surrounded by a "cage" of water molecules.

to the changes in the global climate, which would in turn, have a number of physical and environmental effects. A number of general effects are discussed below.

Water Supply. California Health and Safety Code Section 38501(a) recognizes that climate change "poses a serious threat to the economic well-being, public health, natural resources, and the environment of California," and notes, "the potential adverse impacts of [climate change] include … reduction in the quality and supply of water to the state from the Sierra snowpack." As most of the state, including the City of Redlands, depends on surface water supplies originating in the Sierra Nevada, this potential water supply reduction is a concern.

Most of the scientific models addressing climate change show that the primary effect on California's climate would be a reduced snow pack and a shift in stream-flow seasonality. A higher percentage of the winter precipitation in the mountains would likely fall as rain rather than as snow in some locations, reducing the overall snowpack. Further, as temperatures rise, snowmelt is expected to occur earlier in the year. As a result, peak runoff would likely come a month or so earlier. The end result of this would be that the state may not have sufficient surface storage to capture the early runoff, and so, absent construction of additional water storage projects, a portion of the current supplies would flow to the oceans and be unavailable for use in the state's water delivery systems.

Water Quality. Climate change could have adverse effects on water quality, which would in turn affect the beneficial uses (habitat, water supply, etc.) of surface water bodies and groundwater. The changes in precipitation discussed above could result in increased sedimentation, higher concentration of pollutants, higher dissolved oxygen levels, increased temperatures, and an increase in the amount of runoff constituents reaching surface water bodies. Sea level rise, discussed above, could result in the encroachment of saline water into freshwater bodies.

Ecosystems and Biodiversity. Climate change could have effects on diverse types of ecosystems, from alpine to deep sea habitat. As temperatures and precipitation change, seasonal shifts in vegetation would occur, which would potentially have an effect on the distribution of associated flora and fauna species. As the range of species shifts, habitat fragmentation could occur, with acute impacts on the distribution of certain sensitive species. The IPCC states that "20 percent to 30 percent of species assessed may be at risk of extinction from climate change impacts within this century if global mean temperatures exceed 2 to 3°C (3.6 to 5.4°F) relative to pre-industrial levels" (IPCC 2007). Shifts in existing biomes[7] could also make ecosystems vulnerable to invasive species encroachment. Wildfires, which are an important control mechanism in many ecosystems, may become more severe and more frequent, making it difficult for native plant species to repeatedly re-germinate. In general terms, climate change would put a number of stressors on ecosystems, with potentially catastrophic effects on biodiversity.

Human Health Impacts. Climate change may increase the risk of vector-borne infectious diseases, particularly those found in tropical areas and spread by insects—malaria, dengue fever, yellow fever, and encephalitis (USEPA 2008). While these health impacts would largely affect tropical areas in other parts of the world, effects would also be felt in California. Warming of the atmosphere would be expected to increase smog and particulate pollution, which could adversely affect individuals with heart and

[7] A biome is a major ecological community classified by the predominant vegetation, and hence animal inhabitants.

respiratory problems, such as asthma. Extreme heat events would also be expected to occur with more frequency, and could adversely affect the elderly, children, and the homeless. Finally, the water supply impacts and seasonal temperature variations which could occur as a result of climate change could affect the viability of existing agricultural operations, making the food supply more vulnerable.

Potential Effects of Human Activity on Climate Change

The burning of fossil fuels, such as coal and oil, especially for the generation of electricity and powering of motor vehicles, has led to substantial increases in CO_2 emissions (and thus substantial increases in atmospheric concentrations). In 1994, atmospheric CO_2 concentrations were found to have increased by nearly 30 percent above pre-industrial (c. 1760) concentrations.

The effect each GHG has on climate change is measured as a combination of the volume of its emissions, and its global warming potential (GWP), and is expressed as a function of how much warming would be caused by the same mass of CO_2. Thus, GHG emissions are typically measured in terms of pounds or tons of CO_2 equivalents (CO_2e), and are often expressed in metric tons (MT) or millions of metric tons (MMT) of CO_2e.

- **Global Emissions**—Worldwide emissions of GHGs in 2004 were nearly 30 billion tons of CO_2e per year (including both on-going emissions from industrial and agricultural sources, but excluding emissions from land-use changes) (United Nations 2007).
- **U.S. Emissions**—In 2004, the United States emitted 7.1 billion tons of CO_2e. Of the four major sectors nationwide—residential, commercial, industrial, and transportation—transportation accounts for the highest percentage of GHG emissions (approximately 35 to 40 percent); these emissions are entirely generated from direct fossil fuel combustion. In 2008, the United States emitted 6.9 billion tons of CO_2e, with transportation accounting for the highest percentage of GHG emissions, approximately 32 percent (USEPA 2011).
- **State of California Emissions**—In 2004, California emitted approximately 483 million tons of CO_2e, or about 6 percent of the U.S. emissions. This large number is due primarily to the sheer size of California compared to other states. By contrast, California has one of the fourth lowest per-capita GHG emission rates in the country, due to the success of its energy-efficiency and renewable energy programs and commitments that have lowered the state's GHG emissions rate of growth by more than half of what it would have been otherwise. Another factor that has reduced California's fuel use and GHG emissions is its mild climate compared to that of many other states. In 2008, California's GHG emissions were approximately 478 million metric tons CO_2e, generally attributed to the reduced travel, and therefore, transportation emissions (USEPA 2010).
  - > The California Energy Commission (CEC) found that transportation is the source of approximately 41 percent of the state's GHG emissions, followed by electricity generation (both in-state and out-of-state) at 23 percent, and industrial sources at 20 percent. Agriculture and forestry is the source of approximately 8.3 percent, as is the source categorized as "other," which includes residential and commercial activities (CEC 2007).

Various aspects of constructing, operating, and eventually discontinuing (demolition and disposal of waste) the use of industrial, commercial, and residential development will result in GHG emissions. Operational GHG emissions result from energy use associated with heating, lighting, and powering

buildings (typically through natural gas and electricity consumption), pumping and processing water (which consumes electricity), as well as fuel used for transportation and decomposition of waste associated with building occupants. New development can also create GHG emissions in its construction and demolition phases in connection with the use of fuels in construction equipment, creation and decomposition of building materials, vegetation clearing, and other activities. However, it is noted that new development does not necessarily create entirely new GHG emissions. Occupants of new buildings are often relocating and shifting their operational-phase emissions from other locations.

Regulatory Framework

Federal

U.S. Environmental Protection Agency

The USEPA is responsible for implementing federal policy to address global climate change. The federal government administers a wide array of public-private partnerships to reduce GHG intensity generated by the United States. These programs focus on energy efficiency, renewable energy, methane and other non-CO_2 gases, agricultural practices, and implementation of technologies to achieve GHG reductions.

Federal Mandatory Greenhouse Gas Reporting Rule

On September 22, 2009, USEPA released its final Greenhouse Gas Reporting Rule (Reporting Rule). The Reporting Rule is a response to the fiscal year (FY) 2008 Consolidated Appropriations Act (H.R. 2764; Public Law 110–161), which required USEPA to develop "mandatory reporting of greenhouse gasses above appropriate thresholds in all sectors of the economy …" The Reporting Rule would apply to most entities that emit 25,000 MT CO_2e or more per year. Starting in 2010, facility owners were required to submit an annual GHG emissions report with detailed calculations of facility GHG emissions. The Reporting Rule also mandates recordkeeping and administrative requirements in order for USEPA to verify annual GHG emissions reports.

USEPA Endangerment and Cause and Contribute Findings

On December 7, 2009, USEPA signed the Endangerment and Cause or Contribute Findings for GHGs under Clean Air Act (CAA) Section 202(a). Under the Endangerment Finding, USEPA finds that the current and projected concentrations of the six key well-mixed GHGs—carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), perfluorinated carbons (PFCs), sulfur hexafluoride (SF_6), and hydrofluorocarbons (HFCs)—in the atmosphere threaten the public health and welfare of current and future generations. Under the Cause or Contribute Finding, USEPA found that the combined emissions of these well-mixed GHGs from new motor vehicle engines contribute to the GHG pollution that threatens public health and welfare. These findings did not by themselves impose any requirements on specific industries or other entities. However, this action was a prerequisite to finalizing USEPA's CAA Title V permitting regulations known as the "Tailoring Rule" under the for new, large point source emitters and corporate average fuel economy (CAFE) standards for light-duty vehicles for future years.

Clean Air Act Permitting (Tailoring Rule) for GHG Emissions

On January 2, 2011 USEPA required states to implement new pollution control measures designed to reduce GHG emissions from new large emission sources such as power plants and refineries. The new GHG standards fall under CAA Title V; while the USEPA oversees compliance with the CAA, individual states are in control of issuing CAA Title V air permits. All states have adapted their air permit programs to comply with the GHG standards of the CAA except for Arizona and Texas. For these two states, the USEPA will take over the issuing of air permits until such a time that the state can resume compliance. The final rule, called the "Tailoring Rule," established a phased schedule that focuses the GHG permitting programs on the largest sources with the most CAA permitting experience in the first step. Then, in step two, the rule expands to cover large sources of GHGs that may not have been previously covered by the CAA for other pollutants. The rule also describes USEPA's commitment to future rulemaking that will describe subsequent steps for GHG permitting. The "Tailoring Rule" requires all new sources or modifications of existing sources subject to the New Source Review Prevention of Significant Deterioration (PSD) for another regulated air pollutant under the CAA to also provide Best Available Contract Technology (BACT) if the source has a potential to emit (PTE) at least 75,000 MT CO_2e per year. In addition new sources that are not regulated under the CAA for other air pollutants, but have a PTE of at least 100,000 MT CO_2e per year must provide BACT for GHG emissions.

Updated Corporate Average Fuel Economy (CAFE) Standards

The current federal CAFE standards (for model years 2011 to 2016) incorporate stricter fuel economy requirements promulgated by the federal government and the state of California into one uniform standard. Additionally, automakers are required to cut GHG emissions in new vehicles by roughly 25 percent by 2016 (resulting in fleet average of 35.5 miles per gallon [mpg] by 2016). Rulemaking to adopt these new standards was completed in 2010. California agreed to allow automakers who show compliance with the national program to also be deemed in compliance with state requirements. The federal government issued new standards in summer 2012 for model years 2017–2025, which will require a fleet average in 2025 of 54.5 mpg.

State

California Air Resources Board

California ARB, a part of the California EPA, is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, California ARB conducts research, sets state ambient air quality standards, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. California ARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. California ARB has primary responsibility for the development of California's State Implementation Plan (SIP), for which it works closely with the federal government and the local air districts.

Executive Order S-3-05

California Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S-3-05, the following GHG emission reduction targets:

- By 2010, California shall reduce GHG emissions to 2000 levels
- By 2020, California shall reduce GHG emissions to 1990 levels
- By 2050, California shall reduce GHG emissions to 80 percent below 1990 levels

Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006

In 2006, the California State Legislature adopted AB 32, the California Global Warming Solutions Act of 2006. AB 32 focuses on reducing GHGs in California. California ARB has determined the statewide levels of GHG emissions in 1990 to be 427 MMT CO_2e. California ARB has adopted the Climate Change Scoping Plan, which outlines the state's strategy to achieve the 2020 GHG limit set by AB 32. This Scoping Plan proposes a comprehensive set of actions designed to reduce overall greenhouse gas emissions in California, improve the environment, reduce dependence on oil, diversify energy sources, save energy, create new jobs, and enhance public health.

Part of California's strategy for achieving GHG reductions under AB 32 are the early action greenhouse gas reduction measures, which include the following: a low carbon fuel standard; reduction of emissions from nonprofessional servicing of motor vehicle air conditioning systems; and improved landfill methane capture (California ARB 2007).

Assembly Bill (AB) 1493—Pavley Rules

Known as "Pavley I," AB 1493 standards were the nation's first GHG standards for automobiles. AB 1493 requires the California ARB to adopt vehicle standards that will lower GHG emissions from new light-duty autos to the maximum extent feasible beginning in 2009. Additional strengthening of the Pavley standards (referred to previously as "Pavley II", now referred to as the "Advanced Clean Cars" measure) has been proposed for vehicle model years 2017–2025. Together, the two standards are expected to increase average fuel economy to roughly 43 mpg by 2020 (and more for years beyond 2020) and reduce GHG emissions from the transportation sector in California by approximately 14 percent. In June 2009, USEPA granted California's waiver request enabling the state to enforce its GHG emissions standards for new motor vehicles beginning with the current model year. USEPA and the California ARB have worked together on a joint rulemaking to establish GHG emissions standards for model-year 2017–2025 passenger vehicles. As noted above, the federal government completed rulemaking in summer 2012 resulting in adoption of new standards that would lead to fleet average of 54.5 mpg in 2025.

Senate Bill (SB) 1078, SB 107, and SB 2—Renewable Portfolio Standard

SB 1078 and SB 107, California's Renewable Portfolio Standard (RPS), obligates investor-owned utilities (IOUs), energy service providers (ESPs), and Community Choice Aggregations (CCAs) to procure an additional 1 percent of retail sales per year from eligible renewable sources until 20 percent is reached, no later than 2010. The California Public Utilities Commission (CPUC) and CEC are jointly responsible for

implementing the program. SB 2 (2011) set forth a longer-range target of procuring 33 percent of retail sales by 2020.

Executive Order S-01-07—Low Carbon Fuel Standard

Executive Order S-01-07 mandates (1) that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020 and (2) that an LCFS for transportation fuels be established in California. The executive order initiated a research and regulatory process at California ARB. California ARB developed the LCFS regulation pursuant to the authority under AB 32 and adopted it in 2009. In late 2011, a federal judge issued a preliminary injunction blocking enforcement of the LCFS, ruling that the LCFS violates the interstate commerce clause (Georgetown Climate Center 2012). The injunction was lifted in April 2012 so that California ARB can continue enforcing the LCFS pending California ARB's appeal of the federal district court ruling.

Senate Bill (SB) 375

SB 375, which establishes mechanisms for the development of regional targets for reducing passenger vehicle greenhouse gas emissions, was adopted by the State on September 30, 2008. On September 23, 2010, California ARB adopted the vehicular greenhouse gas emissions reduction targets that had been developed in consultation with the metropolitan planning organizations (MPOs); the targets require a 7 to 8 percent reduction by 2020 and from 13 to 16 percent reduction by 2035 for each MPO. SB 375 recognizes the importance of achieving significant greenhouse gas reductions by working with cities and counties to change land use patterns and improve transportation alternatives. Through the SB 375 process, MPOs, such as the Southern California Council of Governments (SCAG), which includes Orange County, will work with local jurisdictions in the development of sustainable communities strategies (SCS) designed to integrate development patterns and the transportation network in a way that reduces greenhouse gas emissions while meeting housing needs and other regional planning objectives. SCAG's reduction target for per capita vehicular emissions is 8 percent by 2020 and 13 percent by 2035 (California ARB 2010). The MPOs will prepare their first SCS according to their respective regional transportation plan (RTP) update schedule; to date, no region has adopted an SCS. The first of the RTP updates with SCS strategies are expected in 2012.

Senate Bill (SB) 97

SB 97, enacted in 2007, amends the CEQA statute to clearly establish that GHG emissions and the effects of GHG emissions are appropriate subjects for CEQA analysis. In March 2010, the California Office of Administrative Law codified into law CEQA amendments that provide regulatory guidance with respect to the analysis and mitigation of the potential effects of GHG emissions, as found in CEQA Guidelines Section 15183.5. To streamline analysis, CEQA provides for analysis through compliance with a previously adopted plan or mitigation program under special circumstances.

Executive Order S-13-08

Executive Order S-13-08, the Climate Adaptation and Sea Level Rise Planning Directive, provides clear direction for how the state should plan for future climate impacts. The first result is the 2009 California Adaptation Strategy (CAS) report which summarizes the best known science on climate change impacts

in the state to assess vulnerability and outlines possible solutions that can be implemented within and across state agencies to promote resiliency.

California Code of Regulations (CCR) Title 24

CCR Title 24, Part 6 (California's Energy Efficiency Standards for Residential and Nonresidential Buildings) (Title 24) were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to increase the baseline energy efficiency requirements. Although it was not originally intended to reduce GHG emissions, electricity production by fossil fuels results in GHG emissions and energy efficient buildings require less electricity. Therefore, increased energy efficiency results in decreased GHG emissions. The 2008 standards are the most recent version which went into effect in January 1, 2010.

CCR Title 24, Part 11 (California's Green Building Standard Code) (CALGreen) was adopted in 2010 and went into effect January 1, 2011. CALGreen is the first statewide mandatory green building code and significantly raises the minimum environmental standards for construction of new buildings in California. The mandatory provisions in CALGreen will reduce the use of VOC-emitting materials, strengthen water conservation, and require construction waste recycling.

Greenhouse Gas Cap-and-Trade Program

On October 20, 2011, California ARB adopted the final cap-and-trade program for California. The California cap-and-trade program will create a market-based system with an overall emissions limit for affected sectors. The program is currently proposed to regulate more than 85 percent of California's emissions and will stagger compliance requirements according to the following schedule: (1) electricity generation and large industrial sources (2012) and (2) fuel combustion and transportation (2015). The first auction will be in late 2012 with the first compliance year in 2013.

Regional

Southern California Association of Governments (SCAG)

SCAG is the designated Metropolitan Planning Organization for six Southern California counties (Los Angeles, Ventura, Orange, San Bernardino, Riverside, and Imperial), and is federally mandated to develop plans for transportation, growth management, hazardous waste management, and air quality. SCAG regional plans cover San Bernardino County, which includes the City and SOI, and five other counties within Southern California.

Regional Comprehensive Plan

The Regional Comprehensive Plan (RCP) is a problem-solving guidance document that responds to SCAG's Regional Council directive in the 2002 Strategic Plan to develop a holistic, strategic plan for defining and solving the region's interrelated housing, traffic, water, air quality, and other regional challenges. The RCP is a voluntary framework that links broad principles to an action plan that moves the region towards balanced goals. The RCP's guiding principles include:

- Improve mobility for all residents. Improve the efficiency of the transportation system by strategically adding new travel choices to enhance system connectivity in concert with land use decisions and environmental objectives.
- Foster livability in all communities.
- Foster safe, healthy, walkable communities with diverse services, strong civic participation, affordable housing, and equal distribution of environmental benefits.
- Enable prosperity for all people. Promote economic vitality and new economies by providing housing, education, and job training opportunities for all people.
- Promote sustainability for future generations.
- Promote a region where quality of life and economic prosperity for future generations are supported by the sustainable use of natural resources.

Further, the RCP seeks to successfully integrate land and transportation planning and achieve land use and housing sustainability by implementing Compass Blueprint and 2 percent Strategy:

- Focusing growth in existing and emerging centers and along major transportation corridors
- Creating significant areas of mixed-use development and walkable, "people-scaled" communities
- Providing new housing opportunities, with building types and locations that respond to the region's changing demographics
- Targeting growth in housing, employment and commercial development within walking distance of existing and planned transit stations
- Injecting new life into under-used areas by creating vibrant new business districts, redeveloping old buildings and building new businesses and housing on vacant lots
- Preserving existing, stable, single-family neighborhoods
- Protecting important open space, environmentally sensitive areas and agricultural lands from development
- Reduce emissions of criteria pollutants to attain federal air quality standards by prescribed dates and state ambient air quality standards as soon as practicable
- Reverse current trends in greenhouse gas emissions to support sustainability goals for energy, water supply, agriculture, and other resource areas
- Minimize land uses that increase the risk of adverse air pollution-related health impacts from exposure to toxic air contaminants, particulates (PM_{10}, $PM_{2.5}$, ultrafine), and carbon monoxide

Regional Transportation Plan

On May 8, 2012, the Regional Council of SCAG adopted the 2012 RTP and SCS for the SCAG area aimed at attaining the reduction targets of an 8 percent per capita reduction in GHG emissions from passenger vehicles by the year 2020 and a 13 percent reduction by 2035. There are transportation-related reduction measures included in this Regional Reduction Plan that coordinate with efforts in SCAG's SCS. The 2012 RTP strives to provide a regional investment framework to address the region's transportation and related challenges, and looks to strategies that integrate land use into transportation planning with an emphasis on transit and other nonvehicle transportation modes. The RTP also provides the framework for aggregating subregional and local efforts to institute measures aimed at mitigating the adverse air pollution impacts from transportation activities. These measures are known as transportation control measures (TCMs). The RTP links the goal of sustaining mobility with the goals of fostering economic development, enhancing the environment, reducing energy consumption, promoting transit-friendly development patterns, and encouraging fair and equitable access to residents affected by socio-economic, geographic, and commercial limitations. The Regional Transportation Implementation Plan (RTIP) is the vehicle used to implement the RTP and SCS. The RTIP also provides the schedule and framework for the timely implementation of the Region's TCM strategies.

SCAG is currently in the process of developing the 2014 RTP and SCS for their jurisdiction aimed at updating the regional transportation modeling system and keeping on track to achieve the reduction targets of an 8 percent per capita reduction in GHG emissions from passenger vehicles by the year 2020 and a 13 percent reduction by 2035.

SCAG Compass Growth Visioning

The Compass Blueprint Growth Vision effort by SCAG is a response, supported by a regional consensus, to the land use and transportation challenges facing Southern California now and in the coming years. The Growth Vision is driven by four key principles:

- **Mobility**—Getting where we want to go
- **Livability**—Creating positive communities
- **Prosperity**—Long-term health for the region
- **Sustainability**—Preserving natural surroundings

The fundamental goal of the Compass Growth Visioning effort is to make the SCAG region a better place to live, work, and play for all residents regardless of race, ethnicity, or income class. Thus, decisions regarding growth, transportation, land use and economic development should be made to promote and sustain for future generations the region's mobility, livability and prosperity.

South Coast Air Quality Management District

The South Coast Air Quality Management District (SCAQMD) is the agency principally responsible for comprehensive air pollution control in the South Coast Air Basin, which includes the counties of Los Angeles, Riverside, San Bernardino, and Orange. In order to provide GHG emission guidance to the local jurisdictions within the Basin, the SCAQMD has organized a Working Group to develop GHG emissions analysis guidance and thresholds.

SCAQMD released a draft guidance document regarding interim CEQA GHG significance thresholds in October 2008. On December 5, 2008, the SCAQMD Governing Board adopted the staff proposal for an interim GHG significance threshold for projects where the SCAQMD is the lead agency. SCAQMD proposed a tiered approach, whereby the level of detail and refinement needed to determine significance increases with a project's total GHG emissions. The tiered approach defines projects that are exempt under CEQA and projects that are within the jurisdiction of and subject to the policies of a GHG Reduction Plan as less than significant.

Air Quality Management Plan

The SCAQMD and the SCAG are the agencies responsible for preparing the Air Quality Management Plan (AQMP) for the Basin. The most recent comprehensive plan is the 2012 AQMP adopted on December 7, 2012. The 2012 AQMP is designed to meet the state and federal CAA planning requirements and focuses on new federal ozone and $PM_{2.5}$ standards. The 2012 AQMP incorporates significant new emissions inventories, ambient measurements, scientific data, control strategies, and air quality modeling including transportation conformity budgets that show vehicle miles traveled (VMT) emissions offsets following the recent changes in USEPA requirements.

San Bernardino County GHG Reduction Plan

Following San Bernardino County's adoption of its General Plan in March 2007, the California Attorney General filed a lawsuit alleging that the EIR prepared for the General Plan Update did not comply with the requirements of CEQA in its analysis of GHG emissions and climate change. Subsequently, the County and the Attorney General entered into an agreement to settle the lawsuit, which included an agreement by the County to (1) prepare an amendment to its General Plan adding a policy that describes the County's goal of reducing those GHG emissions reasonably attributable to the County's discretionary land use decisions and the County's internal government operations and (2) prepare a GHG Emissions Reduction Plan, which includes inventories, a reduction target, and reduction measures to meet the reduction target, by regulating those sources of GHG emissions reasonably attributable to the County's discretionary land use decisions and the County's internal government operations.

The County's GHG Reduction Plan fulfilled the requirements of the settlement agreement and includes a comprehensive analysis and inventory of GHG emissions within the unincorporated County areas and emissions from County government operations within municipalities, 2020 forecasted emissions, a set of reduction measures used to reduce 2020 emission levels down to the reduction targets for the County, and a monitoring and updating framework designed to keep the County on track toward achieving the reduction targets.

The technical data, emission inventory processes, and methodology used in the San Bernardino County GHG Reduction Plan became the foundational inventory processes and methodology used in this Regional Reduction Plan.

Local

Redlands General Plan

The Redlands General Plan policies that are applicable to GHG emissions and reductions[8] are as follows:

Policy 3.23h Encourage energy conservation alterations that are compatible with preservation.

Policy 4.62f Adopt energy-efficient transportation strategies to implement state and county goals for reduced energy consumption and improved air quality.

Policy 5.40a Ensure that employers implement Transportation Demand Management (TDM) programs to reduce peak period trip generation.

Policy 5.40b Cooperate with public agencies and other jurisdictions to promote local and regional public transit serving Redlands.

Policy 5.40c Support the Congestion Management Program (CMP)for San Bernardino County.

Policy 5.40d In accordance with the CMP, develop and implement a comprehensive trip reduction and TDM ordinance for all employers in Redlands. The goal should be to reduce peak period trip generation by 15 percent from the vehicle trip generation currently observed at similar sites without a TDM program.

The TDM ordinance should incorporate a regular monitoring program to assess compliance and success. Future employment will be concentrated in the East Valley Corridor Specific Plan area, where congestion will make TDM most necessary and most effective.

Policy 5.40e Favor TDM measures that limit vehicle use over those that extend the commute hour.

Programs such as ridesharing and public transit reduce overall vehicle travel while flex time and staggered work hours simply shift traffic to less congested times of day.

Policy 5.40f Support local feeder bus service to and from current and future regional transit lines.

Policy 5.40g Preserve options for future transit use when designing improvements to roadways.

Currently, segments of Banon Road/Brookside Avenue, Cypress Street, Cajon Street, Fern Avenue, Orange Street, Lugonia Avenue, San Bernardino Avenue and Brockton Avenue are used by Omnitrans bus lines. Other streets, particularly in the East Valley Corridor, will be likely candidates for bus service as growth occurs.

Policy 5.40h Work with Omnitrans to plan for local bus routes that are better able to penetrate neighborhoods to improve service for potential riders. Designate local bus routes in Specific Plan areas.

Policy 5.40i Future commuter rail services are planned within the Santa Fe rail corridor, with stops at California Street, Orange Street and Mentone Blvd. Improvements to these streets should be planned for feeder transit services, and park-and-ride

[8] These policies are not a complete listing of all policies contained in the General Plan; those policies that would be most applicable to the proposed project are included here.

provisions should be made at these locations. Another logical stop would be at University Street to serve the campus at the University of Redlands. Other potential stops could be at Judson Street and at Crafton Avenue. Residents in these areas might use short, trip commuter rail to downtown Redlands, either to work or shop.

Policy 5.40j Work with Omnitrans to plan for bus shelters and turnouts.

Policy 5.50a Establish a comprehensive network of on- and off-roadway bike routes to encourage the use of bikes for both commute and recreational trips.

Policy 5.50b Seek assistance from major employers in providing support facilities to encourage use of bikes for commuter purposes.

Policy 5.50c Develop bike routes that provide access to schools and parks.

Policy 5.501 Incorporate bike storage and other support facilities into TDM plans at employment sites and public facilities, when feasible based upon distance from bikeways.

Studies have indicated the importance of providing well-located, secure bike storage facilities at employment sites, shopping and recreational areas and schools in order to facilitate bike use. Employers often provide shower and changing facilities where sizable numbers of employees use bikes.

Policy 5.50m Prepare a bikeways implementation program that includes priorities and a schedule.

Policy 5.60a Treat pedestrians as if they are more important than cars.

Except on freeways and a few hillside residential streets, pedestrians should have direct, safe routes to the same destinations.

Policy 5.60b Make walking interesting.

Avoiding long, uniform frontages and creating pedestrian paths that do not follow streets give people a reason to want to walk.

Policy 5.60c Provide direct pedestrian routes.

Owners' desires to live on cui-de-sacs, builders' desires to build less street, and the City's desire to minimize intersections combine to make pedestrian access circuitous in many neighborhoods. Direct paths to arterial street bus stops can increase transit patronage.

Policy 5.60d Provide a safe and healthful pedestrian environment.

This means providing separate pedestrianways in parking lots, avoiding excessive driveway widths, and providing planting strips between sidewalks and streets where feasible.

Policy 5.60e Develop a program to remove all barriers to disabled persons on arterial and collector streets.

Policy 7.8a Promote policies and actions that reduce residential energy use.

Policy 7.22f If the City's updated Water Master Plan shows water supply to be inadequate, increase supply and reduce demand or curtail development until adequate supplies are secured.

Policy 7.23a	Conserve scarce or nonrenewable energy resources.
Policy 7.23b	Support San Bernardino County in implementation of its energy-related policies.
Policy 7.23e	Minimize energy consumption attributable to transportation within the Planning Area.
Policy 7.23f	Revise applicable City Codes to incorporate criteria for energy efficient design
Policy 7.23g	The City shall implement and enforce Title 24 building standards to improve energy efficiency in new or substantially remodeled construction.
Policy 7.23h	Encourage the investigation and utilization of alternative energy sources to be integrated in individual project designs.
Policy 7.24b	Implement measures specified in the Source Reduction and Recycling Element and the Household Hazardous Waste Element.
Policy 7.24c	Meet the mandatory waste diversion goals set by the State of 25% by 1995 and 50% by 2,000; reduce landfill disposal of household hazardous waste as much as feasibly possible.
Policy 7.24d	Examine alternatives for reuse of the California Street Landfill site after its closure.
Policy 8.12a	Aim for a diverse and efficiently operated ground transportation system which generates the minimum feasible pollutants.
Policy 8.12b	Reduce vehicle miles traveled and peak period auto travel by increasing average vehicle ridership during peak commute hours.
Policy 8.12c	Cooperate in efforts to expand bus, rail and other forms of mass transit in the portion of the South Coast Air Basin within San Bernardino County.
Policy 8.12d	Promote expansion of all forms of mass transit in the urbanized portions of San Bernardino, Orange, Los Angeles and Riverside counties.
Policy 8.12e	Support public transit providers in efforts to increase funding for transit improvements to supplement other means of travel.
Policy 8.12f	Jointly support efforts to establish a regionwide bus pass.
Policy 8.12g	Promote non-motorized transportation.
Policy 8.12h	Promote a regional approach in utilizing parking costs as a means to discourage low vehicle occupancy.
Policy 8.12i	Aim for a pattern of land uses which can be efficiently served by a diversified transportation system and land development projects which directly and indirectly generate the minimum feasible air pollutants.
Policy 8.12j	Integrate air quality planning with the land use and transportation process.
Policy 8.12k	Establish and implement a Transportation Demand Management (TDM) Program.
Policy 8.12l	Define and implement auto limitation procedures in selected areas and at selected times, provided that alternative transportation modes are available.

Policy 8.12m Establish incentives and regulations to eliminate work trips.

Policy 8.12n Use incentives, regulations and Transportation Demand Management (TDM) in cooperation with other jurisdictions in the South Coast Air Basin to eliminate vehicle trips which would otherwise be made, and to reduce the vehicle miles traveled for auto trips which still need to be made.

Policy 8.12o Establish and maintain telecommunications strategies to reduce the length of auto trips.

Policy 8.12p Promote and establish modified work schedules which reduce peak period auto travel.

Policy 8.12q Establish incentives and regulations to spread work trips over a longer period to reduce peak period congestion.

Policy 8.12r Participate in efforts to achieve increased designation, construction, and operation of HOV lanes on freeways in Los Angeles, Orange, Riverside and San Bernardino counties.

Policy 8.12s Jointly, through the County, SANBAG, and SCAG, participate with adjacent counties in expanding HOV lanes on the freeway system within those counties.

Policy 8.12t Coordinate overlapping components of the State-mandated Congestion Management Program and the Regional Air Quality Plan.

Policy 8.12u Promote market-based incentives and disincentives to relieve peak hour/peak direction congestion within highly congested travel corridors.

Policy 8.12v Cooperatively initiate a pilot program to explore jointly with Los Angeles, Orange and Riverside counties, methods and workability of Congestion Fees for peak hour/peak direction use to be levied within highly congested travel corridors, particularly those which generate emissions transported to San Bernardino County.

Policy 8.12w Participate with public transit providers serving San Bernardino County in a cooperative program to increase transit services with existing equipment and expand services through transit facility improvements.

Policy 8.12x Coordinate with public transit providers to increase funding for transit improvements to supplement other means of travel.

Policy 8.12y Plan for intraregional commuter and main line rail service development including convenience facilities at rail stops.

Policy 8.12z Develop design standards that promote access to transit facilities.

Policy 8.12aa Influence the expansion of intraregional commuter and main line rail services, particularly those linking with destinations in San Bernardino County.

Policy 8.12bb Provide bicycle and pedestrian pathways to encourage non-motorized trips.

Policy 8.12cc Develop standards and guidelines for support facilities to incorporate into development plans for increased bicycle and pedestrian routes to link appropriate activity centers to nearby residential development.

Policy 8.12dd Manage parking supply to discourage auto use, while ensuring that economic development goals will not be sacrificed.

Modification of parking provisions and development of management strategies shall be done in conjunction with regional efforts so that there is not a competitive disadvantage suffered by the Redlands Planning Area.

Policy 8.12ee Establish short and long-term parking management strategies at governmental and private facilities in ways that discourage single-occupancy vehicle usage and reward high vehicle occupancy rates without placing the Redlands Planning Area at a competitive disadvantage.

Modification of parking provisions and development of management strategies shall be done in conjunction with regional efforts so that there is not a competitive disadvantage suffered by the Redlands Planning Area.

Policy 8.12ff Establish parking management strategies for governmental and private facilities in ways that discourage single-occupancy vehicle usage and reward high vehicle occupancy rates without placing the Redlands Planning Area at an economic disadvantage in enticing jobs.

Modification of parking provisions and development of management strategies shall be done in conjunction with regional efforts so that there is not a competitive disadvantage suffered by the Redlands Planning Area.

Policy 8.12gg Promote State and federal legislation which would improve vehicle/ transportation technology and which would establish differential pricing mechanisms to assess the true cost of emissions.

Policy 8.12hh Support legislation to stimulate the development of practical electric vehicles.

Policy 8.12ii Support State legislation which would establish emission fees on gasoline products and differential registration fees on motor vehicles according to the emission levels that they are designed to produce; include exploration of an option that imposes pollution fees on individual vehicles at time of mandated smog inspections, based on actual vehicle performance.

Policy 8.12jj Support legislation which tightens the existing vehicle inspection program, both in terms of standards to be met and requirements for compliance.

Policy 8.12kk Invest in and institute clean fuel systems on new local government fleet vehicles.

Policy 8.12ll Promote the development of Park-and-Ride lots.

Policy 8.14c Incorporate phasing policies and requirements in general plans and development plans to achieve timely provision of infrastructure (particularly transportation facilities) to serve development.

Policy 8.14j Locate and design new development in a manner that will minimize direct and indirect emission of air contaminants.

Policy 8.15a Aim for the minimum practicable particulate emissions from the construction and operation of roads and buildings.

Project Impact Evaluation

Thresholds of Significance

The following thresholds of significance are based on the 2012 CEQA Guidelines Appendix G. For purposes of this EIR, implementation of the San Bernardino County Regional GHG Reduction Plan might have a significant adverse impact on greenhouse gas emissions if it would do any of the following:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases

Analytic Method

The impact analysis for the Regional Reduction Plan is based on a GHG emissions analysis, which is presented in the environmental analysis, below. The Regional Reduction Plan document includes community-wide GHG emissions inventories for the City of Redlands for the following scenarios: 2008, 2020 business-as-usual (BAU), and 2020 reduced. The 2008 inventory is the baseline; this was the most recent year for which adequate data was available and uniform to all the Partnership Cities. The baseline emissions inventory was also used to establish the reduction target for the year 2020.

As stated above the GHG Reduction Target for the City is to reduce the GHG emissions predicted for 2020 business as usual by at least 15 percent.

The 2020 BAU scenario represents the forecasted emissions for the City without the incorporation of recently adopted measures to reduce GHG emissions. The 2020 reduced scenario demonstrates the effects of the Regional Reduction Plan reduction measures and their ability to reduce Highland's emissions to levels at or below the reduction target. The methodology and assumptions used in this analysis are detailed in Appendices A and B of the Regional Reduction Plan. Refer to in the Regional Reduction Plan (included in Appendix B of this EIR) for model inputs and sources, model output and detailed calculations. A summary of the Regional Reduction Plan methodology is provided below.

The following summarizes the basis of the GHG calculations by emission source. The emissions and emissions reduction calculations performed for the Regional Reduction Plan followed guidance provided by CAPCOA, other reference sources (such as the USEPA, California Energy Commission, California Air Resource Board, and Intergovernmental Panel on Climate Change), and ICF International's professional experience obtained from preparing climate action plans for other jurisdictions in California. Baseline emissions inventories were completed by quantifying GHG sources in the region based on information provided by local utility providers, SCAG, and local land use information. These sources were multiplied by GHG emissions factors from a variety of sources, including EMFAC2011, and guidance from the reference sources listed above. 2020 business as usual emissions were estimated based on anticipated growth in the residential and commercial/industrial areas, and the projected increase in VMT determined by SCAG. Refer to Appendices A and B of the Regional Reduction Plan for a detailed methodology of the GHG emissions and emission reduction calculations. The complete Regional Reduction Plan is included in Appendix B of this EIR.

Because the impact each GHG has on climate change varies, a common metric of CO_2e is used to report a combined impact from all of the GHGs. The effect each GHG has on climate change is measured as a combination of the volume of its emissions, and its global warming potential, and is expressed as a function of how much warming would be caused by the same mass of CO_2. Thus, GHG emissions in this analysis are measured in terms of metric tons of CO_2 equivalents (MT CO_2e).

Note that some stationary sources within the City are permitted under CAA Title V. Permitted industrial process such as oil and gas production (combustion), petroleum production and marketing, chemical production, mineral processes, and other permitted industrial processes are strictly regulated under the CAA by SCAQMD, California ARB, and USEPA. The City cannot change in any way the industrial process and BACT emission reduction devises on these permitted sources. Because the City does not have jurisdictional control over these point source industrial processes, GHG emissions from these permitted stationary sources were not included in determining GHG Reduction Target setting or subject to City-administered reduction measures associated with them in the Regional Reduction Plan. However, SCAQMD permit regulations, and in some cases the USEPA Tailoring Rule and California Cap and Trade Program, will regulate and reduce GHG emissions from these permitted industrial process sources. GHG emissions from these permitted stationary sources in the City of Redlands totaled 92,324 MT CO_2e in 2008.

Effects Not Found to Be Significant

Threshold	Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Implementation of the Regional Reduction Plan in the City of Redlands would result in the reduction of GHG emissions over the long term, which would be a beneficial effect. Area source reduction strategies such as landscape strategies, cool roofs, cool pavement, and parking lot shading would reduce GHG emissions. Construction activities, such as grading or excavation activities, if required, for installation of energy-generating structures, would result in temporary, short-term emissions of GHGs. These temporary, short-term emissions would not be substantial, and would be offset by the operation of renewable energy projects that are part of the reduction measures in the CAP that would result in an overall reduction in GHG emissions.

The Regional Reduction Plan would implement additional reduction strategies that build from these existing programs such as transit oriented development and infill development. Table 4.15.7-2 (GHG Emission Inventories and Reductions in the City of Redlands) quantitatively shows the reductions of GHG emissions in 2020 that result would result from implementation of the Regional Reduction Plan in the City of Redlands and compares the reduced emissions with the City Reduction Target.

The reduction measures that reduce GHG emissions down to levels below the Reduction Target are discussed in Section 4.15.0 (Introduction to the Analysis) of this EIR. Regional Reduction Plan Chapter 4 has additional details of these reduction measures.

The Regional Reduction Plan includes emission inventories, forecasted emissions, a reduction target and reduction measures and quantification demonstrating that the reduction measures achieve the reduction target for the City of Redlands.

The proposed project will result in a reduction of GHG emissions. Therefore, this impact would be ***less than significant***. No mitigation is required.

Table 4.15.7-2 GHG Emission Inventories and Reductions in the City of Redlands

Category/Emission Source	*Metric tons of CO_2e*				
	2008	*2020 BAU*	*Plan Reductions*	*2020 with Plan*	*% Reduction*
Building Energy	302,160	342,534	133,576	208,958	39.0%
On-Road Transportation	319,157	349,518	98,342	251,176	28.1%
Off-Road Equipment	30,147	33,528	3,496	30,031	10.4%
Solid Waste Management	16,391	17,877	6,680	11,197	37.4%
Agriculture	3,298	1,681	0	1,681	0%
Wastewater Treatment	2,773	3,072	278	2,794	9.0%
Water Conveyance	19,161	22,242	4,772	17,470	21.5%
GHG Performance Standard for New Development	—	—	4,780	—	—
Total	***693,087***	***770,452***	***251,924***	***518,528***	***32.7%***
Reduction Target	**—**	**—**	**181,328**	**589,124**	**23.5%**
Does the Plan Meet the Reduction Target?	—	—	**Yes**	**Yes**	**Yes**
Reductions Beyond Target	**—**	**—**	***70,596***	**—**	**—**
Excluded Stationary Sources under Title V Permits[b]	92,324	109,197	—	—	—

Values may not sum due to rounding.

a. The GHG Performance Standard for New Development is not a sector of the inventory, but it contributes toward the reduction target by promoting reductions in multiple sectors. See the Regional Reduction Plan Chapter 4 for a complete description of this measure.

b. Excluded from target setting and reductions due to lack of jurisdictional control (see Analytical Method section, above).

Threshold	Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The proposed project is a GHG reduction plan and includes a baseline GHG emissions inventory for the year 2008, an emission reduction target for the year 2020, a forecasted emissions inventory under a business-as-usual scenario for 2020, and a reduced 2020 inventory that demonstrates the emissions reductions achieved with the implementation of the Regional Reduction Plan reduction measures. Table 4.15.7-2 summarizes the 2008 GHG emissions for the City. The emissions in 2008 totaled 693,087 MT CO_2e. The largest source of emissions was transportation, followed closely by energy use.

The 2020 BAU emissions inventory for the City was estimated in the Regional Reduction Plan using the Redlands General Plan and SCAG growth rates for the City from 2008 to the year 2020. The BAU inventory represents the projected City emissions without the incorporation of recently adopted sustainability measures or reduction measures included in the proposed project. Table 4.15.7-2 summarizes the 2020 BAU emissions inventory. The emissions are an estimated at 770,452 MT CO_2e, an increase of 77,365 MT CO_2e (or 10.0 percent) from the 2008 baseline. Similar to the 2008 inventory, the largest source of emissions is predicted to be transportation followed closely by emissions associated with energy use. The difference between the BAU-forecasted emissions and the established reduction

target for the year 2020 is 181,328 MT CO_2e. This is the amount the City must reduce in order to reach their target. Implementation of the Regional Reduction Plan reduces 251,924 MT CO_2e of emissions in 2020, which exceeds the reduction goal by approximately 70,596 MT CO_2e. This is a reduction of approximately 32.7 percent in 2020. Therefore the Regional Reduction Plan fulfills its own GHG reduction planning.

AB 32 is implemented through the Scoping Plan which is the statewide plan for the reduction of GHG emissions. The Regional Reduction Plan builds complements the statewide efforts of the Scoping Plan by building upon the reduction measures administered by the State. Solar installation for new housing shown in the reduction measures of the Regional Reduction Plan, provide additional renewable energy sources beyond what was contemplated in the AB 32 Scoping Plan. In addition, the AB 32 Scoping Plan shows that statewide emissions would be reduced by approximately 29 percent below 2020 BAU. The Redlands chapter of the Regional Reduction Plan demonstrates that the City exceeds that level of reduction. All of the reduction measures in the Redlands chapter of the Regional Reduction Plan complement the reduction efforts of the AB 32 Scoping Plan. Therefore, the Regional Reduction Plan does not conflict with the AB 32 Scoping Plan.

Descriptions of the reduction measures are shown in Section 4.15.0 of this EIR and are described in further detail in Chapter 4 of the Regional Reduction Plan.

SB 375 requires SCAG to provide an SCS that will reduce GHG emissions from passenger vehicles and achieve the Regional Reduction Targets for GHG emissions from light-duty autos and trucks in the SCAG area. The SCS achieves the Regional Reduction Targets by providing changes in land use patterns that promote reductions in VMT and vehicle trips including transit oriented development with a mix of residential and commercial land uses that promote the use of transit rather than individual vehicles. Note that SCAG does not have land use authority in developing a land use pattern that will fulfill the SCS. Because of this, the land use patterns envisioned in the SCAG SCS need to be implemented by the local jurisdictions that have that land use authority.

The Regional Reduction Plan reduction measures for Redlands include On-Road Transportation-1 (Sustainable Communities Strategy). This reduction measure provides the land use changes within the City of Redlands needed to fulfill Redlands' portion of the Regional SCS land use patterns.

The following is a description of the On-Road Transportation-1 (Sustainable Communities Strategy) in the Regional Reduction Plan:

- **Measure Description**—SB 375 provides for a new planning process that coordinates land use planning, regional transportation plans, and funding priorities in order to help California meet the GHG reduction goals established in AB 32. While Pavley and LCFS seek to reduce fuel consumed and reduce the carbon content of fuel consumed, SB 375 seeks to reduce VMT through land use planning. SB 375 requires regional transportation plans, developed by MPOs to incorporate an SCS in their RTPs. The goal of the SCS is to reduce regional VMT through land use planning and associated transportation patterns. SB 375 also includes provisions for streamlined CEQA review for some infill projects such as transit-oriented development. The regional GHG reduction target for SCAG is 8 percent by 2020 and 13 percent by 2035, compared to 2005 GHG emissions on a per capita basis. SCAG's 2012–2035 RTP/SCS, if fully implemented would successfully achieve the targets set by California ARB.

In addition Montclair will participate in the Regional Reduction Plan reduction measure On-Road-2 ("Smart Bus" Technology), which helps implement the SCS within Montclair.

- **On-Road-2 "Smart Bus" Technology**—Collaborate with Omnitrans to implement "Smart Bus" technology, global positioning system (GPS), and electronic displays at all transit stops by 2020 to provide customers with "real-time" arrival and departure time information (California Air Pollution Control Officers Association 2009). Smart Bus Technologies include Automatic Vehicle Location (AVL) systems and real-time passenger information at bus stations. Omnitrans plans to implement these technologies systemwide on all bus routes serving San Bernardino Valley (Omnitrans service area) to enable information sharing, enhance rider services, and attract potential riders. The AVL system has already been implemented. The Bus Arrival Prediction Information System (BAPIS) would be installed in two phases. In Phase I, real-time rider information would be available via text messaging, Quick Response (QR), website, Interactive Voice Response (IVR), and mobile phone devices. Completed implementation is slated for December 2012. In Phase II, Omnitrans will install electronic signs at all major transit hubs and provide General Transit Feed Specification (GTFS) data to the general public to build apps for mobile devices like smartphones and tablet computers. Phase II completion is slated for December 2013. GHG emissions are expected to decrease because the AVL technologies could lead to more fuel efficient bus operations for Omnitrans and the BAPIS technologies could potentially attract more transit riders who may switch modes from automobiles. Omnitrans' Demand Response Services, OmniLink and Access, do not operate on a fixed schedule or route and are not included in this analysis. Omnitrans is primarily responsible for this measure. The City of Redlands will coordinate with Omnitrans as appropriate.

The Regional Reduction Plan provides the GHG reductions contemplated by SB 375 by implementing SCAG's SCS strategy in Redlands. Therefore, this impact would be ***less than significant***. No mitigation is required.

Cumulative Impacts

The analysis of GHG emissions is cumulative in nature, and no separate analysis is required.

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A1fi, A2, and B1 greenhouse gas emission scenarios. SLR for A2 and B1 scenarios is estimated by combining output recent global climate change model simulations with MAGICC projections for the ice melt component. SLR estimates for A1fi estimated from MAGICC based on A2 temperature changes scaled according to those in A1fi), March, p. 19.

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4.15.8 Hazards/Hazardous Materials

This section of the EIR analyzes the potential environmental effects on hazards/hazardous materials, including hazardous materials, hazardous waste disposal, airport safety, emergency preparedness, and wildfire potential, in the City of Redlands from implementation of the Regional Reduction Plan. Geologic and flood hazards are addressed separately in Section 4.15.6 (Geology/Soils) and Section 4.15.9 (Hydrology/Water Quality), respectively. Data for this section were taken from Redlands General Plan (1995a) and associated environmental documents (1995b). Full reference-list entries for all cited materials are provided at the end of this section.

No comment letters addressing hazards/hazardous materials were received in response to the notice of preparation (NOP) circulated for the Regional Reduction Plan.

Environmental Setting

Hazardous materials refer generally to hazardous substances that exhibit corrosive, poisonous, flammable, and/or reactive properties and have the potential to harm human health and/or the environment. Hazardous materials are used in products (household cleaners, industrial solvents, paint, pesticides, etc.) and in the manufacturing of products (e.g., electronics, newspapers, plastic products). Hazardous materials can include petroleum, natural gas, synthetic gas, acutely toxic chemicals, and other toxic chemicals that are used in agriculture, commercial, and industrial uses; businesses; hospitals; and households. Accidental releases of hazardous materials can occur from a variety of causes, including highway incidents, warehouse fires, train derailments, shipping accidents, and industrial incidents.

Household hazardous waste frequently ends up in landfills that are not intended for receipt of hazardous materials. Such materials include such common items as motor oil, weed killers, household cleaners, wood preservatives, paints and paint thinner, auto and furniture polish, chemical drain cleaners, pesticides and fertilizers, and pool supplies. It is estimated that 0.7 percent of the City's total waste disposal stream (by weight) is comprised of household hazardous waste.

Additionally, due to a combination of topography, weather, and fuel and exacerbated by potentially high winds and limited access, portions of the Planning Area have been evaluated as being highly susceptible to wildland fire hazards. The slopes of San Timoteo and Live Oak canyons, the Badlands to the south, and the Crafton Hills to the east of the Planning Area are not only difficult for firefighters and equipment to reach, but their steepness and configuration can aid in the rapid upslope spread of fire.

Airport hazards include the Redlands Municipal Airport, located along the bluff adjoining the Santa Ana Wash between Judson Street to the west and Wabash Avenue to the east. The San Bernardino International Airport (SBIA) is located west of the City.

Regulatory Framework

There are numerous federal, state, and local programs that regulate the use, storage, and transportation of hazardous materials and hazardous waste. Federal and state statutes, as well as local ordinances and plans, regulate hazardous waste management. These regulations can reduce the danger hazardous substances

may pose to people and businesses under normal daily circumstances and as a result of emergencies and disasters.

Federal

The USEPA is the primary federal agency that regulates hazardous materials and waste. The regulations are codified in Code of Federal Regulations (CFR) Title 40. USEPA is responsible for researching and setting national standards for a variety of environmental programs, and delegates to states and tribes the responsibility for issuing permits and for monitoring and enforcing compliance. The Resource Conservation and Recovery Act (RCRA) of 1976 is the principal federal law that regulates the generation, management, and transportation of waste. Hazardous waste management also includes the treatment, storage, or disposal of hazardous waste. RCRA authorized the USEPA to authority to control hazardous waste from generation to transportation, treatment, storage, and disposal. The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, commonly known as the Superfund, was enacted to protect the water, air, and land resources from the risks created by past chemical disposal practices such as abandoned and historical hazardous wastes sites. Through the act, the USEPA was given power to seek out those parties responsible for any release and assure their cooperation in the cleanup. Other key federal laws pertaining to hazardous materials and waste include the Emergency Planning and Community Right-to-Know Act (EPCRA) and Toxic Substances Control Act (TSCA). The U.S. Department of Transportation (USDOT) has established regulations (CFR Title 49) for the transport of hazardous materials and wastes.

State

California Department of Toxic Substances Control (DTSC) is a department of California Environmental Protection Agency (Cal/EPA), which authorizes DTSC to carry out the RCRA program in California. DTSC regulates hazardous waste, cleans up existing contamination, and looks for ways to control and reduce the hazardous waste produced in California primarily under the authority of RCRA and in accordance with the California Hazardous Waste Control Law (California Health and Safety Code Division 20, Chapter 6.5) and the Hazardous Waste Control Regulations (California Code of Regulations [CCR] Title 22, Divisions 4 and 4.5). The State Water Resources Control Board (SWRCB), under the umbrella of Cal/EPA, provides assistance to local agencies enforcing underground storage tank (UST) requirements, and it also regulates groundwater cleanup programs.

Regional

San Bernardino Fire Protection District

The San Bernardino Fire Protection District, Hazardous Materials Division, was granted authority by the Cal/EPA to become the certified Unified Program Agency (CUPA) for San Bernardino County. The CUPA is directly involved in the inspection, permitting, and enforcement of hazardous materials manufacturers, hazardous waste generators. USDOT and the California Highway Patrol (CHP) regulate the transportation of hazardous materials while the DTSC is actively involved in the storage of hazardous materials and the cleanup of hazardous waste sites. The San Bernardino Fire Protection District also provides wildland fire suppression services and hazardous materials incident response.

San Bernardino County Solid Waste Management Plan

The City of Redlands has adopted the San Bernardino County Solid Waste Management Plan. This is in accordance with Section 65302 of the California Government Code that requires solid waste management to be addressed in a City's adopted General Plan, also that it must be consistent with the adopted San Bernardino County Solid Waste Management Plan as a plan of that agency's plan. The City has adopted the San Bernardino County Solid Waste Management Plan in order to mitigate problems associated with hazardous waste materials.

Local

Redlands General Plan

There are no General Plan policies that are directly applicable to implementation of the Regional Reduction Plan local reduction measures selected by Redlands.

Project Impact Evaluation

Thresholds of Significance

The following thresholds of significance are based on the 2012 CEQA Guidelines Appendix G. For purposes of this EIR, implementation of the San Bernardino County Regional GHG Reduction Plan might have a significant adverse impact on hazards/hazardous materials if it would do any of the following:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials
- 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
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school
- Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment
- If 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
- If within the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan
- 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

Analytic Method

The following analysis considers whether or not implementation of the Regional Reduction Plan within the City would create or increase potential hazards or inhibit the ability to respond to hazards.

Effects Not Found to Be Significant

Threshold	Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

The Regional Reduction Plan reduces GHG emissions citywide and includes reduction measures such as energy efficiency goals, renewable energy generation and smart bus technologies. The GHG reductions do not involve the transport or use of hazardous materials. Current federal and state regulations and Redlands General Plan would regulate the handling of hazardous substances to reduce potential releases; exposure; and risks of transporting, storing, treating, and disposing of hazardous materials and wastes. Consequently, potential impacts as a result of implementation of the Regional Reduction Plan would be ***less than significant***. No mitigation is required.

Threshold	Would the project 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?

Upset and accident conditions that result in hazardous materials incidents are primarily associated with industrial processes and transport of large quantities of materials (e.g., trucks hauling fuel). Implementation of the reduction measures would not involve processes or operations that would use or transport, or dispose of hazardous materials or wastes in large quantities or of a type that poses serious human health or environmental risks should an accident occur. There would be ***no impact***.

Threshold	Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?

Implementation of the reduction measures would not involve processes or operations that would generate hazardous air emissions or involve the use of acutely hazardous materials, as defined in California Health and Safety Code Section 25316 and 22 CCR Section 66260. Installation of solar installation in new housing and commercial (Energy-4 and Energy-6) would not involve the use of such materials. Any potential impacts associated with emissions during implementation of the Regional Reduction Plan would be regulated by the California health and safety code, South Coast Air Quality Management District permits, and City health and safety codes to ensure that the Regional Reduction Plan does not emit hazardous emissions. Therefore, impacts would be ***less than significant***. No mitigation is required.

Threshold	Would the project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

The Regional Reduction Plan does not propose siting reduction measures at particular locations. Siting of renewable energy generation is reviewed by the City Planning to ensure that implementation of the Regional Reduction Plan does not create a hazard to the public or the environment. The impact would be ***less than significant***. No mitigation is required.

Threshold	Would the project, if 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?

The Redlands Municipal Airport, located along the bluff adjoining the Santa Ana Wash between Judson Street to the west and Wabash Avenue to the east, is a city-owned general aviation facility. The San Bernardino International Airport (SBIA) is located west of the City. The Regional Reduction Plan does not provide housing or workplaces that would bring people into the vicinity of the Airport Influence Area. It is the policy of the City to coordinate with the airport authorities to ensure that proposed land uses within the airport safety zones are consistent with the adopted master land use plans and land use compatibility plans for the airport. The City review of proposed projects such as renewable energy generation during implementation of the Regional Reduction Plan within the airport safety zones and near the airports ensures that implementation of these types of uses near airports does not result in safety hazards to people in the area. The impact would be ***less than significant***. No mitigation is required.

Threshold	Would the project, if within the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area?

No private airstrips are located within or in close proximity to Redlands. There would be ***no impact***.

Threshold	Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Emergency response plans have been prepared at the regional and local level. There are numerous evacuation routes within the City. None of the reduction measures selected by the City would involve changes in land use or population, roadway configurations or capacity, or other changes in the environment that would directly or indirectly affect emergency response plans or evacuation routes. There would be ***no impact***.

Threshold	Would the project 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?

None of the reduction measures that would be implemented by the City would involve the construction or operation of structures or development of new occupied uses that would be vulnerable to wildland fire hazard. There would be ***no impact***.

Cumulative Impacts

Because the Regional Reduction Plan does not create hazards at a project level, implementation of the Regional Reduction Plan will not create impacts related to hazards and hazardous materials that are cumulatively considerable. Therefore, ***cumulative impacts would be less than significant***.

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4.15.9 Hydrology/Water Quality

This section of the EIR analyzes the potential environmental effects on hydrology/water quality, including flood hazards, in the City of Redlands from implementation of the Regional Reduction Plan. Data for this section were taken from Redlands General Plan (1995a) and associated environmental documents (1995b). Full reference-list entries for all cited materials are provided at the end of this section.

No comment letters addressing hydrology/water quality were received in response to the notice of preparation (NOP) circulated for the Regional Reduction Plan.

Environmental Setting

Drainage

The Santa Ana River and its tributaries drain the southern portions of the eastern San Gabriel Mountains and the southern region of the San Bernardino Mountains. From headwaters near Big Bear Lake in the San Bernardino Mountains, the flows descend into the San Bernardino Valley and recharge the largest underground water basin in the region, the Upper Santa Ana River Basin. The Redlands area belongs to the Santa Ana River watershed, and all flows within the Planning Area eventually lead to the Santa Ana River.

Surface and Groundwater

Bunker Hill is the groundwater basin underlying the Planning Area which is part of the Santa Ana River watershed region. Surface and groundwaters in the Upper Santa Ana River Basin flow through Prado Dam, at the head of the Santa Ana River Canyon, then into Orange County where waters are diverted for recharge of the Orange County groundwater basin. From there, stormwater flows may reach the Pacific Ocean.

The Santa Ana River traverses the northern edge of the Redlands Planning Area. From the upper Santa Ana Canyon, the River hits a natural floodplain and becomes a broadened wash, up to 2 miles wide. This sandy wash is punctuated by numerous stream channels, many of which are dry for most of the year, and several percolation basins. The main channel of the River is located along the southern edge of the wash and flows are generally confined to a narrow channel within the riverbed. From the upper Santa Ana Canyon mouth to Prado Reservoir, the channel is alternately natural and improved as it passes through various undeveloped and developed areas. In addition to this significant feature, three other important drainageways impact the Planning Area, flowing generally east to west.

Merging with the Santa Ana River in the northeast corner of the Planning Area north of Mentone is the Mill Creek channel. The Mill Creek drainage area comprises about 52 square miles, with an average slope within the Redlands area of approximately 4 percent. The flows of this natural-bottom channel are confined by levees where Mill Creek turns to the northwest and broadens to join the Santa Ana River.

The Mission Zanja Creek (known locally and in various reaches as the "Sankee," the Mill Creek Zanja, the Zanja/Mill Creek channels, and the Mission Zanja) splinters to the southwest of Mill Creek's main

channel north of the Crafton Hills, and flows through the heart of the City, joining with the drainage of the Morey Arroyo at New Jersey Street; and Citrus Avenue. The Mission Zanja Creek watershed extends to the crest of the Crafton Hills, and thus accepts all of the runoff from these hills. The Zanja becomes the Mission Zanja just before leaving the Planning Area in the west. After this journey above and below ground, through both natural-bottom and culvertized channels, the Mission Zanja finally joins the Santa Ana River west of Tippecanoe Avenue in San Bernardino. Native Americans carved and deepened the Zanja channel in the 1600s, and it is now recognized as an historic feature. The City of Redlands is planning restoration of portions of the Zanja, tying in the bulk of the flows to an underground storm channel, with a designed surface flow along the right-of-way as a feature of a regional linear park. This watershed is referred to as the "Mission Zanja Creek" throughout the City's planning documents.

Yucaipa Creek drains Live Oak Canyon in the southeast corner of the Planning Area. Where Live Oak Canyon meets San Timoteo Canyon, the flows join, and continue their journey together towards the Santa Ana River. Like other watersheds in the Upper Santa Ana River Basin, the 126-square-mile watershed of San Timoteo Creek is steep, with an average slope ranging from about 5 to 15 percent and in some areas slopes that exceed 30 percent (Redlands 1995). After leaving the confines of San Timoteo Canyon, the channel broadens to a wash, joining the Santa Ana River west of the Planning Area, in Lorna Linda. San Timoteo Creek is partially improved and runs in a narrow channel for a 5-mile reach through Lorna Linda, before its confluence with the Santa Ana River.

Flood Hazards

Flooding within the Santa Ana River Basin has a long recorded history, including catastrophic events that on a few occasions submerged several square miles of the San Bernardino Valley, and significantly altered the course of the Santa Ana River. One account of 1862 flood, known as the area's greatest flood of record, cites billows of water 50 feet high south of Colton, west of the Redlands Planning Area. The disastrous floods of 1938 caused loss of lives and millions of dollars of property damage within the County. Flooding in 1969 led to the declaration of San Bernardino and six neighboring counties as national disaster areas.

Flood improvements such as levees, culverts, and concrete channels and recent planned improvements on the Santa Ana River Mainstem have diminished or are expected to diminish the flood hazard in most problem areas over the next several years, although localized, high-intensity storms are still potential threats to lives and property within the Redlands Planning Area. In 1976, for example, a thunderstorm above the Crafton Hills dropped rainfall approaching four inches, with 75 to 100 percent of the rainfall occurring within a 30-minute time span. Flows traveling through the Mission Zanja Creek drainage flooded more than 200 homes and the downtown business area. Water flowing at depths of up to 3 feet caused an estimated 1 million dollars in public and private damage in the Redlands area.

Peak flows from San Timoteo Canyon have a recent history of flooding the downstream City of Lorna Linda (Redlands 1995). The natural channel of San Timoteo Creek is inadequate to contain floods greater than a 12-year event magnitude. Flows of greater magnitude, containing significant debris including brush, logs, rocks, and mud, tend to break out of the channel at restriction points, due to the buildup of heavy debris, which reduces capacity and causes overflow. When flows break out of the channel, they cause erosion immediately adjacent to the breakout point, and then widespread inundation damage

across the floodplain. Damages occur both as a result of short-term inundation and deposition of mud across the floodplain as flows recede.

The flood threat along the Redlands area waterways is compounded by the region's proximity to large wilderness areas and related vulnerability to wildfire, and due to the prevalence of the Santa Ana winds, which can spread fire rapidly. After a major fire, sheet flow passing across the face of a denuded landscape is likely to increase in speed and volume, and mud and debris flows combined with flood waters compound the problem.

Designated Flood Zones

The corridors of FEMA 100-year flood zones within the Redlands Planning Area correspond to the location of the major drainageways, including the Santa Ana River, the Mission Zanja Creek, and San Timoteo Creek, as shown on Figure 4.15.9-1 (Flood Zones) (Redlands 1995). The gentle curves which outline most of the zones reflect the natural extent of the floodplain, whereas the abrupt angles indicate that improvements such as levees have interrupted or channeled the flows. Where zones truncate at their downstream end, either flooding is not a problem (due to improvements or percolation) or the area has not been studied.

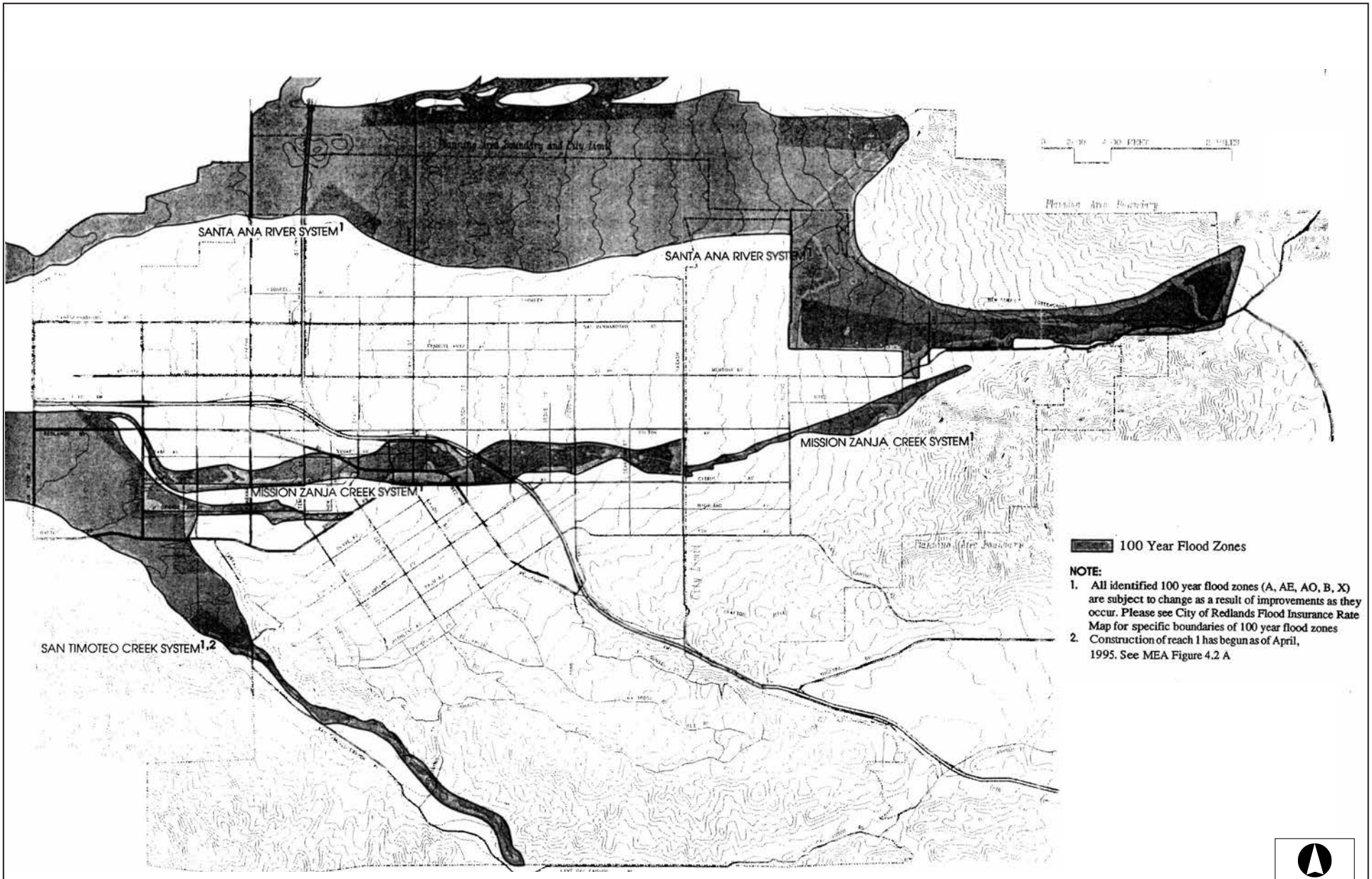
The closest existing dam upstream of the Redlands Planning Area is the Bear Valley Dam and reservoir. Drainage from this facility flows into Bear Creek, which in turn joins the Santa Ana River approximately 5 miles north of Redlands. The Bear Valley flood control dam could pose inundation hazards to portions of the Valley regions. An order was issued requiring that the Dam be shored up or drained, which has since been completed (Redlands 1995). San Bernardino County General Plan Hazard Overlay maps show the Santa Ana River Wash as flooded in the event of a Bear Valley Dam failure, and the inundation area is reproduced on Figure 4.15.9-2 (Dam Inundation Areas).

Seiches

A seiche is a surface wave created when an inland body of water is shaken, usually by earthquake activity. Damage from seiches is unlikely to occur. The closest dams to the City are the Bear Valley Dam and the Seven Oaks Dam located approximately 10 and 20 miles from the City respectively.

Mudflows

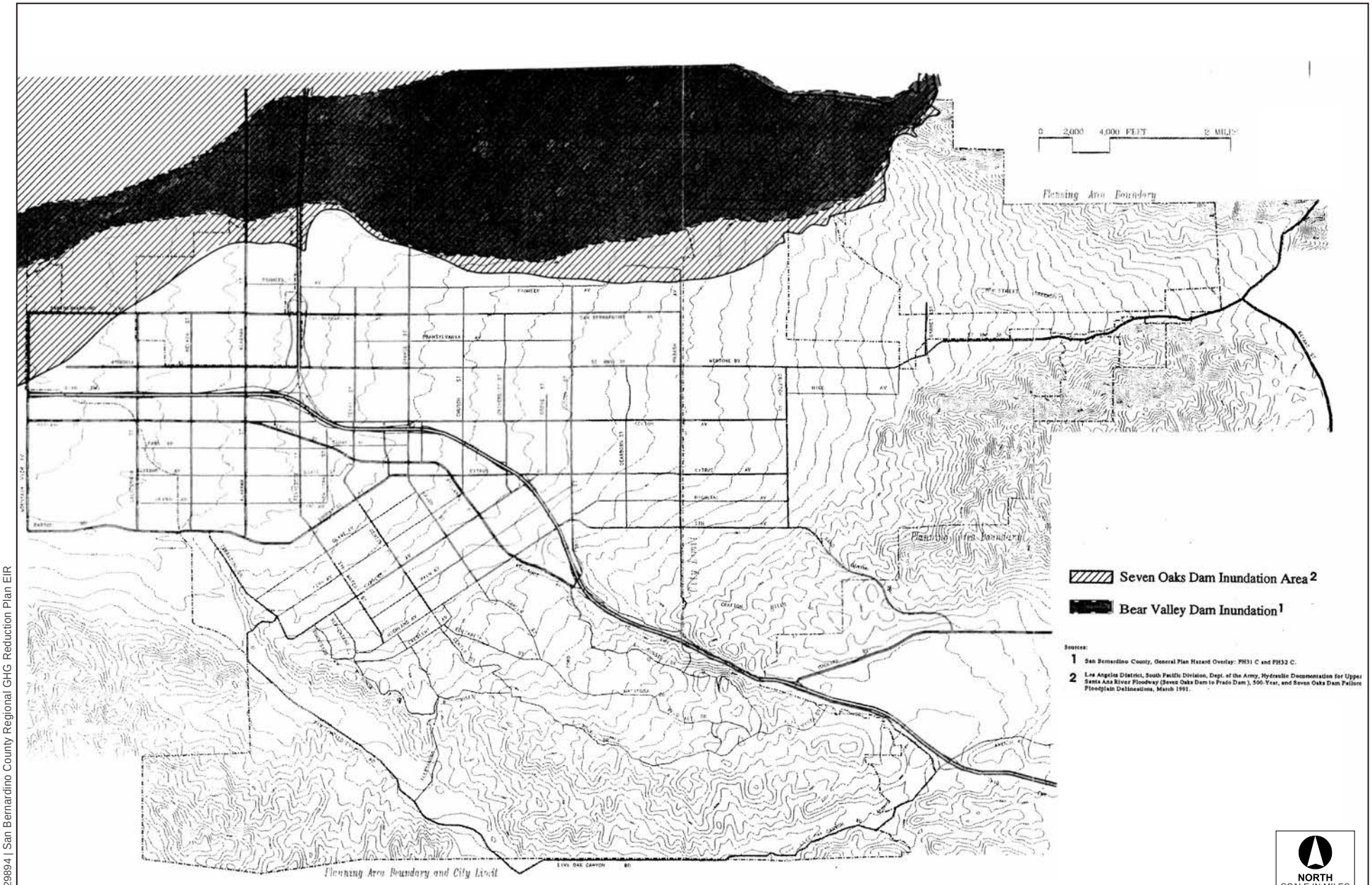
A mudflow is a type of landslide composed of saturated rock debris and soil with a consistency of wet cement. The Planning Area is framed to the north, south and east by slopes subject to erosion and non-seismically initiated landslides, mudslides, or slope collapse (Redlands 1995).



***Source*:** City of Redlands.

Figure 4.15.9-1
Flood Zones

ATKINS



***Source*:** City of Redlands.

Figure 4.15.9-2
Dam Inundation Areas

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Regulatory Framework

Federal

United States Environmental Protection Agency (USEPA)

The USEPA is the primary federal agency that regulates water quality and water resources principally through the Clean Water Act and Safe Drinking Water Act.

Clean Water Act

The federal Water Pollution Control Act (also known as the Clean Water Act [CWA]) is the principal statute governing water quality. The CWA establishes the basic structure for regulating discharges of pollutants into the waters of the United States and gives the USEPA the authority to implement pollution control programs, such as setting wastewater standards for industry. The statute's goal is to restore, maintain, and preserve the integrity of the nation's waters. The CWA regulates both the direct and indirect discharge of pollutants into the nation's waters and sets water quality standards for all contaminants in surface waters. It is unlawful for any person to discharge any pollutant from a point source into navigable waters, unless a permit is obtained under its provisions. The CWA mandates permits for wastewater and stormwater discharges, requires states to establish site-specific water quality standards, and regulates other activities that affect water quality, such as dredging and the filling of wetlands. The CWA also funded the construction of sewage treatment plants and recognized the need for planning to address nonpoint sources of pollution. CWA Section 402 requires a permit for all point source (a discernible, confined, and discrete conveyance, such as a pipe, ditch, or channel) discharges of any pollutant into waters of the United States.

Safe Drinking Water Act

The federal Safe Drinking Water Act (SDWA) provides regulations on drinking water quality in Redlands. The SDWA gives the USEPA the authority to set drinking water standards, such as the National Primary Drinking Water Regulations (NPDWRs or primary standards). The NPDWRs protect drinking water quality by limiting the levels of specific contaminants that are known to occur or have the potential to occur in water and can adversely affect public health. All public water systems that provide service to twenty-five or more individuals are required to satisfy these legally enforceable standards. Water purveyors must monitor for these contaminants on fixed schedules and report to the USEPA when a Maximum Contaminant Level (MCL) has been exceeded. MCL is the maximum permissible level of a contaminant in water that is delivered to any user of a public water system. Drinking water supplies are tested for a variety of contaminants, including organic and inorganic chemicals (e.g., minerals), substances that are known to cause cancer, radionuclides (e.g., uranium and radon), and microbial contaminants (e.g., coliform and Escherichia coli). Changes to the MCL list are typically made every three years, as the USEPA adds new contaminants or, based on new research or new case studies, revised MCLs for some contaminants are issued. The California Department of Health Services, Division of Drinking Water and Environmental Management, is responsible for implementation of the SDWA in California.

National Pollution Discharge Elimination System

Under the National Pollutant Discharge Elimination System (NPDES) program promulgated under CWA Section 402, all facilities that discharge pollutants from any point source into waters of the United States are required to obtain a NPDES permit. The term pollutant broadly includes any type of industrial, municipal, and agricultural waste discharged into water. Point sources include discharges from publicly owned treatment works (POTWs), discharges from industrial facilities, and discharges associated with urban runoff. While the NPDES program addresses certain specific types of agricultural activities, most agricultural facilities are nonpoint sources and are exempt from NPDES regulation. Pollutants come from direct and indirect sources. Direct sources discharge directly to receiving waters, whereas indirect sources discharge wastewater to POTWs, which in turn discharge to receiving waters. Under the national program, NPDES permits are issued only to direct point-source discharges. The National Pretreatment Program addresses industrial and commercial indirect dischargers. Municipal sources are POTWs that receive primarily domestic sewage from residential and commercial customers. Specific NPDES program areas applicable to municipal sources are the National Pretreatment Program, the Municipal Sewage Sludge Program, Combined Sewer Overflows, and the Municipal Storm Water Program. Nonmunicipal sources include industrial and commercial facilities. Specific NPDES program areas applicable to these industrial/commercial sources are: Process Wastewater Discharges, Non-Process Wastewater Discharges, and the Industrial Storm Water Program. NPDES issues individual and general permits. Also, the USEPA has recently focused on integrating the NPDES program further into watershed planning and permitting.

NPDES has a variety of measures designed to minimize and reduce pollutant discharges. For example, pollutant discharges to a publicly owned conveyance or system of conveyances (including roadways, catch basins, curbs, gutters, ditches, man-made channels and storm drains, designed or used for collecting and conveying stormwater) are regulated by the USEPA's Storm Water Phase II Final Rule. The Phase II Final Rule requires an operator (such as a city) of a regulated small municipal separate storm sewer system (MS4) to develop, implement, and enforce a program (e.g., best management practices [BMPs], ordinances, or other regulatory mechanisms) to reduce pollutants in post-construction runoff to the City's storm drain system from new development and redevelopment projects that result in the land disturbance of greater than or equal to one acre. The MS4 permit in effect in the City of Redlands is Order R8-2002-0012 issued by the Santa Ana Regional Water Quality Control Board.

National Flood Insurance Program

The National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973 mandate the Federal Emergency Management Agency (FEMA) to evaluate flood hazards. FEMA provides Flood Insurance Rate Maps (FIRMs) for local and regional planners to promote sound land use and floodplain development, identifying potential flood areas based on the current conditions. To delineate a FIRM, FEMA conducts engineering studies called flood insurance studies. Using information gathered in these studies, FEMA engineers and cartographers delineate Special Flood Hazard Areas on FIRMs.

The Flood Disaster Protection Act requires owners of all structures in identified special flood hazard areas to purchase and maintain flood insurance as a condition of receiving federal or federally related financial assistance, such as mortgage loans from federally insured lending institutions. Community

members in designated areas are able to participate in the National Flood Insurance Program afforded by FEMA. The program is required to offer federally subsidized flood insurance to property owners in those communities that adopt and enforce floodplain management ordinances that meet minimum criteria established by FEMA. The National Flood Insurance Reform Act of 1994 further strengthened the program by providing a grant program for state and community flood mitigation projects. The act also established the Community Rating System, a system for crediting communities that implement measures to protect the natural and beneficial functions of their floodplains, as well as managing erosion hazards.

The City of Redlands, under the National Flood Insurance Program, has created standards and policies to ensure flood protection. These policies address development and redevelopment, compatibility of uses, required predevelopment drainage studies, compliance with discharge permits, enhancement of existing waterways, and cooperation with the U.S. Army Corps of Engineers and the San Bernardino County Flood Control District for updating, method consistency with the RWQCB, and proposed BMPs.

State

State Water Resources Control Board

The State Water Resources Control Board (SWRCB), a division of the California Environmental Protection Agency (Cal/EPA), regulates water resources including water quality within California. The SWRCB's mission is to preserve, enhance and restore the quality of California's water resources, and ensure their proper allocation and efficient use for the benefit of present and future generations. SWRCB's regulatory authority is based upon USEPA's delegated authority of the NPDES permitting process within the state, and California's Porter-Cologne Water Quality Act. The SWRCB is divided into nine Regional Water Quality Control Boards (RWQCB), each regulating watersheds within their region.

Porter-Cologne Water Quality Act

The Porter-Cologne Water Quality Control Act (Water Code Sections 13000 et seq.) is the basic water quality control law for California. Under this act, the SWRCB has ultimate control over state water rights and water quality policy. In California, the USEPA has delegated authority to issue NPDES permits to the SWRCB. The state is divided into nine regions related to water quality and quantity characteristics. The SWRCB, through its nine RWQCBs carries out the regulation, protection, and administration of water quality in each region. Each regional board is required to adopt a Water Quality Control Plan, or Basin Plan, that recognizes and reflects the regional differences in existing water quality, the beneficial uses of the region's ground and surface water, and local water quality conditions and problems. The City of Redlands is in the Santa Ana River Basin, Region 8, in the Upper Santa Ana Watershed. The Water Quality Control Plan for this region was adopted in 1995. This Basin Plan gives direction on the beneficial uses of the state waters within Region 8, describes the water quality that must be maintained to support such uses, and provides programs, projects, and other actions necessary to achieve the established standards.

Storm Water Pollution Prevention Plans

Pursuant to the CWA, in 2001, the SWRCB issued a statewide general NPDES Permit for stormwater discharges from construction sites (NPDES No. CAS000002). Under this Statewide General Construction Activity permit, discharges of stormwater from construction sites with a disturbed area of 1 acre or more are required to either obtain individual NPDES permits for stormwater discharges or to be covered by the General Permit. Coverage by the General Permit is accomplished by completing and filing a Notice of Intent with the SWRCB and developing and implementing a Storm Water Pollution Prevention Plan (SWPPP). Each applicant under the General Construction Activity Permit must ensure that an SWPPP is prepared prior to grading and is implemented during construction. The SWPPP must list BMPs implemented on the construction site to protect stormwater runoff, and must contain a visual monitoring program, a chemical monitoring program for nonvisible pollutants to be implemented if there is a failure of BMPs, and a monitoring plan if the site discharges directly to a water body listed on the state's 303(d) list of impaired waters.

Regional

County of San Bernardino Stormwater Program

The San Bernardino County Stormwater Program has developed the Model Water Quality Management Plan guidance document to comply with the Santa Ana RWQCB's NPDES permit requirements. This guidance document requires that a project's post-development discharge not exceed predevelopment discharges for 1-, 5-, and 10-year storms; or that a project proponent carry out additional analysis and mitigation to ensure that a project not adversely impact downstream erosion, sedimentation, or stream habitat.

Santa Ana River Basin Water Quality Control Plan

The Water Quality Control Plan for the Santa Ana River Basin, updated in February 2008, establishes water quality standards for groundwater and surface water in the basin; that is, standards for both beneficial uses of specific waterbodies and the water quality levels that must be maintained to protect those uses. The Basin Plan includes an implementation plan describing actions by the Santa Ana RWQCB and others needed to achieve and maintain the water quality standards. The SARWQCB regulates waste discharges to minimize and control their effects on the quality of the region's groundwater and surface waters. The Basin Plan lists water quality problems in the region, along with causes, where they are known. Plans for improving water quality are included for water bodies with quality below the levels needed to enable all the beneficial uses of the water.

Local

City of Redlands Municipal Code

Municipal Code Chapter 15.32 (Flood Damage Prevention) calls for requirements and restrictions designed to protect human life and health, minimize expenditure of public money for costly flood control projects and damage to public facilities and utilities, and to minimize the need for rescue and relief efforts associated with flooding. The Code applies to all areas of special flood hazards, areas of flood-related erosion hazards and areas of mudflow hazards within the City. It includes standards for

construction, for utilities, subdivisions, manufactured homes, and floodways. Construction standards include requirements for anchoring, floodproofing, and minimum elevations of floors.

Municipal Code Chapter 13.54 (Storm Drains) is designed to promote the future health, safety and general welfare of inhabitants of the city by controlling discharges into the Redlands storm drain system. This will be accomplished by eliminating all nonpermitted discharges to Redlands separate storm sewers, controlling the discharge to Redlands separate storm sewers from spills, dumping or disposal of materials other than stormwater and reducing pollutants in stormwater discharges to the maximum extent practicable.

Redlands General Plan

The Redlands General Plan guiding policies that are applicable to hydrology, water quality and flood hazards[9] are as follows:

Policy 8.20a Work with the local and regional water agencies to improve and enhance groundwater quality in the region.

Policy 8.20b Oppose approval of development projects within the Planning Area that would rely on package wastewater treatment plants.

Policy 8.20c Where feasible given flood control requirements, maintain the natural condition of waterways and flood plains to ensure adequate groundwater recharge and water quality.

Policy 8.20d The City of Redlands shall give priority to providing its citizens the highest quality water for domestic use as is reasonably available to it.

Policy 8.20e The City of Redlands shall give priority to utilizing the surface water of Mill Creek, which is the highest quality water presently available to it.

Policy 8.20f The City will give the next higher priority to utilizing the surface water of the Santa Ana River available to it through stock ownership rights or other rights.

Policy 8.20g In the event the supply from local surface water sources is insufficient to meet demand, the City will also use local groundwater sources of good quality.

Policy 8.20h State Water Project water shall be considered, to the extent possible, as supplemental water, and shall be utilized only as necessary to meet demand.

Policy 8.20i The City will actively protect all water supply sources, to the extent legally possible, from contamination and from a diminution of supply, will undertake all necessary steps to provide a secure supply of high quality water to meet the present and future needs of its citizens.

Policy 8.40a Protect lives and property and ensure that structures proposed for sites located on flood plains subject to the 100-year flood are provided adequate protection from floods.

Policy 8.40b Preserve as open space those areas which cannot be mitigated for flood hazard.

[9] These policies are not a complete listing of all policies contained in the General Plan; those policies that would be most applicable to the proposed project are included here.

Policy 8.40c Support a multi-use concept of flood plains, flood-related facilities, and waterways, including, where appropriate, the following uses:

- Flood control
- Groundwater recharge
- Mineral extraction
- Open space
- Nature study
- Habitat preservation
- Pedestrian, equestrian, and bicycle circulation
- Outdoor sports and recreation.

Policy 8.40d Where feasible given flood control requirements, maintain the natural condition of waterways and flood plains to ensure adequate groundwater recharge and water quality, preservation of habitat, and access to mineral resources.

Policy 8.40e Coordinate with the U.S. Army Corps of Engineers and San Bernardino County throughout construction, mitigation, and operation of the various components/projects that make-up the "Santa Ana River Mainstem Project" that will directly affect the Planning Area. These projects include the following: the Seven Oaks Dam, the improvements to the Mill Creek levees (completed), and the planned improvements along the three reaches of the San Timoteo Creek Project. In addition to the coordinated effort on the projects mentioned above between the U.S. Army Corps of Engineers and San Bernardino County Flood Control District, the City of Redlands Public Works Department must be actively included in the development of any/all proposed flood control facilities along the reaches of the Mission Zanja Creek System.

Policy 8.40f Support the intent of the County of San Bernardino's flood control policies as specified in the County General Plan.

Policy 8.40g Cooperate with all public and private agencies involved to ensure that flood control improvements do not disrupt environmentally sensitive areas beyond a level of mitigability.

Project Impact Evaluation

Thresholds of Significance

The following thresholds of significance are based on the 2012 CEQA Guidelines Appendix G. For purposes of this EIR, implementation of the San Bernardino County Regional GHG Reduction Plan might have a significant adverse impact on hydrology/water quality if it would do any of the following:

- Violate any water quality standards or waste discharge requirements
- 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 that would not support existing land uses or planned uses for which permits have been granted)

- 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 that would result in substantial erosion or siltation on or off site
- 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 that would result in flooding on or off site
- Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff
- Otherwise substantially degrade water quality
- 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
- Place within a 100-year flood hazard area structures that would impede or redirect flood flows
- 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
- Inundation by seiche, tsunami, or mudflow

Analytic Method

The following analysis considers whether or not implementation of the Regional Reduction Plan within the City would impact hydrology, water quality, create or increase the potential for flood hazards or inhibit the ability to respond to flood hazards.

Effects Not Found to Be Significant

Threshold	Would the project violate any water quality standards or waste discharge requirements?

Water quality degradation in the City from erosion impacts would be specific to future project sites that could be developed and/or retrofitted as a result of implementing reduction measures in the Regional Reduction Plan, and depend largely on the areas affected and the length of time soils are subject to erosion. Although implementation of the Regional Reduction Plan may result in runoff during construction of individual energy-generating facilities, methane capture systems, pedestrian, bicycle, or transit infrastructure that could adversely affect water quality beyond standards specified by the SWRCB, all reduction measure development requiring ground disturbance would be subject to regional and local regulations including the need for an SWPPP under NPDES No. CAS000002. In addition the City requires the obtainment of a grading permit for all developments that would require grading. Compliance with SWRCB's General Construction Activity Stormwater Permit regulations requiring an SWPPP, and the grading permit required by the City would reduce the risk of water degradation within the City from soil erosion related to construction activities associated with the Regional Reduction Plan to less than significant. Consequently, potential impacts as a result of implementation of the Regional Reduction Plan would be ***less than significant***. No mitigation is required.

Threshold	Would the project 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 that would not support existing land uses or planned uses for which permits have been granted)?

Implementation of the Regional Reduction Plan would not result in a substantial (if any) increase in impervious surfaces in the City. The Proposed Project would facilitate development in transit-oriented areas and the bicycle and pedestrian infrastructure consistent with the General Plan, which are already developed with impervious surfaces. The Proposed Project would not substantially increase the impermeable surface area such that groundwater recharge would be substantially affected. Energy retrofits, solar arrays, or wind turbines would not increase impermeable surface area in the City. Therefore, the proposed project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge. The impact would be ***less than significant***. No mitigation is required.

Threshold	Would the project 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 that would result in substantial erosion or siltation on or off site?

Energy retrofits and passive energy-producing components such as photovoltaic arrays would not alter existing drainage patterns in the City, as they would consist of structural alterations, not an increase in overall building footprint. Some renewable energy-generating facilities that could be constructed on vacant land, hillsides, or open space areas could alter existing drainage patterns; however, as noted above, all construction would be subject to regulations related to water quality, erosion, and stormwater runoff. Individual projects associated with implementation of the Regional Reduction Plan would be subject to review by the City prior to issuance of a grading permit, which process requires preparation of a drainage study and SWPPP. Consequently, any potential impacts associated with emissions during implementation of the Regional Reduction Plan would be reduced to ***less than significant***. No mitigation is required.

Threshold	Would the project 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 that would result in flooding on or off site?

Energy facilities under the Regional Reduction Plan could be constructed in a 100-year flood plain. Major historical floods have occurred in the City, where storm sheet flows resulting from overflows of the local channels and drains have produced a variety of damage. The 100-year flood hazard areas within the Redlands Planning Area correspond to the location of the major drainageways, including the Santa Ana River, the Mission Zanja Creek, and San Timoteo Creek. All new development, including facilities constructed pursuant to implementation of the Regional Reduction Plan, would be subject to the provisions of Municipal Code Chapter 15.32 (Flood Damage Prevention). The purpose of Chapter 15.32 is to minimize public and private losses due to flood conditions by ensuring proper design of structures to prevent against flood damages. Additionally, the Flood Damage Prevention chapter also includes provisions for preventing or regulating the construction of flood barriers that would unnaturally divert

floodwaters or which may increase flood hazards in other areas. As such, the development of energy facilities within the City's 100-year flood areas would not result in the redirection of flood flows in a manner that would subsequently lead to the loss of adequate flood conveyance in the City. Furthermore, any new development or work within the City that involves the San Bernardino County Flood Control and Water Conservation District's right of way, easements, or facilities would require the obtainment of an encroachment permit from the District. General Plan Policies 8.2.0C and 8.40a through 8.40f reduce the risk from flooding throughout the City. Compliance with these policies is assured through City review of all proposed development. Therefore, the impact would be ***less than significant***. No mitigation is required.

Threshold	Would the project create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

The development of any new facilities during implementation of the Regional Reduction Plan within a road right-of-way or other areas that may impact storm drains must be coordinated with the City prior to the beginning of construction. Compliance of City provisions including the Flood Damage Prevention Program (Municipal Code Chapter 15.32) would ensure that people and property are protected from flooding through responsible and efficient stormwater management. Compliance with NPDES permit requirements would ensure that the proposed project would not provide substantial additional sources of polluted runoff. The impact would be ***less than significant***. No mitigation is required.

Threshold	Would the project otherwise substantially degrade water quality?

The Regional Reduction Plan would not otherwise substantially degrade water quality. The impact would be ***less than significant***. No mitigation is required.

Threshold	Would the project 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?

The Regional Reduction Plan does not include a housing component. There would be ***no impact***.

Threshold	Would the project place within a 100-year flood hazard area structures that would impede or redirect flood flows?

Renewable energy generation facilities could be constructed in a 100-year flood hazard area as a result of Regional Reduction Plan implementation. Chapter 15.32 and General Plan Policy 8.40d include provisions for preventing or regulating the construction of structures that would unnaturally divert floodwaters or which may increase flood hazards in other areas. As such, the development of energy facilities within the City's 100-year flood areas would not impede or result in the redirection of flood flows in the City. Furthermore, any new development or work within the City that involves the San Bernardino County Flood Control and Water Conservation District's right of way, easements, or facilities would require the obtainment of an encroachment permit from the District. Additionally, General Plan Policies 8.2.0C and 8.40a through 8.40f reduce the risk from flooding throughout the City. Compliance

with the Municipal Code and the General Plan policies is assured through City review of all proposed development. Therefore, the impact would be ***less than significant***. No mitigation is required.

Threshold	Would the project 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?

Transit, pedestrian and bicycle infrastructure, energy retrofits, and passive energy solar arrays built during implementation of the Regional Reduction Plan may have a risk of flooding from dam failure. If wind farms or other energy-producing facilities are built in open space areas, they could be subject to increased risk from dam inundation depending on their location. However, all new development would be subject to the provisions of City Municipal Code Chapter 15.32 (Flood Damage Prevention), designed to minimize public and private losses due to flood conditions by ensuring proper design of structures to prevent against flood damages. General Plan Policies 8.2.0C and 8.40a through 8.40f restricts development in areas subject to flooding, as noted above. These policies identified in the General Plan would minimize the effects of prospective growth from flooding hazards. Therefore, the impact would be ***less than significant***. No mitigation is required.

Threshold	Would the project inundation by seiche, tsunami, or mudflow?

The City is not located within the immediate area of the Pacific Ocean; thus, there would be no impacts associated with inundation by tsunamis. Although unlikely, seiches could occur downstream of reservoirs due to ground shaking at the reservoirs. The closest existing dams upstream of the Redlands Planning Area are the Seven Oaks Dam and the Bear Valley Dam located approximately 10 and 20 miles north east of the City respectively. The Seven Oaks Dam is designed to withstand earthquakes of Richter magnitude 8+, which is realistic for the San Andreas Fault within the region. According to FEMA, the Bear Valley Dam survived the 6.7-magnitude Big Bear Lake Earthquake in 1992. The dam is designed to withstand earthquakes in the area. The multiple arch bays of the Bear Valley Dam were filled with mass concrete to strengthen the structure. The Planning Area is framed to the north, south and east by slopes subject to erosion and non-seismically initiated landslides, mudslides, or slope collapse. Municipal Code Chapter 15.32 regulates development in areas of special flood hazards, areas of flood-related erosion hazards and areas of mudflow hazards within the City. Additionally, General Plan Policies 8.2.0c and 8.40a through 8.40f reduce impacts on structures associated with seiche flooding to less than significant. These regulations include standards for construction, for utilities, subdivisions, manufactured homes, and floodways. Facilities and infrastructure built as a result of the Regional Reduction Plan implementation within the City are reviewed for adherence to the General Plan policies, the City's Flood Damage Prevention Program, and any San Bernardino County Flood Control District encroachment permits. The City's Flood Damage Prevention Program prohibits encroachments into San Bernardino County Flood Control District's right-of-way (which include drainage channels), with specified exceptions. Drainage channels in the City are maintained by the San Bernardino County Flood Control District, whose approval would be required for any project that proposed alterations to a channel. Therefore, the impact would be ***less than significant***. No mitigation is required.

Cumulative Impacts

Because the Regional Reduction Plan does not significantly impact hydrology, water quality, or create flood hazards at a project level, implementation of the Regional Reduction Plan will not create impacts to hydrology, water quality or flood hazards that are cumulatively considerable. Therefore, ***cumulative impacts would be less than significant***.

References

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San Bernardino Associated Governments (SANBAG). 2012. *San Bernardino County Regional Greenhouse Gas Reduction Plan*. Draft. Prepared by ICF International, December.

United States Environmental Protection Agency (USEPA). 2004. *City of Redlands MS4 Program Evaluation*, December.

4.15.10 Land Use/Planning

This section of the EIR analyzes the potential environmental effects on land use/planning in the City of Redlands from implementation of the Regional Reduction Plan. Data for this section were taken from Redlands General Plan (1995a) and associated environmental documents (1995b). Full reference-list entries for all cited materials are provided at the end of this section.

No comment letters addressing land use/planning were received in response to the notice of preparation (NOP) circulated for the Regional Reduction Plan.

Environmental Setting

The City of Redlands is located in the far southeastern portion of the San Bernardino Valley, south of Highland and northwest of the San Gorgonio pass on Interstate 10 (I-10). The planning area encompasses 43 square miles, of which approximately 69 percent (20,383 acres) is incorporated city limits and the remaining 42 percent (6,765 acres) is unincorporated San Bernardino County.

To a large degree, topographic features serve to delimit the existing and potential growth of Redlands. These include the Crafton Hills, a cluster of gently sloping hills which occur at the eastern edge of the planning area between Redlands and Yucaipa; the Santa Ana Wash, a broad floodway extending from the San Bernardino Mountains to the coast which defines the City's northern boundary; and the San Timoteo and Live Oak Canyon areas, an incised, largely undeveloped canyon system which demarcates the southerly extent of development within the City. Steep topography and a lack of infrastructure facilities such as sewer have limited the amount of urban development in these canyons. Major transportation facilities also play a role in the existing developed land use pattern.

The City's history is tied to the railroads (late 1800s), the citrus industry (early 1900s) and the growth of the aerospace industry (1950s). As an older community, historic land use activities have had a much greater influence on the present City pattern than in many newer communities. In particular, the compact appearance of the historic downtown; the deep, narrow agricultural parcel divisions in the northeastern and north-central portions of the planning area associated with citrus productions and the stately Victorian neighborhoods in south Redlands typify this influence. Only the city's far western areas are allocated to industrial uses.

Vacant land and open space account for approximately 65 percent of the City's approximately 43-square-acre planning area. Existing developed residential uses account for approximately 24 percent of the planning area. Figure 4.15.10-1 (General Plan Land Use Map) shows the adopted General Plan land uses.

The Vacant land category indicates undeveloped land that is either already subdivided but undeveloped, or which is subject to development under adopted General Plan policies. Buildout under the General Plan will approximately double the amount of land designated for residential land uses, with a commensurate reduction in vacant land. In general, under the General Plan, existing permitted densities would be maintained where there are existing viable residential neighborhoods. Where neighborhoods are deteriorating and/or have already begun transition to more intensive uses, nonresidential or higher density residential designations have sometimes been applied (e.g., residential uses surrounding the

downtown core). In conjunction with the Housing Element 2006-2014, the City has been exploring mixed-use development possibilities for Redlands passenger rail stations. The General Plan also includes provisions to allow the retention of existing higher density housing while protecting the viability of lower density historic neighborhoods through application of a "Housing Conservation" overlay.

The Redlands Airport, on the bluff adjoining the Santa Ana Wash between Judson Street and Wabash Avenue, is a City-owned general aviation facility. The western edge of the City of Redlands lies immediately adjacent to the boundary of San Bernardino International Airport (SBIA), the former Norton Air Force Base.

Regulatory Framework

Federal

Federal

There are no federal regulations pertaining to land use/planning.

State

California Air Resources Board

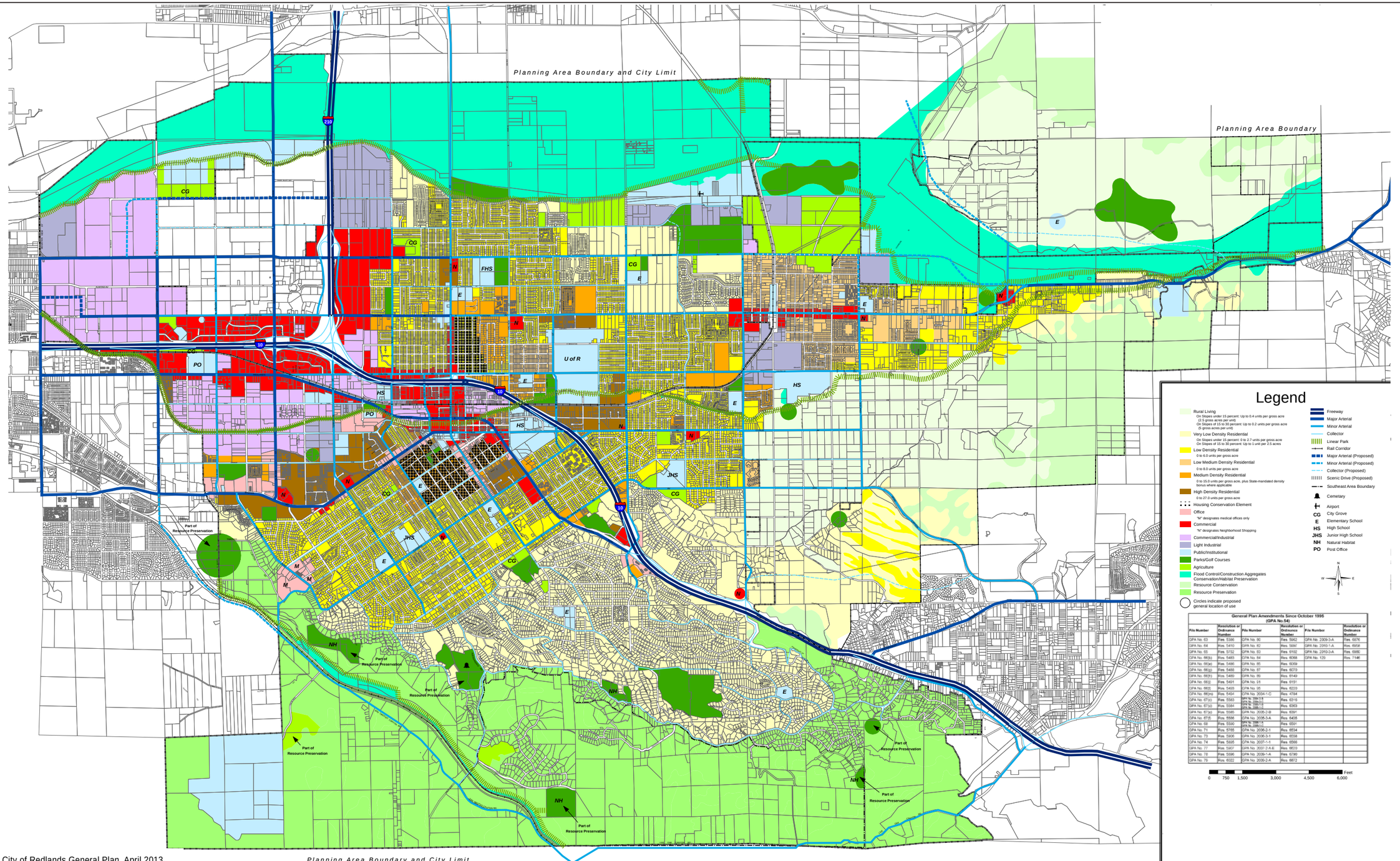
The California Air Resources Board (ARB), a part of the California EPA (Cal/EPA) is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, California ARB conducts research, sets state ambient air quality standards (California Ambient Air Quality Standards), compiles emission inventories, develops suggested control measures, and provides oversight of local programs. California ARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. California ARB has primary responsibility for the development of California's State Implementation Plan (SIP), for which it works closely with the federal government and the local air districts.

Executive Order S-3-05

California Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S-3-05, the following GHG emission reduction targets:

- By 2010, California shall reduce GHG emissions to 2000 levels
- By 2020, California shall reduce GHG emissions to 1990 levels
- By 2050, California shall reduce GHG emissions to 80 percent below 1990 levels

The first California Climate Action Team Report to the Governor in 2006 contained recommendations and strategies to help meet the targets in Executive Order S-3-05. In April 2010, the Draft California Action Team (CAT) Biennial Report expanded on the policy oriented 2006 assessment. The new information detailed in the CAT Assessment Report includes development of revised climate and sea-level projections using new information and tools that have become available in the last two years; and an



File Number	Resolution or Ordinance Number	File Number	Resolution or Ordinance Number	File Number	Resolution or Ordinance Number
GPA No. 63	Res. 5336	GPA No. 80	Res. 5362	GPA No. 2009-3-A	Res. 6878
GPA No. 64	Res. 5410	GPA No. 82	Res. 5997	GPA No. 2010-1-A	Res. 6956
GPA No. 65	Res. 5732	GPA No. 83	Res. 6102	GPA No. 2012-2-A	Res. 6980
GPA No. 66(b)	Res. 5483	GPA No. 84	Res. 6068	GPA No. 13	Res. 7146
GPA No. 66(a)	Res. 5486	GPA No. 85	Res. 6069		
GPA No. 66(g)	Res. 5488	GPA No. 87	Res. 6070		
GPA No. 66(h)	Res. 5489	GPA No. 89	Res. 6140		
GPA No. 66(j)	Res. 5491	GPA No. 91	Res. 6151		
GPA No. 66(l)	Res. 5403	GPA No. 95	Res. 6223		
GPA No. 66(m)	Res. 5404	GPA No. 2004-1-C	Res. 4784		
GPA No. 67(c)	Res. 5583	GPA No. 2004-1-E, 2005-1-E	Res. 6316		
GPA No. 67(d)	Res. 5584	GPA No. 2005-1-D, 2006-1-D	Res. 6369		
GPA No. 67(e)	Res. 5585	GPA No. 2006-2-B	Res. 6391		
GPA No. 67(f)	Res. 5586	GPA No. 2006-3-A	Res. 6406		
GPA No. 68	Res. 5590	GPA No. 2006-1-C, 2006-1-D	Res. 6501		
GPA No. 71	Res. 5795	GPA No. 2006-2-1	Res. 6534		
GPA No. 73	Res. 5906	GPA No. 2006-3-1	Res. 6558		
GPA No. 74	Res. 5895	GPA No. 2007-1-1	Res. 6566		
GPA No. 77	Res. 5907	GPA No. 2007-2-A-E	Res. 6659		
GPA No. 78	Res. 5596	GPA No. 2008-1-A	Res. 6749		
GPA No. 79	Res. 6022	GPA No. 2008-2-A	Res. 6872		

***Source*:** City of Redlands General Plan, April 2013.

Figure 4.15.10-1
General Plan Land Use Map

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evaluation of climate change within the context of broader social changes, such as land-use changes and demographic shifts (Cal/EPA 2006). The action items in the report focus on the preparation of the Climate Change Adaptation Strategy, required by Executive Order S-13-08, described below.

Assembly Bill 32, the California Global Warming Solutions Act of 2006

In 2006, the California State Legislature adopted AB 32, the California Global Warming Solutions Act of 2006. AB 32 focuses on reducing GHG in California. GHGs as defined under AB 32 include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. AB 32 required California ARB to adopt rules and regulations that would achieve greenhouse gas emissions equivalent to 1990 statewide levels by 2020. On or before June 30, 2007, California ARB was required to publish a list of discrete early action GHG emission reduction measures that would be implemented by 2010. The law further required that such measures achieve the maximum technologically feasible and cost effective reductions in GHGs from sources or categories of sources to achieve the statewide greenhouse gas emissions limit for 2020.

California ARB published its final report for Proposed Early Actions to Mitigate Climate Change in California in October 2007. This report described recommendations for discrete early action measures to reduce GHG emissions. The measures included are part of California's strategy for achieving GHG reductions under AB 32. Three new regulations are proposed to meet the definition of "discrete early action greenhouse gas reduction measures," which include the following: a low carbon fuel standard; reduction of HFC-134a emissions from nonprofessional servicing of motor vehicle air conditioning systems; and improved landfill methane capture (California ARB 2007b). California ARB estimates that by 2020, the reductions from those three measures would be approximately 13 million to 26 million metric tons carbon dioxide equivalent (MMT CO_2e).

Under AB 32, California ARB has the primary responsibility for reducing GHG emissions. California ARB has published a staff report titled California 1990 GHG Emissions Level and 2020 Emissions Limit (California ARB 2007a) that determined the statewide levels of GHG emissions in 1990 to be 427 MMT CO_2e. Additionally, in December 2008, California ARB adopted the Climate Change Scoping Plan, which outlines the state's strategy to achieve the 2020 GHG limit. This Scoping Plan proposes a comprehensive set of actions designed to reduce overall greenhouse gas emissions in California, improve the environment, reduce dependence on oil, diversify energy sources, save energy, create new jobs, and enhance public health. The plan emphasizes a cap-and-trade program, but also includes the discrete early actions.

Senate Bill 97 (SB 97)

SB 97, enacted in 2007, amends the CEQA statute to clearly establish that GHG emissions and the effects of GHG emissions are appropriate subjects for CEQA analysis. It directed the California Office of Planning and Research (OPR) to develop draft CEQA Guidelines "for the mitigation of GHG emissions or the effects of GHG emissions" and directed the Resources Agency to certify and adopt the CEQA Guidelines.

On April 13, 2009, OPR submitted the proposed amendments to the Secretary for Natural Resources. The Natural Resources Agency conducted formal rulemaking in 2009, certified, and adopted the

amendments in December 2009. The California Office of Administrative Law codified into law the amendments in March 2010. The amendments became effective in June 2010 and provide regulatory guidance with respect to the analysis and mitigation of the potential effects of GHG emissions.

CEQA Guidelines Section 15183.5 (Tiering and Streamlining the Analysis of GHG Emissions) was added as part of the CEQA Guideline amendments and describes the criteria needed in a Climate Action Plan that would allow for the tiering and streamlining of CEQA analysis for subsequent development projects. The following quote is from the CEQA Guideline amendments:

> Section 15183.5. Tiering and Streamlining the Analysis of Greenhouse Gas Emissions.
>
> (a) Lead agencies may analyze and mitigate the significant effects of greenhouse gas emissions at a programmatic level, such as in a general plan, a long range development plan, or a separate plan to reduce greenhouse gas emissions. Later project-specific environmental documents may tier from and/or incorporate by reference that existing programmatic review. Project-specific environmental documents may rely on an EIR containing a programmatic analysis of greenhouse gas emissions as provided in section 15152 (tiering), 15167 (staged EIRs) 15168 (program EIRs), 15175–15179.5 (Master EIRs), 15182 (EIRs Prepared for Specific Plans), and 15183 (EIRs Prepared for General Plans, Community Plans, or Zoning).
>
> (b) Plans for the Reduction of Greenhouse Gas Emissions. Public agencies may choose to analyze and mitigate significant greenhouse gas emissions in a plan for the reduction of greenhouse gas emissions or similar document. A plan to reduce greenhouse gas emissions may be used in a cumulative impacts analysis as set forth below. Pursuant to sections 15064(h)(3) and 15130(d), a lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project complies with the requirements in a previously adopted plan or mitigation program under specified circumstances.
>
> (1) Plan Elements. A plan for the reduction of greenhouse gas emissions should:
>
> (A) Quantify greenhouse gas emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area;
>
> (B) Establish a level, based on substantial evidence, below which the contribution to greenhouse gas emissions from activities covered by the plan would not be cumulatively considerable;
>
> (C) Identify and analyze the greenhouse gas emissions resulting from specific actions or categories of actions anticipated within the geographic area;
>
> (D) Specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level;
>
> (E) Establish a mechanism to monitor the plan's progress toward achieving the level and to require amendment if the plan is not achieving specified levels;
>
> (F) Be adopted in a public process following environmental review.
>
> (2) Use with Later Activities. A plan for the reduction of greenhouse gas emissions, once adopted following certification of an EIR or adoption of an environmental document, may be used in the cumulative impacts analysis of later projects. An environmental document that relies on a greenhouse gas reduction plan for a cumulative impacts analysis must identify those requirements specified in the plan that apply to the project, and, if those requirements are not otherwise binding and enforceable, incorporate those requirements as mitigation measures applicable to the project. If there is substantial evidence that the effects of a particular project may be cumulatively considerable notwithstanding the project's compliance with the specified requirements in the plan for the reduction of greenhouse gas emissions, an EIR must be prepared for the project.

One of the goals of the Corona Climate Action Plan (C-CAP) is to allow programmatic level review and mitigation of GHG emissions that allows streamlining of CEQA review for subsequent development projects. To accomplish this, the C-CAP framework is designed to fulfill the requirements identified in CEQA Guidelines Section 15183.5, above.

Executive Order S-13-08

On November 14, 2008, Governor Schwarzenegger issued Executive Order S-13-08, the Climate Adaptation and Sea Level Rise Planning Directive, which provides clear direction for how the State should plan for future climate impacts. Executive Order S-13-08 calls for the implementation of four key actions to reduce the vulnerability of California to climate change:

- Initiate California's first statewide Climate Change Adaptation Strategy (CAS) that will assess the State's expected climate change impacts, identify where California is most vulnerable, and recommend climate adaptation policies
- Request that the National Academy of Sciences establish an expert panel to report on sea level rise impacts in California in order to inform State planning and development efforts
- Issue interim guidance to State agencies for how to plan for sea level rise in designated coastal and floodplain areas for new and existing projects
- Initiate studies on critical infrastructure and land-use policies vulnerable to sea level rise

The 2009 CAS report summarizes the best known science on climate change impacts in the state to assess vulnerability, and outlines possible solutions that can be implemented within and across state agencies to promote resiliency. This is the first step in an ongoing, evolving process to reduce California's vulnerability to climate impacts (CNRA 2009).

California Code of Regulations (CCR) Title 24, Part 6

CCR Title 24, Part 6 (California's Energy Efficiency Standards for Residential and Nonresidential Buildings) (Title 24) were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. Although it was not originally intended to reduce GHG emissions, electricity production by fossil fuels results in GHG emissions and energy efficient buildings require less electricity. Therefore, increased energy efficiency results in decreased GHG emissions.

The Energy Commission adopted 2008 Standards on April 23, 2008, and the Building Standards Commission approved them for publication on September 11, 2008. These updates became effective on August 1, 2009. The Energy Commission adopted the 2008 changes to the Building Energy Efficiency Standards for several reasons:

- To provide California with an adequate, reasonably priced, and environmentally sound supply of energy
- To respond to AB 32, the Global Warming Solutions Act of 2006, which mandates that California must reduce its GHG emissions to 1990 levels by 2020

- To pursue California energy policy, which states that energy efficiency is the resource of first choice for meeting California's energy needs
- To act on the findings of California's Integrated Energy Policy Report (IEPR) that concludes that the Standards are the most cost effective means to achieve energy efficiency, expects the Building Energy Efficiency Standards to continue to be upgraded over time to reduce electricity and peak demand, and recognizes the role of the Standards in reducing energy related to meeting California's water needs and in reducing GHG emissions
- To meet the West Coast Governors' Global Warming Initiative commitment to include aggressive energy efficiency measures into updates of state building codes
- To meet the Executive Order in the Green Building Initiative to improve the energy efficiency of nonresidential buildings through aggressive standards

Senate Bill 375

Senate Bill 375 (SB 375), which establishes mechanisms for the development of regional targets for reducing passenger vehicle greenhouse gas emissions, was adopted by the State on September 30, 2008. On September 23, 2010, California ARB adopted the vehicular greenhouse gas emissions reduction targets that had been developed in consultation with the metropolitan planning organizations (MPOs); the targets require a 7 to 8 percent reduction by 2020 and between 13 to 16 percent reduction by 2035 for each MPO. SB 375 recognizes the importance of achieving significant greenhouse gas reductions by working with cities and counties to change land use patterns and improve transportation alternatives. Through the SB 375 process, MPOs will work with local jurisdictions in the development of sustainable communities strategies (SCS) designed to integrate development patterns and the transportation network in a way that reduces greenhouse gas emissions while meeting housing needs and other regional planning objectives. MPOs will prepare their first SCS according to their respective regional transportation plan (RTP) update schedule.

Regional

Southern California Association of Governments (SCAG)

SCAG is the designated Metropolitan Planning Organization for six Southern California counties (Los Angeles, Ventura, Orange, San Bernardino, Riverside, and Imperial), and is federally mandated to develop plans for transportation, growth management, hazardous waste management, and air quality. The SCAG regional plans cover San Bernardino County, which includes the City, and five other counties within Southern California.

Regional Comprehensive Plan

The Regional Comprehensive Plan (RCP) is a problem-solving guidance document that responds to SCAG's Regional Council directive in the 2002 Strategic Plan to develop a holistic, strategic plan for defining and solving the region's interrelated housing, traffic, water, air quality, and other regional challenges. The RCP is a voluntary framework that links broad principles to an action plan that moves the region towards balanced goals. The RCP's guiding principles include:

- Improve mobility for all residents. Improve the efficiency of the transportation system by strategically adding new travel choices to enhance system connectivity in concert with land use decisions and environmental objectives.
- Foster livability in all communities.
- Foster safe, healthy, walkable communities with diverse services, strong civic participation, affordable housing, and equal distribution of environmental benefits.
- Enable prosperity for all people. Promote economic vitality and new economies by providing housing, education, and job training opportunities for all people.
- Promote sustainability for future generations.
- Promote a region where quality of life and economic prosperity for future generations are supported by the sustainable use of natural resources.

Further, the RCP seeks to successfully integrate land and transportation planning and achieve land use and housing sustainability by implementing Compass Blueprint and 2 percent Strategy:

- Focusing growth in existing and emerging centers and along major transportation corridors
- Creating significant areas of mixed-use development and walkable, "people-scaled" communities
- Providing new housing opportunities, with building types and locations that respond to the region's changing demographics
- Targeting growth in housing, employment, and commercial development within walking distance of existing and planned transit stations
- Injecting new life into under-used areas by creating vibrant new business districts, redeveloping old buildings and building new businesses and housing on vacant lots
- Preserving existing, stable, single-family neighborhoods
- Protecting important open space, environmentally sensitive areas and agricultural lands from development
- Reducing emissions of criteria pollutants to attain federal air quality standards by prescribed dates and state ambient air quality standards as soon as practicable
- Reversing current trends in greenhouse gas emissions to support sustainability goals for energy, water supply, agriculture, and other resource areas
- Minimizing land uses that increase the risk of adverse air pollution-related health impacts from exposure to toxic air contaminants, particulates (PM_{10}, $PM_{2.5}$, ultrafine), and carbon monoxide

Regional Transportation Plan

On May 8, 2012, the Regional Council of SCAG adopted the 2012 RTP and SCS for the SCAG area aimed at attaining the reduction targets of an 8 percent per capita reduction in GHG emissions from passenger vehicles by the year 2020 and a 13 percent reduction by 2035. There are transportation-related reduction measures included in this Regional Reduction Plan that coordinate with efforts in SCAG's SCS. The 2012 RTP strives to provide a regional investment framework to address the region's transportation and related challenges, and looks to strategies that integrate land use into transportation planning with an emphasis on transit and other nonvehicle transportation modes. The RTP also provides the framework for aggregating sub-regional and local efforts to institute measures aimed at mitigating the adverse air pollution impacts from transportation activities. These measures are known as transportation control measures (TCMs). The RTP links the goal of sustaining mobility with the goals of fostering economic development, enhancing the environment, reducing energy consumption, promoting transit-friendly development patterns, and encouraging fair and equitable access to residents affected by socio-economic, geographic, and commercial limitations. The Regional Transportation Implementation Plan (RTIP) is the vehicle used to implement the RTP and SCS. The RTIP also provides the schedule and framework for the timely implementation of the Region's TCM strategies. SCAG is currently in the process of developing the 2014 RTP and SCS for their jurisdiction aimed at updating the regional transportation modeling system and keeping on track to achieve the reduction targets.

SCAG Compass Growth Visioning

The Compass Blueprint Growth Vision effort by SCAG is a response, supported by a regional consensus, to the land use and transportation challenges facing Southern California now and in the coming years. The Growth Vision is driven by four key principles:

- **Mobility**—Getting where we want to go
- **Livability**—Creating positive communities
- **Prosperity**—Long-term health for the region
- **Sustainability**—Preserving natural surroundings

The fundamental goal of the Compass Growth Visioning effort is to make the SCAG region a better place to live, work, and play for all residents regardless of race, ethnicity, or income class. Thus, decisions regarding growth, transportation, land use and economic development should be made to promote and sustain for future generations the region's mobility, livability and prosperity.

South Coast Air Quality Management District (SCAQMD)

The City of Redland is also located within the South Coast Air Basin (Basin) and is, therefore, within the jurisdiction of the SCAQMD. The 2012 Air Quality Management Plan (AQMP) is a regional and multi-agency effort between the SCAQMD Governing Board, California ARB, Southern California Association of Governments, and the USEPA, and includes control strategies, attainment demonstration, reasonable further progress, and maintenance plans. The AQMP is periodically updated to incorporate more recent scientific data, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools. The AQMP provides guidance to local

government about how to incorporate these strategies into land use plans and decisions about development.

SCAG is responsible for generating the socio-economic profiles and growth forecasts on which land use, transportation, air quality management and implementation plans are based. The growth forecasts provide the socioeconomic data used to estimate vehicle trips and vehicle miles traveled (VMT). Emission estimates can then be forecast by SCAQMD based on these projected estimates. Reductions in emissions due to changes in the socio-economic profile of the region are an important way of taking account of changes in land use patterns. For example, changes in jobs/housing balance induced by changes in urban form and transit-oriented development induce changes in VMT by more closely linking housing to jobs. Thus, socio-economic growth forecasts are a key component to guide the Basin toward attainment of the National Ambient Air Quality Standards (NAAQS).

The current 2012 AQMP establishes a comprehensive regional air pollution control program leading to the attainment of state and federal air quality standards in the Basin. The 2012 AQMP incorporates significant new emissions inventories, ambient measurements, scientific data, control strategies, and air quality modeling including transportation conformity budgets that show VMT emissions offsets following the recent changes in USEPA requirements.

San Bernardino International Airport

The SBIA authority was formed in 1992 and is established as a regional Joint Powers Authority with the Inland Valley Development Agency. A Comprehensive Land Use Plan and Airport Master Plan have not been adopted for the San Bernardino International Airport.

Local

City of Redlands Municipal Code

Redlands Municipal Code Title 18 is the Land Use Zoning Ordinance for the City (Ordinance 1000). It is intended, among other elements, to encourage the most appropriate use of land; to lessen congestion on streets; to facilitate adequate provision for community facilities and utilities, including transportation, water supply, sewage disposal, schools, parks and other public requirements which tend to promote the health, safety and public welfare; all in accordance with a comprehensive plan for the orderly development of the city and its environs. In addition, the City has also adopted Title 19 (Growth Management), which provides additional requirements to address specific land use considerations associated with future growth in the City.

Section 17.15.100 addresses solar access easements. As a condition of approval of a tentative map, the City may impose, in accordance with the provisions of Subdivision Map Act Section 66475.3, a requirement that the subdivider dedicate easements for the purpose of assuring that each parcel or unit in the subdivision shall have the right to receive sunlight across adjacent parcels or units in the subdivision for any solar energy system, as defined in California Civil Code Section 801.5.

Redlands General Plan

The Redlands General Plan policies that are applicable to land use/planning[10] are as follows:

Land Use Element, Residential

Policy 4.40g Locate High- and Medium-density development near regional access routes, employment centers, shopping areas, and public services.

Policy 4.40i Encourage incorporation of residential units in Downtown mixed-use projects.

Policy 4.40m Establish a range of residential densities and development standards which encourage a mix of housing types.

Land Use Element, Office

Policy 4.50a Encourage development of office space in Downtown Redlands and in the East Valley Corridor.

Land Use Element, Downtown

Policy 4.61a Develop the Specific Plan Area (between Redlands Boulevard and I-10 Freeway) as an extension of Downtown Redlands, providing a high-quality pedestrian-oriented development character consistent with the rest of the Town Center.

Policy 4.61e Encourage mixed-use projects which integrate retail, restaurant and/or office uses along with urban housing permitted at a density up to the High-Density Residential standard.

City Design and Preservation Element

Policy 3.10b Retain the character of the neighborhoods, streets, and buildings that established Redlands' reputation as an ideal Southern California city.

Circulation Element, Arterials

Policy 5.31b Locate high traffic-generating uses so that they have direct access or immediate secondary access to arterials.

Housing Element

Policy 7.1a Designate and zone sufficient land to meet housing needs as determined by the regional housing allocation.

Health and Safety Element

Policy 8.12i Aim for a pattern of land uses which can be efficiently served by a diversified transportation system and land development projects which directly and indirectly generate the minimum feasible air pollutants.

Policy 8.12j Integrate air quality planning with the land use and transportation process.

[10] These policies are not a complete listing of all policies contained in the General Plan; those policies that would be most applicable to the proposed project are included here.

Redlands Municipal Land Use Compatibility Plan

The Redlands Municipal Airport Land Use Compatibility Plan was adopted by the City of Redlands in 1997 (and revised 2003) for the purpose of establishing procedures and criteria by which the City can address, evaluate, and review airport compatibility issues in the vicinity of the Redlands Municipal Airport.

Project Impact Evaluation

Thresholds of Significance

The following thresholds of significance are based on the 2012 CEQA Guidelines Appendix G. For purposes of this EIR, implementation of the San Bernardino County Regional GHG Reduction Plan might have a significant adverse impact on land use/planning if it would do any of the following:

- Physically divide an established community
- 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
- Conflict with any applicable habitat conservation plan or natural community conservation plan

Analytic Method

The programs and measures contained in the Regional Reduction Plan were compared to applicable land use plan policies to determine if any inconsistency exists. These land use plans include the SCAQMD 2012 Air Quality Management Plan, SCAG's Regional Comprehensive Plan and Guide (RTP and Compass Growth Visioning), the City of Redlands General Plan, the City's Zoning and Development Code, and the land use plans for Redlands Municipal Airport and San Bernardino International Airport.

Effects Not Found to Be Significant

Threshold	Would the project physically divide an established community?

The City of Redlands is a highly urbanized area with well-established communities integrated into the land use plan. Implementation of the Regional Reduction Plan measures selected by Redlands would not physically divide an established community. Measures that encourage transit-oriented development (e.g., Road-1.4) along existing and planned transit corridors would not result in the creation of physical barriers that could divide a community. Park-and-ride lots would be situated close to major highways/arterials, and pedestrian and bicycle network improvements would have limited footprints. These types of features that could be implemented by Redlands under the Regional Reduction Plan reduction measure Transportation-1 would not include any physical barriers that could divide an established community. The GHG Reduction Performance Standard for New Development includes measures that the City would require of new development, which would be integral to the projects, which would not divide an established community. There would be ***no impact***.

Threshold	Would the project 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?

Several regionally and locally adopted land use plans, policies, and regulations would be applicable to development of infrastructure and renewable generation under the proposed Regional Reduction Plan. These include the 2012 Air Quality Management Plan, SCAG's Regional Comprehensive Plan and Guide, 2012 RTP and SCS, City Zoning Code, and the Redlands and San Bernardino airports land use plans.

To fulfill the purposes of the Regional Reduction Plan, the City identified the following goals:

- Provide a list of specific actions that will reduce GHG emissions, with the highest priority given to actions that provide the greatest reduction in GHG emissions and benefits to the community at the least cost.
- Reduce the City of Redlands community GHG emissions to a level that is 15 percent below its projected emissions level in 2020.
- Establish a qualified reduction plan for which future development within the City can tier and thereby streamline the environmental analysis necessary under the California Environmental Quality Act (CEQA).

The City will meet and exceed this goal through a combination of state (~63 percent) and local (~37 percent) efforts. The Pavley vehicle standards, the state's low carbon fuel standard, the RPS, and other state measures will reduce GHG emissions in Redlands' on-road and building energy sectors in 2020. An additional reduction of 92,573 MT CO_2e will be achieved primarily through the following local measures, in order of importance: Implement SBX 7-7 (Water-4); Methane Capture at Landfills (Waste-1); and GHG Performance Standard for New Development (PS-1). Redlands' Plan has the greatest impacts on GHG emissions in the solid waste management, on-road transportation, and building energy sectors.

Figure 4.15-2 (Emissions Reduction Profile for Redlands) in Section 4.15.0 (Introduction to the Analysis) shows Redlands' 2008 GHG emissions total, 2020 BAU emissions forecast total, and the total emissions remaining after meeting the city's emissions reduction target (i.e., 15 percent below the 2008 emissions level). The contribution of state/county and local reductions are overlaid on the 2020 BAU emissions forecast total ("2020 Plan"), representing the total emissions reductions achieved in 2020. As stated above, state/county reductions account for the majority (~63 percent) of the total reductions needed to achieve the 2020 target.

Figure 4.15-3 (Emissions by Sector for Redlands) in Section 4.15.0 presents emissions by sector, for both the 2020 BAU and the 2020 reduction or "Plan" scenarios. The largest emissions contributions are in the on-road transportation, building energy, and off-road equipment emissions sectors.

Table 4.15-3 (Emissions Reduction by Sector for Redlands) in Section 4.15.0 summarizes the 2008 inventory, 2020 BAU forecast, and GHG reduction ("Plan") results by sector. It shows the percent reduction in each sector's emissions in 2020 and demonstrates that Redlands exceeds its emissions

reduction goal. Emissions sectors with the greatest percent reduction include the solid waste management, on-road transportation, and building energy sectors.

Figure 4.15-4 (Emissions Reduction by Control and Sector for Redlands) in Section 4.15.0 presents emission reductions by sector and by control (i.e., state/county control versus local or city control). As stated previously, the majority of emissions reductions are due to state/county measures. Of the state/county measures, the majority of reductions are in the building energy and on-road transportation sectors. Of the local measures, the majority of reductions are in the building energy sector due to the implementation of SBX 7-7 (Water-4).

The Regional Reduction Plan reduction measure Transportation-1, Sustainable Communities Strategy, includes mixed use development and transit oriented development. Mixed land use (i.e., residential developments near work places, restaurants, and shopping centers) with access to public transportation has been shown to save consumers up to 512 gallons of gasoline per year. It is estimated that households in transit-oriented developments drive 45 percent less than residents in auto-dependent neighborhoods. With this reduction, there is less overall energy consumption and fewer greenhouse gas emissions from personal vehicles. Going hand-in-hand with mixed-use development is the development of pedestrian corridors and bike trails that connect residents to work sites, shops, and recreational opportunities, which can also realize a reduction of personal vehicle use and fuel consumption.

Policies in the applicable land use plans identified above are designed to promote sustainability in land use planning. For example, SCAG's RTP provides the framework for aggregating sub-regional and local efforts to institute measures aimed at mitigating the adverse air pollution impacts from increased transportation activities. These measures are known as TCMs. The RTP links the goal of sustaining mobility with the goals of fostering economic development, enhancing the environment, reducing energy consumption, promoting transportation-friendly development patterns, and encouraging fair and equitable access to residents affected by socio-economic, geographic, and commercial limitations. The current AQMP establishes a comprehensive regional air pollution control program leading to the attainment of state and federal air quality standards in the Basin. In addition to setting minimum acceptable exposure standards for specified pollutants, the AQMP incorporates SCAG's growth management strategies that can be used to reduce vehicle trips and VMT, and hence air pollution. These include, for example, co-location of employment and housing, and mixed-use land patterns that allow the integration of residential and non-residential uses. The goals of the Redlands General Plan promote sustainability.

The proposed project furthers the goals and policies in the identified land use plans by providing specific measures and programs that reduce greenhouse gas emissions, improve air quality, and facilitate transit-oriented development, thus reducing VMT. The Regional Reduction Plan facilitates mixed-use development in identified corridors near transit, as identified in the General Plan.

While a separate document, the Regional Reduction Plan will be utilized as a companion document to the Redlands General Plan to provide a more comprehensive and detailed framework for land-based policy decisions to reduce greenhouse gas emissions from existing and future development. The Regional Reduction Plan will further the goals and policies of the General Plan with regard to energy conservation and sustainable development by implementing, in addition to City programs already in place, measures

and programs to reduce greenhouse gas emissions and facilitate transit-oriented development. All of the Land Use Element, Circulation Element, Housing Element, and Health and Safety Element policies in the General Plan seek to maximize efficient use of resources, maintain a high quality of life, enhance job opportunities, promote sustainability, and facilitate access to transportation facilities. Policies related to historic resources are designed to protect and preserve recognized historic resources, and any facilities constructed or energy retrofits performed pursuant to the Regional Reduction Plan would be required to be consistent with those policies.

The Regional Reduction Plan does not propose any specific development. Under the GHG Performance Standard for New Development (PS-1) component the Regional Reduction Plan, the City could require new projects to quantify project-generated GHG emissions and adopt feasible reduction measures to reduce project emissions to a level that is a certain percent below BAU project emissions. PS-1 does not require project applicants to implement a pre-determined set of measures. It is anticipated such measures could include energy-efficient appliances and alternative energy sources, water conservation, landscaping, and site design. Any energy-efficiency or energy-generating facilities that would be constructed in new development would require consistency with the applicable specific plans. Thus, there would be no inconsistency with implementation of the Regional Reduction Plan.

Any facilities developed adjacent to or within the safety zones of Redlands Municipal Airport or San Bernardino International Airport pursuant to the Regional Reduction Plan would be required to be consistent with that airport's land use plan policies for land uses adjacent to or within the airport safety zones to obtain approval.

Therefore, because the proposed Regional Reduction Plan furthers the goals of the identified land use plans and would not conflict with those plans, including the City's General Plan, it is consistent with these plans. This impact would be ***less than significant***. No mitigation is required. Implementation of the proposed project would also ensure compliance with AB 32, which would be a benefit of the project.

Threshold	Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?

There are no adopted habitat conservation plans, natural community conservation plans, or other approved local, regional, or state habitat conservation plans that are in effect for the City of Redlands. There would be ***no impact***.

Cumulative Impacts

The geographic context for land use impacts with respect to consistency with applicable land use plans is San Bernardino County, which assumes buildout to a horizon year of 2030 in the County General Plan. While the County is part of the larger SCAG region, compliance with SCAG policies is voluntary, and individual municipalities are not required, although they aim to, conform to SCAG policies. In addition, land use decisions are subject to the jurisdiction of the SCAQMD, which implements the AQMP for the South Coast Air Basin, of which the County is a part. All development in this geographic context is required to be consistent with the applicable General Plan, and any inconsistencies with the AQMP must

be identified as impacts in the environmental analysis. The Regional Reduction Plan with respect to consistency with land use plans would be ***less than significant***.

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4.15.11 Mineral Resources

This section of the EIR analyzes the potential environmental effects on mineral resources in the City of Redlands from implementation of the Regional Reduction Plan. Data for this section were taken from Redlands General Plan (1995a) and associated environmental documents (1995b). Full reference-list entries for all cited materials are provided at the end of this section.

No comment letters addressing mineral resources were received in response to the notice of preparation (NOP) circulated for the Regional Reduction Plan.

Environmental Setting

Minerals are defined as any naturally occurring chemical elements or compounds, formed from inorganic processes and organic substances. Minable minerals or an "ore deposit" is defined as a deposit of ore or minerals having a value materially in excess of the cost of developing, mining and processing the mineral and reclaiming the project area.

Mineral resources in the Planning Area consist primarily of sand and gravel construction aggregates used for making concrete and concrete products. The California Division of Mines and Geology (CDMG) estimates that approximately seven times the amount of construction aggregates in the San Bernardino Production-Consumption area exist to supply the region for the next 43 years. However, not all of these resources are available as reserves; CDMG predicts a shortfall of construction aggregates over the next 35 years. There are approximately 5,000 acres of CDMG designated MRZ-2 Zone (identifies regionally significant resources) in the Planning Area. The General Plan preserves 87 percent of MRZ-2 lands (4,400 acres) and all reserve areas (799 acres). By limiting areas to be conserved to those within the Santa Ana River Wash, the General Plan prevents major land use conflicts that would result if all MRZ land were conserved.

Regulatory Framework

Federal

United States Department of the Interior, Office of Surface Mining, Reclamation and Enforcement

The Office of Surface Mining Reclamation and Enforcement (OSM) is a bureau within the United States Department of the Interior. OSM is responsible for establishing a nationwide program to protect society and the environment from the adverse effects of surface coal mining operations, under which OSM is charged with balancing the nation's need for continued domestic coal production with protection of the environment. OSM was created in 1977 when Congress enacted the Surface Mining Control and Reclamation Act. OSM works with State and Indian Tribes to assure that citizens and the environment are protected during coal mining and that the land is restored to beneficial use when mining is finished. OSM and its partners are also responsible for reclaiming and restoring lands and water degraded by mining operations before 1977.

Surface Mining Control and Reclamation Act

The Surface Mining Control and Reclamation Act of 1977 (SMCRA) is the primary federal law that regulates the environmental effects of coal mining in the United States. SMCRA created two programs: one for regulating active coal mines and a second for reclaiming abandoned mine lands. SMCRA also created the Office of Surface Mining, an agency within the Department of the Interior, to promulgate regulations, to fund state regulatory and reclamation efforts, and to ensure consistency among state regulatory programs. Under SMCRA, the federal government can approve a program, which gives the state the authority to regulate mining operations, if the state demonstrates that it has a law that is at least as strict as SMCRA, and that they have a regulatory agency with the wherewithal to operate the program. OSM has delegated authority to the California Department of Conservation for enforcement of SMCRA through California Public Resources Code (PRC) Sections 2710–2796.

Areas subject to California mineral land classification studies are divided by the State Geologist into various Mineral Resource Zones (MRZ) that reflect varying degrees of mineral potential. The four main classifications are the following:

- **MRZ-1**—Adequate information indicates that no significant mineral deposits are present or likely to be present
- **MRZ-2**—Adequate information indicates that significant mineral deposits are present or there is a likelihood of their presence, and development should be controlled
- **MRZ-3**—The significance of mineral deposits cannot be determined from the available data
- **MRZ-4**—There is insufficient data to assign any other MRZ designation

State

California Department of Conservation

The California Department of Conservation provides services and information that promote environmental health, economic vitality, informed land-use decisions and sound management of our state's natural resources including mineral resources. The California Department of Conservation maintains information on mineral resources within the state through the California Geological Survey Mineral Resources Project. The California Department of Conservation regulates mining of mineral resources through the Office of mining Reclamation (OMR), which enforces the Surface Mining and Reclamation Act.

Surface Mining and Reclamation Act

The Surface Mining and Reclamation Act of 1975 (SMARA) (PRC Sections 2710–2796) provides a comprehensive surface mining and reclamation policy with the regulation of surface mining operations to assure that adverse environmental impacts are minimized and mined lands are reclaimed to a usable condition. SMARA also encourages the production, conservation, and protection of the state's mineral resources. PRC Section 2207 provides annual reporting requirements for all mines in the state, under which the State Mining and Geology Board is also granted authority and obligations. SMARA (PRC Chapter 9, Division 2) requires the State Mining and Geology Board to adopt state policy for the reclamation of mined lands and the conservation of mineral resources. These policies are prepared in

accordance with the Administrative Procedures Act (Government Code) and are found in California Code of Regulations Title 14, Division 2, Chapter 8, Subchapter 1.

Local

There are no local regulations pertaining to mineral resources.

Project Impact Evaluation

Thresholds of Significance

The following thresholds of significance are based on the 2012 CEQA Guidelines Appendix G. For purposes of this EIR, implementation of the San Bernardino County Regional GHG Reduction Plan might have a significant adverse impact on mineral resources if it would do any of the following:

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

Analytic Method

The following analysis considers whether or not implementation of the Regional Reduction Plan within the City would impact mineral resources.

Effects Not Found to Be Significant

Threshold	Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

The proposed Regional Reduction Plan would not change the land use designations or affect the ability of mining operations to extract minerals in the MRZ-2 area. Any energy efficiency retrofits or renewable energy generation as a result of implementing the Regional Reduction Plan in the MRZ-2 designated areas would require City review to ensure that mining resources/operations are not affected. Therefore, this impact would be ***less than significant***. No mitigation is required.

Threshold	Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

As stated above, any energy efficiency retrofits or renewable energy generation as a result of implementing the Regional Reduction Plan in MRZ-2 designated areas would require City review to ensure that mining resources/operations are not affected. Therefore, this impact would be ***less than significant***. No mitigation is required.

Cumulative Impacts

Implementation of the Regional Reduction Plan in Redlands would not result in any impacts at the project level. Therefore, there would be ***no cumulative impact***.

References

Redlands, City of. 1995a. *Redlands General Plan*, October.

———. 1995b. *City of Redlands Master Environmental Assessment and Final Environmental Impact Report for the 1995 General Plan*, October 17 (last updated August 3, 2010).

———. n.d. *City of Redlands Municipal Code*.

San Bernardino Associated Governments (SANBAG). 2012. *San Bernardino County Regional Greenhouse Gas Reduction Plan*. Draft. Prepared by ICF International, December.

4.15.12 Noise

This section of the EIR analyzes the potential environmental effects on noise in the City of Redlands from implementation of the Regional Reduction Plan. Data for this section were taken from Redlands General Plan (1995a) and associated environmental documents (1995b). Full reference-list entries for all cited materials are provided at the end of this section.

No comment letters addressing noise were received in response to the notice of preparation (NOP) circulated for the Regional Reduction Plan.

Environmental Setting

Noise Terminology and Effects

Noise is defined as unwanted or objectionable sound. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance and, in the extreme, hearing impairment. The unit of measurement used to describe a noise level is the decibel (dB). The human ear is not equally sensitive to all frequencies within the sound spectrum. Therefore, the "A weighted" noise scale, which weights the frequencies to which humans are sensitive, is used for measurements. Noise levels using A-weighted measurements are written dB(A) or dBA. Decibels are measured on a logarithmic scale, which quantifies sound intensity in a manner similar to the Richter scale used for earthquake magnitudes. Thus, a doubling of the energy of a noise source, such as doubling a traffic volume, would increase the noise level by 3 dBA; a halving of the energy would result in a 3 dBA decrease Table 4.15.12-1 (Sound Levels of Typical Noise Sources and Noise Environments) shows the relationship of various noise levels to commonly experienced noise events.

Average noise levels over a period of minutes or hours are usually expressed as dB L_{eq}, or the equivalent noise level for that period of time. For example, $L_{eq(3)}$ would represent a 3-hour average. When no period is specified, a one hour average is assumed. Noise standards for land use compatibility, which are addressed in the General Plan Noise Element and the Municipal Code Noise Control chapter, are stated in terms of the Community Noise Equivalent Level (CNEL) and the Day-Night Average Noise Level (L_{dn}). CNEL is a 24-hour weighted average measure of community noise. The computation of CNEL adds 5 dBA to the average hourly noise levels between 7:00 PM and 10:00 PM (evening hours), and 10 dBA to the average hourly noise levels between 10:00 PM and 7:00 AM (nighttime hours). This weighting accounts for the increased human sensitivity to noise in the evening and nighttime hours. L_{dn} is a very similar 24-hour weighted average, which weights only the nighttime hours and not the evening hours.

It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA, increases or decreases; that a change of 5 dBA is readily perceptible, and that an increase (decrease) of 10 dBA sounds twice (half) as loud (Caltrans 1998).

Table 4.15.12-1 Sound Levels of Typical Noise Sources and Noise Environments

Noise Source (at a Given Distance)	*Noise Environment*	*Scale of A-Weighted Sound Level in Decibels*	*Human Judgment of Noise Loudness (Relative to a Reference Loudness of 70 dB*)*
Military Jet Take-off with After-burner (50 ft)	Carrier flight deck	140	Hearing damage without protection 128 times as loud
Civil Defense Siren (100 ft)		130	64 times as loud
Commercial Jet Take-off (200 ft)	Airport Runway	120	Threshold of Pain 32 times as loud
Pile Driver (50 ft) Rock & Roll Band (50 ft)	Construction Site Rock Concert	110	16 times as loud
Ambulance Siren (100 ft) Newspaper Press (5 ft) Power Lawn Mower (3 ft) Motorcycle (25 ft) Propeller Plane Flyover (1000 ft) Diesel Truck, 40 mph (50 ft) Garbage Disposal (3 ft)	 Boiler Room Printing Press Plant High Urban Ambient Sound 	 100 90 89 	 Very Loud 8 times as loud 4 times as loud 2 times as loud
Passenger Car, 65 mph (25 ft) Living Room Stereo (15 ft) Vacuum Cleaner (3 ft) Electronic Typewriter (10 ft)	Busy Shopping Mall Indoor Sports Park	70	Moderately Loud * 70 dB (Reference Loudness)
Normal Conversation (5 ft) Air Conditioning Unit (100 ft)	Data Processing Center Department Store	60	½ as loud
	Office	50	¼ as loud
	Lower Limit of Urban Ambient Sound	40	Quiet ⅛ as loud
Bird calls (distant)	Rural Residential Area	30	
Soft Whisper (5 ft)	Quiet Bedroom	20	Just Audible
		10	Threshold of Hearing

Existing Setting

The level of traffic noise depends on three key factors: (1) traffic volumes, (2) the speed of traffic, (3) the type or "mix" of vehicles using a particular roadway, and (4) pavement conditions. Vehicle noise is a combination of the noise produced by the engine, exhaust, and tires. Traffic therefore represents a primary contributor to the ambient noise levels in a community and also results in periodic noise level increases based on daily traffic fluctuations.

Traffic noise, including automobiles, trucks, and other motor vehicles, is the most pervasive source of noise in the City of Redlands. The roadway network in the City consists of the Interstate 10 freeway,

regional arterials, local public roads, and private roads. Additional noise impacts are produced by railroads and aircraft from the Redlands Municipal Airport and San Bernardino International Airport.

Stationary sources of noises may occur from all types of land uses. Residential uses would generate noise from landscaping, maintenance activities, and air conditioning systems. Commercial uses would generate noise from heating, ventilation, air conditioning (HVAC) systems, loading docks and other sources. Industrial uses may generate HVAC systems, loading docks and possibly machinery. Noise generated by residential or commercial uses are generally short and intermittent. Industrial uses may generate noise on a more continual basis due to the nature of its activities. Noise from stationary sources is regulated through the City's Noise Ordinance.

Regulatory Framework

Federal

Federal Highways Administration

The Federal Highways Administration (FHWA) administers the protocols and methods of analyzing traffic noise. United States Code of Federal Regulations Title 23, Part 772 (23 CFR 772), provides the procedures for analysis and abatement of highway traffic noise and construction noise. It provides technical assistance to state authorities, in conjunction with other local and federal authorities, to prepare and execute appropriate noise review and abatement programs for roadway and highway construction noise impacts. The maximum highway-related noise level considered acceptable for land uses along highways is 65 dBA CNEL.

Federal Aviation Administration

The primary responsibility of the Federal Aviation Administration (FAA) in regard to noise is the enforcement of the FAA Noise Standards (Title 14, Part 150), which prescribes the procedures, standards and methodology governing the development, submission, and review of airport noise exposure maps and airport noise compatibility programs, including the process for evaluating and approving or disapproving those programs. Title 14 also identifies those land uses which are normally compatible with various levels of exposure to noise by individuals. It provides technical assistance to airport operators, in conjunction with other local, state, and federal authorities, to prepare and execute appropriate noise compatibility planning and implementation programs. The FAA establishes the 65 dB CNEL contour of an airport as the threshold for evaluation of potential noise impacts. The maximum airport-related noise level considered compatible with NSLU is 65 dBA CNEL.

Federal Transit Administration

The Federal Transit Administration (FTA) establishes noise impact criteria to be used in evaluating noise impacts from mass transit projects, including railroads, in the Transit Noise and Vibration Impact Assessment published in 2006. The FTA criteria do not establish a screening level for potential impacts. Rather, the FTA noise impact criteria are based on comparison of the existing outdoor noise levels and the future outdoor noise levels from the transit project. The noise level that would result from a proposed transit project's implementation is evaluated as having either a low, moderate or severe impact based on the existing noise level and sensitivity of the affected land use. Lands set aside for serenity and

quiet are considered the most sensitive land uses (Category 1), followed by residences and buildings where people normally sleep (Category 2), and institutional land uses with primarily daytime and evening use (Category 3).

State

California Department of Transportation

The California Department of Transportation (Caltrans) administers the FHWA requirements for analysis and abatement of highway traffic noise and construction noise (23 CFR 772) in California. Caltrans also has additional technical methodologies for analysis of roadway and highway construction noise in California. The Caltrans Traffic Noise Analysis Protocol (CATNAP) and Technical Noise Supplement (TENS) provide the methodology and procedures for analysis and abatement of roadway noise in the state.

California Noise Control Act of 1973

California Health and Safety Code Sections 46000 through 46080, known as the California Noise Control Act, finds that excessive noise is a serious hazard to public health and welfare and that exposure to certain levels of noise can result in physiological, psychological, and economic damage. It also finds that there is a continuous and increasing bombardment of noise in the urban, suburban, and rural areas. The California Noise Control Act declares that the State of California has a responsibility to protect the health and welfare of its citizens by the control, prevention, and abatement of noise. It is the policy of the state to provide an environment for all Californians that is free from noise that jeopardizes their health or welfare.

California Noise Insulation Standards

In 1974, the California Commission on Housing and Community Development adopted noise insulation standards for multi-family residential buildings (California Code of Regulations Title 24, Part 2). Title 24 establishes standards for interior room noise (attributable to outside noise sources). The regulations also specify that acoustical studies must be prepared whenever a multi-family residential building or structure is proposed to be located near an existing or adopted freeway route, expressway, parkway, major street, thoroughfare, rail line, rapid transit line, or industrial noise source, and where such noise source or sources create an exterior CNEL (or L_{dn}) of 60 dBA or greater. Such acoustical analysis must demonstrate that the residence has been designed to limit intruding noise to an interior CNEL (or L_{dn}) of at least 45 dBA.

California Airport Noise Standards

The 1990 California Airport Noise Standards require airport proprietors, aircraft operators, local governments, pilots, and the California Department of Transportation Division of Aeronautics to work cooperatively to diminish noise. This requirement is accomplished by controlling and reducing noise in the communities in the vicinity of airports. The level of noise acceptable to a person residing in the vicinity of an airport is established as a CNEL value of 65 dBA. The limitation on airport noise in residential communities is established to be 65 dBA CNEL for proposed new airports, active military airports being converted to civilian use, and existing civilian airports.

California Department of Health Services (DHS)

The effects of noise elves on various land uses were studied by the California Department of Health Services (DHS) Office of Noise Control. Based on that study, the DHS established four categories for to determine the severity of noise impacts on these various land uses.

Table 4.15.12-2 (Land Use Compatibility for Community Noise Exposure) details a compatibility chart for community noise with respect to land use as prepared by the California Office of Noise Control. It identifies four categories of exterior noise levels for different land uses. These categories are, normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable. Conditionally acceptable indicates that new development of that land use should only be undertaken after a detailed analysis of the noise and required noise insulation features to reduce interior noise levels have been incorporated into the design. A normally acceptable designation, by contrast, indicates that standard development can occur with no special noise reduction requirements.

The state interior and exterior noise standards for varying land uses are included in Table 4.15.12-3 (California Interior and Exterior Noise Standards). This represents standards for interior noise as well as exterior noise within "habitable" areas.

Regional

There are no regional regulations related to noise.

Local

Redlands Municipal Code

The City of Redlands has established policies and regulations concerning the generation and control of noise that could adversely affect its citizens and noise sensitive land uses. Chapter 8.06 – Community Noise Control of the Redlands Municipal Code includes exterior noise standards for residential, commercial and industrial land uses within the City of Redlands. Table 4.15.12-4 (City of Redlands Exterior and Interior Noise Limits) shows the noise standards for the City of Redlands.

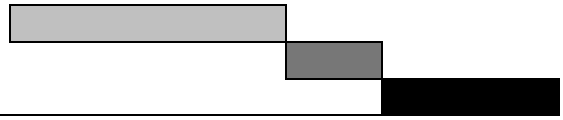
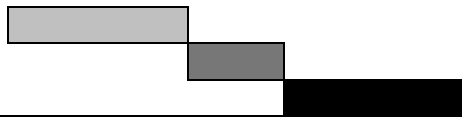
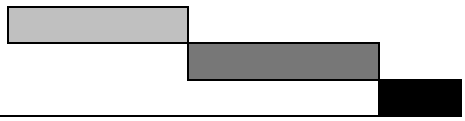
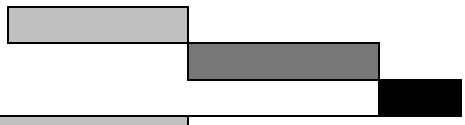
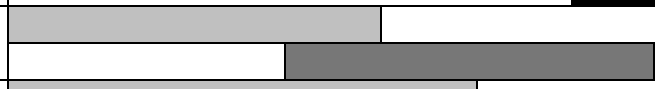
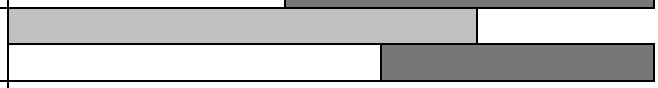
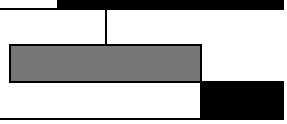
Redlands General Plan

The Redlands General Plan policies that are applicable to noise[11] are as follows:

Policy 9.0e Use the criteria specified in Redlands Noise/Land Use Compatibility Chart, to assess the compatibility of proposed land uses with the projected noise environment, and apply the noise standards in City of Redlands Exterior and Interior Noise Limits Table, which prescribe interior and exterior noise standards in relation to specific land uses. Do not approve projects that would not comply with the standards in City of Redlands Exterior and Interior Noise Limits Table.

[11] These policies are not a complete listing of all policies contained in the General Plan; those policies that would be most applicable to the proposed project are included here.

Table 4.15.12-2 Land Use Compatibility for Community Noise Exposure

Land Use Category	*Use*	*Exterior Noise Level (CNEL)* 55 60 65 70 75 80
Residential/ Lodging	Single-Family/Duplex/Mobile homes	
	Multi-Family	
	Hotel/Motel	
Public/ Institutional	Schools/Hospitals/Churches, Hospitals, Nursing Homes	
	Auditoriums/Concert Halls	
Recreational	Sports Arena, Outdoor Spectator Sports	
	Playgrounds, Neighborhood Parks	
	Golf Courses, Riding Stables, Water recreation, Cemeteries	
Commercial	Office Buildings, business, commercial, and Professional	
Industrial	Industrial, Manufacturing, Utilities, Agriculture	

SOURCE: California Office of Noise Control and the Governor's Office of Planning and Research.

CLEARLY ACCEPTABLE—Specified land use is satisfactory, based upon the assumption that buildings involved are of normal conventional construction, without any special noise insulation requirements.

NORMALLY ACCEPTABLE—New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design.

NORMALLY UNACCEPTABLE—New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made with noise insulation features included in the design.

CLEARLY UNACCEPTABLE—New construction or development clearly should not be undertaken.

Table 4.15.12-3 California Interior and Exterior Noise Standards

Land Use		*CNEL (dBA)*	
Categories	***Uses***	***Interior[a]***	***Exterior[b]***
Residential	Single and multi-family, duplex	45[c]	65
	Mobile homes	—	65[d]
Commercial	Hotel, motel, transient housing	45	—
	Commercial retail, bank, restaurant	55	—
	Office building, research and development, and professional offices	50	—
	Amphitheatre, concert hall, auditorium, movie theatre	46	—
	Gymnasium (Multipurpose)	50	—
	Sports Club	55	—
	Manufacturing, warehousing, wholesale, utilities	65	—
	Movie theatres	45	—
Institutional/Public Space	Hospital, school classroom/playground	45	65
	Church, Library	45	—
Open Space	Park	—	65

SOURCE: California Office of Noise Control and the Governor's Office of Planning and Research.

a. Indoor environment excluding: bathrooms, kitchens, toilets, closets, and corridors.

b. Outdoor Environment Limited to:
   - Private yard of single-family dwellings
   - Multi-family private patios or balconies accessed from within the dwelling (Balconies 6 feet deep or less are exempt)
   - Mobile home parks
   - Park Picnic area
   - School playgrounds
   - Hospital patios

c. Noise level requirement with closed windows, mechanical ventilation or other means of natural ventilation shall be provided in Chapter 12, Section 1205 of the Uniform Building Code.

d. Exterior noise levels should be such that interior noise levels.

Table 4.15.12-4 City of Redlands Exterior and Interior Noise Limits

Receiving Land Use Category	*Time*	*Decibels*
Exterior Noise Limits		
Single-family residential districts	10:00 PM—7:00 AM 7:00 AM—10:00 PM	50 dB(A) 60 dB(A)
Multi-family residential districts; public space; institutional	10:00 PM—7:00 AM 7:00 AM—10:00 PM	50 dB(A) 60 dB(A)
Commercial	10:00 PM—7:00 AM 7:00 AM—10:00 PM	60 dB(A) 65 dB(A)
Industrial	Anytime	75 dB(A)
Interior Noise Limits		
Single-family residential districts	Anytime	45 dB(A)
Multi-family residential districts; public space; institutional	Anytime	45 dB(A)
Commercial	Anytime	50 dB(A)
Industrial	Anytime	60 dB(A)

SOURCE: Redlands Municipal Code, Title 8 (Health and Safety), Chapter 8.06 (Community Noise Control, Sections 8.06.070 and 8.06.080.

Project Impact Evaluation

Thresholds of Significance

The following thresholds of significance are based on the 2012 CEQA Guidelines Appendix G. For purposes of this EIR, implementation of the San Bernardino County Regional GHG Reduction Plan might have a significant adverse impact on noise if it would do any of the following:

- Result in the 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
- Result in the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels
- Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project
- Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project
- If 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 the exposure of people residing or working in the project area to excessive noise levels
- If within the vicinity of a private airstrip, result in the exposure of people residing or working in the project area to excessive noise levels

Analytic Method

The following analysis considers whether or not implementation of the Regional Reduction Plan within the City would impact noise-sensitive receptors.

Effects Not Found to Be Significant

Threshold	Would the project result in the 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?

Implementation of the Regional Reduction Plan would reduce VMT, thus reducing the total vehicular noise in the City. The Regional Reduction Plan would not result in intensification of development around transit corridors beyond what has been previously identified in the Redlands General Plan. Implementation of the policies and programs of the Regional Reduction Plan would augment existing City programs and policies with regard to transit-oriented development. The location or extent of new renewable energy-generating facilities structures such as solar arrays that would potentially be developed under the Regional Reduction Plan and their locations, are not specifically identified in the Regional Reduction Plan. Solar arrays would not generate noise.

The Noise Element of the General Plan provides land use noise compatibility information and specifies maximum interior and exterior noise standards for various land use types. All development, including energy-generating facilities, would be required to be designed in such a way, e.g., through setbacks or shielding, that future noise levels do not exceed these standards. Therefore, installation of these energy-generating structures would likely be constructed away from sensitive uses, and would not result in any adverse noise impacts. Redlands Noise Ordinance (Table 4.15.12-4) and Redlands General Plan Policies would ensure that noise impacts to sensitive uses would be avoided or minimized. Each specific development project would undergo evaluation prior to project approval for consistency with the Redlands General Plan policies and standards. Therefore, this impact would be ***less than significant***. No mitigation is required.

Threshold	Would the project result in the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Construction vibration that could occur during installation of photovoltaic arrays would not be substantial, and if these activities were to occur on or near fragile buildings, all appropriate measures would be required per the Redlands Noise Ordinance to reduce the effect of any groundborne vibration at the sensitive receptor. The Municipal Code further restricts construction activities that occur in close proximity to noise- or vibration-sensitive uses to specific hours of the day. Specific limits on the noise levels associated with construction and mechanical equipment that can be measured at sensitive uses are identified and subject to enforcement. Therefore, this impact would be ***less than significant***. No mitigation is required.

Threshold	Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Implementation of the Regional Reduction Plan would not result in a substantial increase in noise levels over what was analyzed in the Redlands General Plan Final EIR. Redlands Noise Ordinance (Table 4.15.12-4) and Redlands General Plan Policies would ensure that noise impacts to sensitive uses would be avoided or minimized. Each specific development project that implements the Regional Reduction Plan would undergo evaluation prior to project approval for consistency with the Redlands General Plan policies and standards. Therefore, this impact would be ***less than significant***. No mitigation is required.

Threshold	Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Implementation of the Regional Reduction Plan would not result in a substantial temporary increase in noise levels over what was analyzed in the Redlands General Plan EIR. Redlands Noise Ordinance (Table 4.15.12-4) and Redlands General Plan Policies would ensure that construction noise impacts to sensitive uses would be avoided or minimized. Each specific development project that implements the Regional Reduction Plan would undergo evaluation prior to project approval for consistency with Redlands General Plan policies and standards. Therefore, this impact would be ***less than significant***. No mitigation is required.

Threshold	Would the project, if 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 the exposure of people residing or working in the project area to excessive noise levels?

The Redlands Municipal Airport, located along the bluff adjoining the Santa Ana Wash between Judson Street to the west and Wabash Avenue to the east, is a city-owned general aviation facility. The San Bernardino International Airport (SBIA) is located west of the City. The Regional Reduction Plan does not provide housing or workplaces that would bring people into the vicinity of the Redlands Municipal Airport or SBIA Influence Area. Implementation of the Regional Reduction Plan would not result in a substantial increase in noise levels over what was analyzed in the Redlands General Plan EIR. Redlands Noise Ordinance (Table 4.15.12-4), Redlands General Plan Policies, and airport compatibility review by the City would ensure that noise impacts to sensitive uses within the vicinity of the airports would be avoided or minimized. Each specific development project that implements the Regional Reduction Plan would undergo evaluation prior to project approval for consistency with the Redlands General Plan policies and standards and airport compatibility. Therefore, this impact would be ***less than significant***. No mitigation is required.

Threshold	Would the project, if within the vicinity of a private airstrip, result in the exposure of people residing or working in the project area to excessive noise levels?

No private airstrips are located within or in close proximity to Redlands. Therefore, ***no impact*** would occur.

Cumulative Impacts

Because the Regional Reduction Plan does not create significant noise and groundborne vibration impacts at a project level, implementation of the Regional Reduction Plan will not create impacts that are cumulatively considerable. Therefore, ***cumulative impacts would be less than significant***.

References

California Department of Transportation (Caltrans). 1998. *Technical Noise Supplement*.

Redlands, City of. 1995a. *Redlands General Plan*, October.

———. 1995b. *City of Redlands Master Environmental Assessment and Final Environmental Impact Report for the 1995 General Plan*, October 17 (last updated August 3, 2010).

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4.15.13 Population/Housing

This section of the EIR analyzes the potential environmental effects on population/housing in the City of Redlands from implementation of the Regional Reduction Plan. Data for this section were taken from Redlands General Plan (1995a), associated environmental documents (1995b), and the Housing Element 2006–2014 (2010). Full reference-list entries for all cited materials are provided at the end of this section.

No comment letters addressing population/housing were received in response to the notice of preparation (NOP) circulated for the Regional Reduction Plan.

Environmental Setting

Redlands's population in 2010 was 68,747 (68,576 in 2008) and is expected to increase to 75,494 by 2020, an increase of 10 percent over 2008. The City was the tenth largest city in San Bernardino County in 2008. Employment in Redlands is expected to increase by a similar amount before 2020.

Table 4.15.13-1 (Socioeconomic Data for Redlands) presents socioeconomic data for Redlands, including population, housing (single-family and multifamily), and employment (agricultural, industrial, retail, and nonretail).

Table 4.15.13-1 Socioeconomic Data for Redlands

Category	*2008*	*2020*
Population	68,576	75,494
Housing (du)	24,701	28,262
Single-Family (du)	16,004	18,218
Multifamily (du)	8,697	10,044
Employment (jobs)	41,435	46,682
Agricultural (jobs)	33	60
Industrial (jobs)	4,461	6,447
Retail Commercial (jobs)	9,579	10,176
Nonretail Commercial (jobs)	27,182	29,999

du = dwelling unit

Existing developed residential uses account for 24 percent of the total acreage in the planning area and includes all categories of homes, condominiums, and apartments. Single family detached residential units occupy the largest amount of residential acreage with 87 percent of the total area. Multiple family properties, including condominiums and apartments make up the remaining 13 percent. As noted in Section 4.15.13, the City's adopted General Plan will substantially increase residential development in the planning area. In general, under the General Plan, existing permitted densities would be maintained where there are existing viable residential neighborhoods. Where neighborhoods are deteriorating and/or have already begun transition to more intensive uses, nonresidential or higher density residential designations have sometimes been applied (e.g., residential uses surrounding the downtown core). The

General Plan also includes provisions to allow the retention of existing higher density housing while protecting the viability of lower density historic neighborhoods through application of a "Housing Conservation" overlay.

Regulatory Framework

Federal

United States Department of Housing and Urban Development (HUD)

The United States Department of Housing and Urban Development's (HUD) mission is to create strong, sustainable, inclusive communities and quality affordable homes within the United States. HUD is working to strengthen the housing market to bolster the economy and protect consumers; meet the need for quality affordable rental homes: utilize housing as a platform for improving quality of life; build inclusive and sustainable communities free from discrimination; and transform the way HUD does business. HUD is responsible for enforcement of the federal Fair Housing Act.

Federal Fair Housing Act

In April 1968, at the urging of President Lyndon B. Johnson, Congress passed the federal Fair Housing Act (codified at 42 USC 3601–3619, penalties for violation at 42 USC 3631), Title VIII of the Civil Rights Act of 1968. The primary purpose of the Fair Housing Law of 1968 is to protect the buyer/renter of a dwelling from seller/landlord discrimination. Its primary prohibition makes it unlawful to refuse to sell, rent to, or negotiate with any person because of that person's inclusion in a protected class. The goal is a unitary housing market in which a person's background (as opposed to financial resources) does not arbitrarily restrict access. Calls for open housing were issued early in the twentieth century, but it was not until after World War II that concerted efforts to achieve it were undertaken.

State

California Housing Element Law

California planning and zoning law requires each city and county to adopt a general plan for future growth (California Government Code Section 65300). This plan must include a housing element that identifies housing needs for all economic segments and provides opportunities for housing development to meet that need. At the state level, the Housing and Community Development Department estimates the relative share of California's projected population growth that would occur in each county in the state based on California Department of Finance (DOF) population projections and historical growth trends. Where there is a regional council of governments, the Housing and Community Development Department provides the regional housing need to the council. The California housing element law (Government Code Sections 65580–65589) requires that each City and County identify and analyze existing and projected housing needs within its jurisdiction and prepare goals, policies, and programs to further the development, improvement, and preservation of housing for all economic segments of the community commensurate with local housing needs. State law recognizes the vital role local governments play in the supply and affordability of housing.

Senate Bill 375

Senate Bill 375 (SB 375), which establishes mechanisms for the development of regional targets for reducing passenger vehicle greenhouse gas emissions, was adopted by the State on September 30, 2008. These regional targets are met within each region through the drafting, adoption, and implementation of a sustainable community strategy (SCS). The SCS outlines the region's plan for combining transportation resources, such as roads and mass transit, with a realistic land use pattern, in order to meet a state target for reducing greenhouse gas emissions. The strategy must take into account the region's housing needs, transportation demands, and protection of resource and farm lands. The Metropolitan Planning Organization (MPO) for each region is responsible for drafting, adoption and implementation of the SCS for that region. SB 375 also modified Housing Element Law to achieve consistency between the land use pattern outlined in the SCS and Regional Housing Needs Assessment allocation. The legislation also substantially improved cities' and counties' accountability for carrying out their housing element plans. After submitting the SCS to the California Air Resources Board, the MPO allocates the Regional Housing Needs Assessment numbers to localities, based on the development pattern shown in the SCS and the existing allocation factors in housing element law. SB 375 extended the duration of housing elements from 5 to 8 years in order to align them with RTP deadlines. One housing element will be completed for every two RTPs. The bill also set the housing element due date at 18 months after the MPO estimates it will adopt the SCS. The MPO for this region is the Southern California Association of Governments (SCAG).

Regional

Southern California Association of Governments (SCAG)

SCAG is the designated Metropolitan Planning Organization for six Southern California counties (Los Angeles, Ventura, Orange, San Bernardino, Riverside, and Imperial), and is federally mandated to develop plans for transportation, growth management, hazardous waste management, and air quality. The Southern California Association of Governments (SCAG) regional plans cover San Bernardino County, which includes the City, and five other counties within Southern California.

Regional Transportation Plan

On May 8, 2012, the Regional Council of SCAG adopted the 2012 Regional Transportation Plan (RTP) and SCS for the SCAG area aimed at attaining the reduction targets of an 8 percent per capita reduction in GHG emissions from passenger vehicles by the year 2020 and a 13 percent reduction by 2035. There are transportation-related reduction measures included in this Regional Reduction Plan that coordinate with efforts in SCAG's SCS. The 2012 RTP strives to provide a regional investment framework to address the region's transportation and related challenges, and looks to strategies that integrate land use and housing into transportation planning with an emphasis on transit and other nonvehicle transportation modes.

SCAG Compass Growth Visioning

The Compass Blueprint Growth Vision effort by SCAG is a response, supported by a regional consensus, to the land use and transportation challenges facing Southern California now and in the coming years. The Growth Vision is driven by four key principles:

- **Mobility**—Getting where we want to go
- **Livability**—Creating positive communities
- **Prosperity**—Long-term health for the region
- **Sustainability**—Preserving natural surroundings

The fundamental goal of the Compass Growth Visioning effort is to make the SCAG region a better place to live, work, and play for all residents regardless of race, ethnicity, or income class. Thus, decisions regarding growth, transportation, land use and economic development should be made to promote and sustain for future generations the region's mobility, livability and prosperity.

Local

Redlands General Plan

The Redlands General Plan policies that are applicable to housing[12] in the context of implementing the Regional Reduction Plan in Redlands are as follows:

Land Use Element, Residential

Policy 4.40d Encourage a variety of housing types to serve all economic segments of the community.

Policy 4.40g Locate High- and Medium-density development near regional access routes, employment centers, shopping areas, and public services.

Policy 4.40i Encourage incorporation of residential units in Downtown mixed-use projects.

Policy 4.40m Establish a range of residential densities and development standards which encourage a mix of housing types.

Land Use Element, Downtown

Policy 4.61e Encourage mixed-use projects which integrate retail, restaurant and/or office uses along with urban housing permitted at a density up to the High-Density Residential standard.

Housing Element

Policy 7.1a Designate and zone sufficient land to meet housing needs as determined by the regional housing allocation.

[12] These policies are not a complete listing of all policies contained in the General Plan; those policies that would be most applicable to the proposed project are included here.

Project Impact Evaluation

Thresholds of Significance

The following thresholds of significance are based on the 2012 CEQA Guidelines Appendix G. For purposes of this EIR, implementation of the San Bernardino County Regional GHG Reduction Plan might have a significant adverse impact on population/housing if it would do any of the following:

- 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)
- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere

Analytic Method

The programs and measures contained in the Regional Reduction Plan were compared to applicable housing policies to determine if any inconsistency exists.

Effects Not Found to Be Significant

Threshold	Would the project 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)?

Implementation of the Regional Reduction Plan would not induce substantial population growth that could exceed local and regional growth projections either directly or indirectly. The project would not result in an increased demand for housing nor would it result in permanent employment-generating activities that would generate demand for housing. No extension of infrastructure is proposed. There would be ***no impact***.

Threshold	Would the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

The Regional Reduction Plan would not involve the development of any structures or facilities that would displace existing housing. All proposed measures would occur at existing locations or within planned future development subject to discretionary approvals by the City. There would be ***no impact***.

Threshold	Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

The Regional Reduction Plan would not involve the development of any structures or facilities that would displace people. All proposed measures would occur at existing locations or within planned future development subject to discretionary approvals by the City. There would be ***no impact***.

Cumulative Impacts

Because the Regional Reduction Plan would not result in significant impacts on population and housing at a project level, implementation of the Regional Reduction Plan would not create impacts that are cumulatively considerable. Therefore, there would be ***no impact***.

References

Redlands, City of. 1995a. *Redlands General Plan*, October.

———. 1995b. *City of Redlands Master Environmental Assessment and Final Environmental Impact Report for the 1995 General Plan*, October 17 (last updated August 3, 2010).

———. 2010. *Redlands General Plan Housing Element*, April.

———. n.d. *City of Redlands Municipal Code*.

San Bernardino Associated Governments (SANBAG). 2012. *San Bernardino County Regional Greenhouse Gas Reduction Plan*. Draft. Prepared by ICF International, December.

4.15.14 Public Services

This section of the EIR analyzes the potential environmental effects on public services (fire protection and emergency medical response services, police protection services, schools, and libraries) in the City of Redlands from implementation of the Regional Reduction Plan. Park services are addressed in Section 4.15.15 (Recreation). Public and private utilities and service systems, including water, wastewater, and solid waste services and systems, are addressed in Section 4.15.17 (Utilities/Service Systems). Data for this section were taken from Redlands General Plan (1995a) and associated environmental documents (1995b). Full reference-list entries for all cited materials are provided at the end of this section.

No comment letters addressing public services were received in response to the notice of preparation (NOP) circulated for the Regional Reduction Plan.

Environmental Setting

Fire Protection and Emergency Medical Response Services

San Bernardino County Fire Department

The San Bernardino County Fire Department (SBCFD) is responsible for firefighting operations within San Bernardino County and coordinates with the City of Redlands Fire Department for local needs within the City. The Office of Emergency Services (OES), a division within the SBCFD is responsible for broad emergency services coordination throughout the county, including the City of Redlands.

City of Redlands Fire Department

Current fire protection in the City of Redlands is provided by the Redlands Fire Department. Unincorporated portions within the Planning Area are served by the California Department of Forestry and Fire Protection (CDFFP), as contracted by the County of San Bernardino and headed by the County Fire Warden. Adjacent National forest lands are served by the U.S. Forest Service. Portions of the Planning Area include the high fire risk lands of San Timoteo and Live Oak Canyons, the Badlands, and the Crafton Hills and have been designated as High Fire Hazard areas.

Police Protection Services

City of Redlands Police Department

The Police Department provides police protection services within the City limits of Redlands. The City of Redlands operates its own police force with seventy-four sworn officers and thirty-seven full-time non-sworn personnel. The Redlands Police Department has its central police station at 212 Brookside Avenue, operates three substations, one at 815 North Orange and one at 1381 East Citrus Avenue and one on Brookside Avenue and has a police annex at 30 Cajon Street (in the old City Hall).

The San Bernardino County Sheriff's Department provides police protection to the unincorporated areas including the Mentone, Crafton, and Mill Creek areas. The Sheriff's substation is located at

34282 Yucaipa Boulevard, Yucaipa and currently has twenty-eight sworn officers serving the area. Eight of these officers are County Deputies and twenty serve as City of Yucaipa Deputies.

Schools

The City of Redlands is served by the Redlands Unified School District (RUSD). The District serves a 147-square-mile area including the cities of Loma Linda, Highland, small portions of San Bernardino and Yucaipa, as well as some unincorporated areas of San Bernardino County. Redlands has nine elementary schools, two middle schools and two high schools, many of which run year round. The University of Redlands is also located within the City.

Libraries

The A.K. Smiley Public Library has been serving the City of Redlands since 1894. It was listed in the National Register of Historic Places in 1976 and designated a State Historic Landmark in 1990. The library also houses two museums, the Lincoln Memorial Shrine and the Redlands Historical Museum.

Regulatory Framework

Federal

Federal Fire Protection Standards

The National Fire Protection Association (NFPA) Code Section 1710 contains minimum requirements relating to the organization and deployment of fire suppression operations, emergency medical operations, and special operations to the public by substantially all career fire departments. The requirements address functions and objectives of fire department emergency service delivery, response capabilities, and resources. The code also contains general requirements for managing resources and systems, such as health and safety, incident management, training, communications, and pre-incident planning. The code addresses the strategic and system issues involving the organization, operation, and deployment of a fire department and does not address tactical operations at a specific emergency incident.

State

California Education Codes

California Senate Bill 50 modifies Government Code Section 65995 to limit the acquisition of development fees by local agencies to three levels set in Government Code Sections 65995, 65995.5, and 65995.7 and prohibits a local agencies from denying a legislative or adjudicative action under CEQA involving real estate development on the basis of the inadequacy of school facilities.

California Education Code Section 17620 gives school districts the authority to levy a fee, charge, dedication, or other requirement against any construction within the boundaries of the district, for the purpose of funding the construction or reconstruction of school facilities, subject to any limitations set forth in Government Code Title 7, Division 1, Chapter 4.9 (commencing with Section 65995).

Regional

There are no regional regulations applicable to public services.

Local

City of Redlands Municipal Code

The City of Redlands has adopted the 2010 Uniform Fire Code (Municipal Code Section 15.20). Title 15 (Buildings and Construction) regulates site and building development in accordance with applicable building and fire codes.

Title 19 (Growth Management) proposes limits on residential development to alleviate the effects of disorderly and rapid growth, which have resulted or will soon result in overcrowding of schools, inadequate police and fire protection, and inadequate parks and recreation facilities.

Redlands General Plan

There are no General Plan policies pertaining to public services that are directly applicable to implementing the Regional Reduction Plan reduction measures in Redlands.

Project Impact Evaluation

Thresholds of Significance

The following thresholds of significance are based on the 2012 CEQA Guidelines Appendix G. For purposes of this EIR, implementation of the San Bernardino County Regional GHG Reduction Plan might have a significant adverse impact on public services if it would do any of the following:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or in the 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 following public services:
  - > Fire protection and emergency medical response
  - > Police protection
  - > Schools
  - > Libraries

Analytic Method

The reduction measures selected by Redlands in the Regional Reduction Plan were reviewed to determine if they would include elements that would directly or indirectly result in adverse environmental effects related to the provision of fire protection, emergency medical response, and police protection services or schools or libraries.

Effects Not Found to Be Significant

Threshold	Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or in the 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 fire protection and emergency medical response, police protection, schools, or libraries?

The demand for fire protection and law enforcement services is generally based on population and land use changes that increase the number of facilities and structures requiring these services. None of the measures selected by Redlands in the Regional Reduction Plan would increase resident population in the City; therefore, service ratios, response times, or performance objectives would not be affected. Implementation of the measures would not result in new or expanded facilities requiring fire protection or law enforcement services; therefore, there would be no demand for new or altered fire or police facilities, the construction of which could result in environmental impacts. Similarly, the demand for schools and libraries is population-based. None of the measures selected by Redlands in the Regional Reduction Plan would increase resident population in the City, requiring the need for new or expanded schools or libraries, the construction of which could result in environmental impacts. Therefore, there would be ***no impact***.

Cumulative Impacts

Implementation of the Regional Reduction Plan measures in Redlands would not result in any project-level impacts. Therefore, there would be ***no cumulative impacts***.

References

City of Redlands A.K. Smiley Library. 2013. http://www.cityofredlands.org/Library (accessed May 9, 2013).

National Fire Protection Association (NFPA). 2013. NFPA 1710. http://www.nfpa.org/aboutthecodes/AboutTheCodes.asp?DocNum=1710 (accessed February 20, 2013).

Redlands, City of. 1995a. *Redlands General Plan*, October.

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San Bernardino Associated Governments (SANBAG). 2012. *San Bernardino County Regional Greenhouse Gas Reduction Plan*. Draft. Prepared by ICF International, December.

4.15.15 Recreation

This section of the EIR analyzes the potential environmental effects on public parks and other recreational facilities in the City of Redlands from implementation of the Regional Reduction Plan. Data for this section were taken from Redlands General Plan (1995a) and associated environmental documents (1995b). Full reference-list entries for all cited materials are provided at the end of this section.

One comment letter stating that the Regional Reduction Plan should include a comprehensive regional bicycle path master plan was received in response to the notice of preparation (NOP) circulated for the Regional Reduction Plan.

Environmental Setting

Parks and Recreational Facilities

Currently, there are forty-seven existing park facilities within the City of Redlands planning area, which includes twenty-two sites that are in use, and ten are acquired but undeveloped parks. There are also fifteen school sites that provide recreational space for the community after school hours. Recreational facilities within the City of Redlands include the Redlands Community Center, the Community Senior Center, and the Joslyn Senior Center. The City of Redlands also has one private eighteen-hole golf course at the Redlands Country Club.

Trails and Recreational Linkages

The City of Redlands encourages the use of trails (pedestrian, cycling, and equestrian) within the City and the Planning Area, many of which are unmarked or unidentified. Other trails are identified such as the Bridle Trail map of Isaac Ford which was commissioned in 1941 by the Chamber of Commerce.

The City Council in 1992 appointed a Trails Committee as well as a Trails Map (Figure 4.15.15-1 [Trails Map]), which identifies general locations of Regional Trunk Trails and Primary Community Trails within the Planning Area. The Committee recognized four major types of trails: Regional Trunk Trails, Primary Community Trails, Secondary Community Trails, and Connector Trails.

Regulatory Framework

Federal

There are no federal regulations that are applicable to the provisions of recreation, park, and trail facilities in Redlands.

State

Quimby Act

The Quimby Act (California Government Code Section 66477) is state legislation that requires the dedication of land and/or fees for park and recreational purposes as a condition of approval of tentative

map or parcel map. The Quimby Act establishes procedures that can be used by local jurisdictions to provide neighborhood and community parks and recreational facilities and services for new residential subdivisions.

Regional

San Bernardino County Regional Parks Division

The San Bernardino County Regional Parks is administered by the San Bernardino County Regional Parks Division and the San Bernardino County Regional Parks Advisory Commission. The San Bernardino County Regional Parks division operates the Mojave Narrows Regional Park and Mojave River Forks Regional Park.

Local

City of Redlands Municipal Code

Title 19 (Growth Management) proposes limits to residential development to alleviate the effects of disorderly and rapid growth which have resulted or will soon result in overcrowding of schools, inadequate police and fire protection and inadequate parks and recreation facilities.

Redlands General Plan

The Redlands General Plan policies that are applicable to recreational facilities that include pedestrian and bicycle trail networks[13] are as follows:

Circulation Element, Bikeways

Policy 5.50a Establish a comprehensive network of on-and off-roadway bike routes to encourage the use of bikes for both commute and recreational trips.

Policy 5.50c Develop bike routes that provide access to schools and parks.

Circulation Element, Pedestrianways

Policy 5.60a Treat pedestrians as if they are more important than cars.

Policy 5.60b Make walking interesting.

Policy 5.60c Provide direct pedestrian routes.

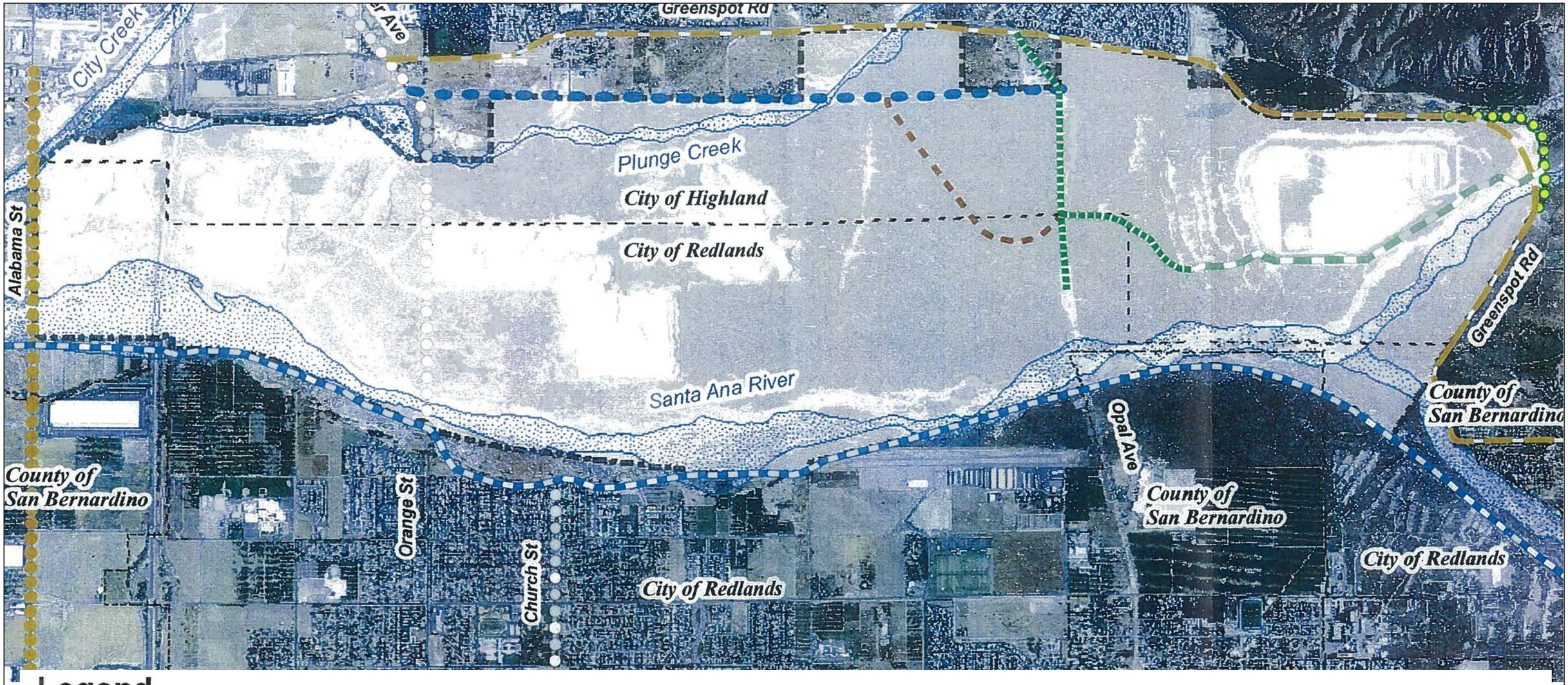
Policy 5.60d Provide a safe and healthful pedestrian environment.

Open Space and Conservation Element, Trails

Policy 7.11a Create and maintain a system of trails serving both recreational and emergency access needs. The system is to accommodate walking, hiking, jogging, and equestrian and bicycle use.

Policy 7.11b Prepare a Trails Plan depicting regional multi-purpose trails, community trails, local feeder trails, and including design standards

[13] These policies are not a complete listing of all policies contained in the General Plan; those policies that would be most applicable to the proposed project are included here.



Legend

- Plan Boundary
- Jurisdictional Boundaries
- Intermittent Water
- Alabama Street Trail
- Church Street/Orange Street Trail
- Greenspot Road Trail
- Old Greenspot Road Trail
- Pole Line Trail
- Old Rail Line Trail
- Cone Camp Road Trail
- South Rim Trail
- Santa Ana River Trail (NAP)

NORTH
NOT TO SCALE

***Source*:** City of Redlands General Plan, April 2013.

Figure 4.15.15-1
Trails Map

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Project Impact Evaluation

Thresholds of Significance

The following thresholds of significance are based on the 2012 CEQA Guidelines Appendix G. For purposes of this EIR, implementation of the San Bernardino County Regional GHG Reduction Plan might have a significant adverse impact on recreation if it would do any of the following:

- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated
- Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment

Analytic Method

The reduction measures selected by Redlands in the Regional Reduction Plan were reviewed to determine if they would include elements that would directly or indirectly result in environmental effects on existing recreation facilities or through construction of new facilities.

Effects Not Found to Be Significant

Threshold	Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

The demand for existing parks and recreational facilities is based on population. The Regional Reduction Plan would not increase resident population in the City; therefore, implementation of the GHG reduction measures would not affect the demand for and use of existing recreational facilities such that significant adverse environmental effects would occur. Therefore, there would be ***no impact***.

Threshold	Would the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

The Regional Reduction Plan does not include recreational facilities, but measure On-Road-1 encourages improvements to the pedestrian/bicycle network as a way to help reduce GHG emissions. Policies in the General Plan (Circulation Element Policies 5.50a, 5.50c, and 5.60a–d and Open Space and Conservation Policies 7.11a and 7.11b) are consistent with the Regional Reduction Plan goals. Pedestrian and bicycle network trail improvements would result in construction, but the physical effects associated with construction (e.g., dust emissions and noise) would not be substantial because trail improvements generally have a small footprint and would be of limited duration. Trails that are constructed in biologically sensitive areas would be required to comply with City policies and applicable federal and state regulations (see Section 4.15.4 [Biological Resources]) to minimize potential effects on species and habitat. Therefore, impacts would be ***less than significant***. No mitigation is required.

Cumulative Impacts

Because the Regional Reduction Plan does not create significant impacts on recreation facilities at a project level, implementation of the Regional Reduction Plan would not create impacts that are cumulatively considerable. Therefore, ***cumulative impacts would be less than significant***.

References

Redlands, City of. 1995a. *Redlands General Plan*, October.

———. 1995b. *City of Redlands Master Environmental Assessment and Final Environmental Impact Report for the 1995 General Plan*, October 17 (last updated August 3, 2010).

———. 2013. Recreation: Programs We Offer Today. http://www.cityofredlands.org/recreation/classes (accessed May 9, 2013).

———. n.d. *City of Redlands Municipal Code*.

San Bernardino Associated Governments (SANBAG). 2012. *San Bernardino County Regional Greenhouse Gas Reduction Plan*. Draft. Prepared by ICF International, December.

4.15.16 Transportation/Traffic

This section of the EIR analyzes the potential environmental effects on transportation/traffic in the City of Redlands from implementation of the Regional Reduction Plan. Data for this section were taken from Redlands General Plan (1995a), associated environmental documents (1995b), the Southern California Association of Governments (SCAG) Regional Transportation Plan and SCS (2012), the SCAG Regional Comprehensive Plan (2009), the San Bernardino Associated Governments (SANBAG) Congestion Management Program (2012), the SANBAG Passenger Rail Short-Range Transit Plan (2007), and the San Bernardino County Non-Motorized Transportation Plan (2011). Full reference-list entries for all cited materials are provided at the end of this section.

One comment letter stating that the Regional Reduction Plan should include a comprehensive regional bicycle path master plan was received in response to the notice of preparation (NOP) circulated for the Regional Reduction Plan.

Environmental Setting

Existing Transportation Network

The existing Redlands transportation network consists of roadways, rails, aviation. Specifically, the existing street network of the City is generally a grid pattern interrupted by Interstate 10, the Santa Ana Wash, and the hills/canyons located in the southeastern portion of the City. Redlands Municipal Airport, as well as Metrolink, operates in the City.

The City of Redlands' roadway system includes five classifications: freeways, arterials, collectors, local streets, and scenic drives, which are summarized below. This classification is intended as a general description only to understand the movement of people and vehicles. Figure 4.15.16-1 (General Traffic Network) shows the traffic network for the City.

- **Freeways**—Freeways are high-speed high capacity limited access facilities serving intercity and regional travel. Interstate 10 and State Route 30 are located within the City of Redlands.
- **Arterials**—Arterials provide circulation between major activity centers and residential areas and also provide access to freeways. Major arterials usually carry the highest volumes and/or longest trips and are moderately high-speed routes. Redlands Boulevard, Brookside Avenue, and Alabama Avenue are examples of major arterials. Minor arterials typically interconnect with and augment the major arterial systems. They are typically no more than four lanes wide and may be undivided (no median.) Orange Street and Colton Avenue are examples of minor arterials.
- **Collectors**—Collectors are typically fronted by residences, commercial or public activities. They are usually two-lane streets and maximum acceptable volumes are dictated by resident concerns about intrusion rather than traffic capacity considerations.
- **Local Streets**—Local streets have the sole function of providing access to adjoining land uses.
- **Scenic Drives**—Scenic drives are designations of routes along the Santa Ana Wash blufftop between Texas Street and Judson Street. The City has also designated several other streets as scenic highways, drives and historic streets.

Existing Traffic Conditions on the Roadway Network

Average daily traffic (ADT) volumes often identify the classification of a street or denote a problem with higher volumes than expected on a certain street. According to the 1995 General Plan EIR, other than freeways, the City does not have any streets that carry over 24,000 vehicles on an average day. The highest traffic volumes recorded include Alabama Street between Redlands Boulevard and Lugonia Avenue which was 24,000 ADT.

Trucks

These truck routes identify the streets that trucks must use when traveling through the City, and when traveling from local destinations to/from the regional freeway system. Specifically, the City's adopted truck route plan designates certain roadways for movement of vehicles exceeding a gross weight of five tons.

Transit

Metrolink

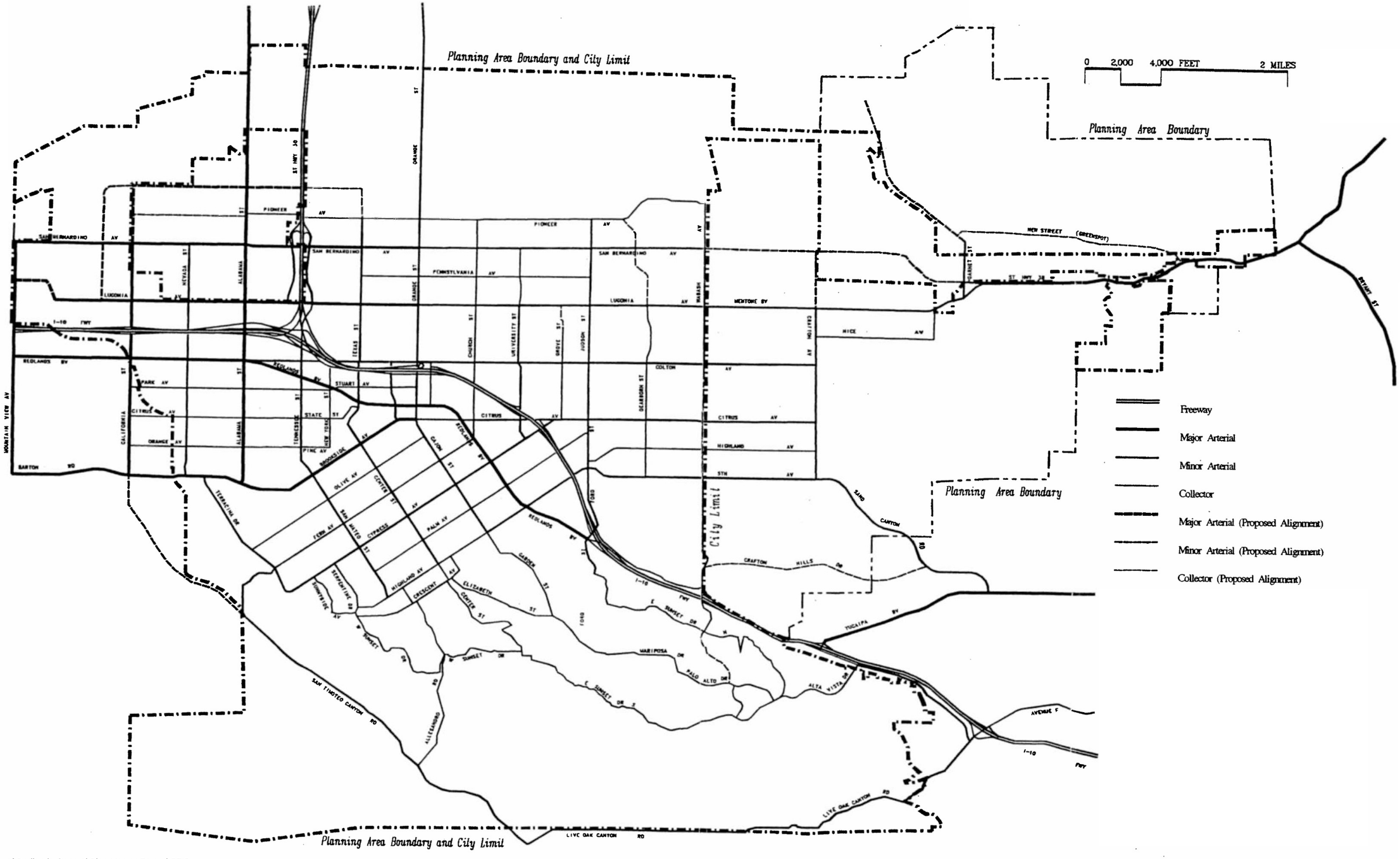
Commuter train service in the City of Redlands is provided by Metrolink, which operates six commuter rail lines throughout Southern California. SANBAG is working to expand transit options in San Bernardino and Redlands. During the last several years, SANBAG has been studying the feasibility of utilizing the Redlands Subdivision, a 9-mile railroad corridor extending between Downtown San Bernardino and the University of Redlands, to introduce passenger rail service to this area. To date, studies have been completed which determined that the use of this route for passenger rail service is appropriate and feasible, and there are a number of good options for stations locations.

Bus Transit

Omnitrans Transit Agency provides local transit service throughout San Bernardino County, including the City of Redlands. Local and inter-city public transit services are provided by Omnitrans. Omnitrans currently has three regional lines that connect the City with other cities in San Bernardino County, and a fourth line circulating within the City. Omnitrans operates five vans to provide door-to-door service for seniors and handicapped citizens. Transit service does not appear to accommodate a large percent of total daily or peak-hour travel in Redlands.

Bicycle Routes

The City's bicycle routes are classified in three categories: Class I, Class II, and Class III. Class I routes provide a completely separated right of way designated for the exclusive use of bicycles and pedestrians with cross flows by motorists permitted. Class II routes provide a restrictive right of way designated for the exclusive or semi-exclusive use of bicycles with through travel by motor vehicles Pedestrians are prohibited but vehicle parking and cross flows by pedestrians and motorists are permitted. Class III routes provide right of way designated by signs or permanent markings and shared with pedestrians and motorists. The only bicycle route within the City is in the vicinity of Jennie Davis Park.



***Source*:** City of Redlands General Plan Master EA and FEIR.

Figure 4.15.16-1
General Traffic Network

ATKINS

Redlands Municipal Airport

The Redlands Municipal Airport is a City-owned aviation facility. It is located in the southwestern portion of San Bernardino County, approximately two miles north and east of the City center. The airport is classified as a general aviation airport and is capable of accommodating all small general aviation aircraft.

Rail

The Atchison, Topeka and Santa Fe (AT&SF) and Union Pacific (UPRR) railroad companies operate freight lines in the Redlands area.

Regulatory Framework

Federal

United States Department of Transportation

The United States Department of Transportation (USDOT) oversees federal highway, air, railroad, and maritime and other transportation administration functions.

The Federal Highway Administration (FHWA) is an agency within the USDOT that supports State and local governments in the design, construction, and maintenance of the Nation's highway system (Federal Aid Highway Program) and various federally and tribal owned lands (Federal Lands Highway Program).

The Federal Transit Administration (FTA) is an agency within the USDOT that provides financial and technical assistance to local public transit systems. The FTA is headed by an Administrator who is appointed by the President of the United States and functions through a Washington, D.C. headquarters office and ten regional offices which assist local transit agencies throughout the United States.

The Federal Aviation Administration (FAA) is an agency within the USDOT that provides oversight and assistance to State and local airport authorities in the safety and improvements at airports throughout the United States. The FAA also provides technical assistance to airport operators, in conjunction with other local, state, and federal authorities, to prepare and execute appropriate airport compatibility planning and implementation programs.

State

California Department of Transportation

The California Department of Transportation (Caltrans) manages the state highway system and freeway lanes, provides intercity rail services, permits of public-use airports and special-use hospital heliports, and works with local agencies. Caltrans carries out its mission of improving mobility across California with six primary programs: Aeronautics, Highway Transportation, Mass Transportation, Transportation Planning, Administration, and the Equipment Service Center.

California Air Resources Board

The California Air Resources Board, a part of the California EPA (Cal/EPA) is responsible for the coordination and administration of both federal and state air pollution control programs within California. With respect to transportation the California Air Resources Board reviews and approves metropolitan planning organizations' (MPO) implementation of Senate Bill 375 within each region of California.

Senate Bill 375

Senate Bill 375 (SB 375), which establishes mechanisms for the development of regional targets for reducing passenger vehicle greenhouse gas emissions, was adopted by the State on September 30, 2008. On September 23, 2010, California ARB adopted the vehicular greenhouse gas emissions reduction targets that had been developed in consultation with the MPOs; the targets require a 7 to 8 percent reduction by 2020 and between 13 to 16 percent reduction by 2035 for each MPO. SB 375 recognizes the importance of achieving significant greenhouse gas reductions by working with cities and counties to change land use patterns and improve transportation alternatives. Through the SB 375 process, MPOs will work with local jurisdictions in the development of sustainable communities strategies (SCS) designed to integrate development patterns and the transportation network in a way that reduces greenhouse gas emissions while meeting housing needs and other regional planning objectives. MPOs will prepare their first SCS according to their respective regional transportation plan (RTP) update schedule; to date, no region has adopted an SCS. The first of the RTP updates with SCS strategies are expected in 2012.

Regional

Southern California Association of Governments (SCAG)

SCAG is the designated Metropolitan Planning Organization for six Southern California counties (Los Angeles, Ventura, Orange, San Bernardino, Riverside, and Imperial), and is federally mandated to develop plans for transportation, growth management, hazardous waste management, and air quality. SCAG regional plans cover San Bernardino County, which includes the City, and five other counties within Southern California.

Regional Comprehensive Plan

The Regional Comprehensive Plan (RCP) is a problem-solving guidance document that responds to SCAG's Regional Council directive in the 2002 Strategic Plan to develop a holistic, strategic plan for defining and solving the region's interrelated housing, traffic, water, air quality, and other regional challenges. The RCP is a voluntary framework that links broad principles to an action plan that moves the region towards balanced goals. The RCP's guiding principles include:

- Improve mobility for all residents. Improve the efficiency of the transportation system by strategically adding new travel choices to enhance system connectivity in concert with land use decisions and environmental objectives.
- Foster livability in all communities.

- Foster safe, healthy, walkable communities with diverse services, strong civic participation, affordable housing, and equal distribution of environmental benefits.
- Enable prosperity for all people. Promote economic vitality and new economies by providing housing, education, and job training opportunities for all people.
- Promote sustainability for future generations.
- Promote a region where quality of life and economic prosperity for future generations are supported by the sustainable use of natural resources.

Further, the RCP seeks to successfully integrate land and transportation planning and achieve land use and housing sustainability by implementing Compass Blueprint and 2 percent Strategy:

- Focusing growth in existing and emerging centers and along major transportation corridors
- Creating significant areas of mixed-use development and walkable, "people-scaled" communities
- Providing new housing opportunities, with building types and locations that respond to the region's changing demographics
- Targeting growth in housing, employment, and commercial development within walking distance of existing and planned transit stations
- Injecting new life into under-used areas by creating vibrant new business districts, redeveloping old buildings and building new businesses and housing on vacant lots
- Preserving existing, stable, single-family neighborhoods
- Protecting important open space, environmentally sensitive areas and agricultural lands from development
- Reducing emissions of criteria pollutants to attain federal air quality standards by prescribed dates and state ambient air quality standards as soon as practicable
- Reversing current trends in greenhouse gas emissions to support sustainability goals for energy, water supply, agriculture, and other resource areas
- Minimizing land uses that increase the risk of adverse air pollution-related health impacts from exposure to toxic air contaminants, particulates (PM_{10}, $PM_{2.5}$, ultrafine), and carbon monoxide

Regional Transportation Plan

On May 8, 2012, the Regional Council of SCAG adopted the 2012 RTP and SCS for the SCAG area aimed at attaining the reduction targets of an 8 percent per capita reduction in GHG emissions from passenger vehicles by the year 2020 and a 13 percent reduction by 2035. There are transportation-related reduction measures included in this Regional Reduction Plan that coordinate with efforts in SCAG's SCS. The 2012 RTP strives to provide a regional investment framework to address the region's transportation and related challenges, and looks to strategies that integrate land use into transportation planning with an emphasis on transit and other nonvehicle transportation modes. The RTP also provides the framework for aggregating sub-regional and local efforts to institute measures aimed at mitigating the adverse air pollution impacts from transportation activities. These measures are known as transportation control measures (TCMs). The RTP links the goal of sustaining mobility with the goals of fostering economic development, enhancing the environment, reducing energy consumption, promoting transit-

friendly development patterns, and encouraging fair and equitable access to residents affected by socio-economic, geographic, and commercial limitations. The Regional Transportation Implementation Plan (RTIP) is the vehicle used to implement the RTP and SCS. The RTIP also provides the schedule and framework for the timely implementation of the Region's TCM strategies. SCAG is currently in the process of developing the 2014 RTP and SCS for their jurisdiction aimed at updating the regional transportation modeling system and keeping on track to achieve the reduction targets.

SCAG Compass Growth Visioning

The Compass Blueprint Growth Vision effort by SCAG is a response, supported by a regional consensus, to the land use and transportation challenges facing Southern California now and in the coming years. The Growth Vision is driven by four key principles:

- **Mobility**—Getting where we want to go
- **Livability**—Creating positive communities
- **Prosperity**—Long-term health for the region
- **Sustainability**—Preserving natural surroundings

The fundamental goal of the Compass Growth Visioning effort is to make the SCAG region a better place to live, work, and play for all residents regardless of race, ethnicity, or income class. Thus, decisions regarding growth, transportation, land use and economic development should be made to promote and sustain for future generations the region's mobility, livability and prosperity.

San Bernardino Associated Governments (SANBAG)

SANBAG is an association of local San Bernardino County governments. It is the MPO for the county, with policy makers consisting of mayors, council members, and county supervisors, and the funding agency for the county's transit systems, which include Omnitrans, Victor Valley Transit Authority, Morongo Basin Transit Authority, Mountain Area Regional Transit Authority, Barstow Area Transport, and Needles Area Transit. SANBAG administers the Congestion Management Program (CMP), provides transit planning, and regional nonmotorized transportation infrastructure and regional bicycle and pedestrian path network planning within San Bernardino County

Congestion Management Program

The CMP defines a network of state highways and arterials, level of service standards and related procedures, a process for mitigation of the impacts of new development on the transportation system, and technical justification for the approach. The policies and technical information contained in this document are subject to ongoing review, with updates required each two years. The last update of the CMP was completed in 2012.

Passenger Rail Short-Range Transit Plan

SANBAG, acting as the County Transportation Commission, requires each transit agency to prepare a multi-year operating and capital plan every other year. This Short-Range Transit Plan provides basic information about the transit services provided in San Bernardino County, including performance, needs,

deficiencies and a proposed plan for operations and capital investments covering the next 5 years. The San Bernardino County Passenger Rail SRTP reflects SANBAG's share of the Metrolink operating and capital plan, as well as the future Redlands Passenger Rail and Gold Line Extension projects.

San Bernardino County Non-Motorized Transportation Plan

The Non-Motorized Transportation Plan provides the planning for interconnected cycling and walking system within communities in San Bernardino County. The Plan is for the development of a comprehensive system of cycling facilities, pathways, and trails. As of 2011, the combined total of centerline miles of bicycle infrastructure for all jurisdictions is 468 miles. This represents an eight-fold growth in the County's bicycle infrastructure. The challenge ahead involves developing a cohesive, integrated plan and identifying sources of funds to implement that plan. This is the goal of the San Bernardino County Non-Motorized Transportation Plan (NMTP). The NMTP of 2001 and the 2006 update have taken us part way there. The 2011 update identifies a comprehensive network, with a focus on the bicycle system. The Plan satisfies the California requirements of a Bicycle Transportation Plan (BTP) for purposes of Caltrans Bicycle Transportation Account (BTA) funding.

Local

City of Redlands Municipal Code

Redlands Municipal Code Title 10 addresses vehicles and traffic in the City. Title 10 includes speed limits on various streets in the City, designates one-way streets and alleys, stop-controlled streets; identifies driving rules, pedestrian rights and duties, and restrictions on stopping, standing and parking; establishes permit parking districts and truck routes; and contains other regulations that promote public safety on streets, sidewalks and driveways.

Title 12 (Streets, Sidewalks and Public Places) requires that an encroachment permit be obtained from the City Engineer for the construction of public improvements or the protection of public improvements from construction activities. Street improvements should be made to meet the City's standards for the street. Requirements for the permit are included in Title 12.

Redlands General Plan

The Redlands General Plan contains the following policies regarding transportation, mobility and traffic[14]:

Circulation Element, Standards for Traffic Service

Policy 5.20a Maintain LOS C or better as the standard at all intersections presently at LOS C or better.

Policy 5.20b Within the area identified in GP Figure 5.3, including that unincorporated County area identified on GP Figure 5.3 as the donut hole, maintain LOS C or better; however, accept a reduced LOS on a case by case basis upon approval by a four-fifths (4/5ths) vote of the total authorized membership of the City Council.

[14] These policies are not a complete listing of all policies contained in the General Plan; those policies that would be most applicable to the proposed project are included here.

Policy 5.20c Where the current level of service at a location within the City of Redlands is below the LOS C standard, no development project shall be approved that cannot be mitigated so that it does not reduce the existing level of service at that location except as provided in Section 5.20b.

Circulation Element, Circulation Network and Classification

Policy 5.30a Use the Circulation Network to identify, schedule and implement roadway improvements as development occurs in the future, and as a standard against which to evaluate future development and roadway improvements.

Policy 5.30b Review the Circulation Network with neighboring jurisdictions and seek agreement on actions needing coordination.

Policy 5.30c Review and coordinate circulation requirements with Caltrans as it pertains to the freeways and state highways.

Circulation Network, Arterials

Policy 5.31a Provide adequate capacity on arterials to meet LOS standards and to avoid traffic diversion to local streets or freeways.

Policy 5.31b Locate high traffic-generating uses so that they have direct access or immediate secondary access to arterials.

Policy 5.31c Establish a funding system that will enable completion of arterial roadway improvements before the projects that require them are occupied.

Circulation Network, Collector and Local Streets

Policy 5.32a Design residential collector streets and implement traffic control measures to keep traffic on collectors at 3,000 vehicles per day or less, where possible.

Policy 5.32b Design local residential streets and implement traffic control measures to keep traffic below 500 vehicles per day.

Circulation Network, Freeway Improvements

Policy 5.33a Work with California Department of Transportation (Caltrans) to achieve timely construction of freeway and interchange improvements.

Circulation Element, Travel Demand Management

Policy 5.40a Ensure that employers implement TDM programs to reduce peak period trip generation.

Policy 5.40b Cooperate with public agencies and other jurisdictions to promote local and regional public transit serving Redlands.

Policy 5.40c Support the Congestion Management Program for San Bernardino County.

Circulation Element, Bikeways

Policy 5.50a Establish a comprehensive network of on- and off-roadway bike routes to encourage the use of bikes for both commute and recreational trips.

Policy 5.50b Seek assistance from major employers in providing support facilities to encourage use of bikes for commuter purposes.

Policy 5.50c Develop bike routes that provide access to schools and parks.

Circulation Element, Pedestrianways

Policy 5.60a Treat pedestrians as if they are more important than cars.

Policy 5.60b Make walking interesting.

Policy 5.60c Provide direct pedestrian routes.

Policy 5.60d Provide a safe and healthful pedestrian environment.

Air Quality Element

Policy 8.12a Aim for a diverse and efficiently operated ground transportation system which generates the minimum feasible pollutants.

Policy 8.12c Cooperate in efforts to expand bus, rail and other forms of mass transit in the portion of the South Coast Air Basin within San Bernardino County.

Policy 8.12d Promote expansion of all forms of mass transit in the urbanized portions of San Bernardino, Orange, Los Angeles and Riverside counties.

Policy 8.12e Support public transit providers in efforts to increase funding for transit improvements to supplement other means of travel.

Policy 8.12f Jointly support efforts to establish a regionwide bus pass.

Policy 8.12g Promote non-motorized transportation.

Policy 8.12h Promote a regional approach in utilizing parking costs as a means to discourage low vehicle occupancy.

Policy 8.14a Support a regional approach to regulation the location and design of land uses which are especially sensitive to air pollution.

Land Use Element, East Valley Corridor

Policy 4.62e Design a comprehensive, functional and efficient circulation system of sufficient capacity to accommodate projected traffic demands at all phases of development, which is consistent with regional master transportation plans.

Policy 4.62f Adopt energy-efficient transportation strategies to implement state and county goals for reduced energy consumption and improved air quality.

City of Redlands Intersection Analysis Criteria

Level of Service (LOS) is a qualitative measure of traffic service along a roadway or along an intersection. This method calculates vehicle delay based on the capacity of the intersection, with the length of delay defining the LOS at the intersection. The LOS is a qualitative and quantitative measure that describes the operational conditions and a motorist's and/or passenger's perception of travel conditions. LOS is designated a letter from A to F, with LOS A representing the best traffic conditions and LOS F representing the worst-case scenario with forced flow low operating speeds. Roadway performance is controlled by the performance of intersections, and more specifically, by intersection performance during peak hours. This is because traffic control at intersections interrupts traffic flow that would otherwise be relatively unimpeded. Thus, LOS typically depends on the quantity of traffic at the intersection. City policies require that LOS C levels be maintained at all intersections currently operating at LOS C levels.

The LOS definitions for major intersections and freeway interchanges in the City are listed in Table 4.15.16-1, as included in the Redlands General Plan.

Table 4.15.16-1 Intersection Level of Service (LOS) Definitions

LOS	*Definition*	*Freeway Segments*	*Street Segments*
A	Conditions of free flow; speed is controlled by driver's desires, speed limits or physical roadway conditions	0 to 0.30	0 to 0.60
B	Conditions of stable flow; operating speeds beginning to be restricted, little or no restrictions on maneuverability from other vehicles	0.31 to 49	0.61 to 0.70
C	Conditions of stable flow; speeds and maneuverability more closely restricted, occasional backups behind left-turn vehicles	0.50 to 0.71	0.71 to 0.80
D	Conditions of unstable flow	0.72 to 0.88	0.81 to 0.90
E	Conditions approach capacity	0.89 to 1.00	0.91 to 1.00
F	Forced flow conditions	> 1.00	> 1.00

SOURCE: City of Redlands, *Redlands General Plan* (1995).

Project Impact Evaluation

Thresholds of Significance

The following thresholds of significance are based on the 2012 CEQA Guidelines Appendix G. For purposes of this EIR, implementation of the San Bernardino County Regional GHG Reduction Plan might have a significant adverse impact on transportation/traffic if it would do any of the following:

- 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 nonmotorized 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
- 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
- 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
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)
- Result in inadequate emergency access
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities

Analytic Method

The programs and measures contained in the Regional Reduction Plan were compared to applicable transportation plans and transportation policies to determine if any inconsistency exists. These plans include the SCAG's RTP with an adopted SCS, the Compass Growth Visioning, SANBAG CMP, and the San Bernardino County Non-Motorized Transportation Plan. The Regional Reduction Plan was also reviewed for potential traffic impacts that could result during implementation of the reduction measures.

Effects Not Found to Be Significant

Threshold	Would the project 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 nonmotorized 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?

Implementation of the Regional Reduction Plan will reduce GHG emissions and vehicle miles traveled (VMT) associated with on road passenger vehicles within the City. The Regional Reduction Plan does this by building upon and supporting the Redlands General Plan policies related to mobility. The Circulation Element and Air Quality Element contain a number of policies that would provide an integrated and balanced multi-modal transportation network to meet the needs of all users. They provide a transportation system that includes connected transit, bicycle, and pedestrian networks. Additionally, the General Plan requires coordination with local authorities and other jurisdictions on regional transportation issues. The General Plan Circulation Element Policy 5.40b ensures VMT reduction through greater transit opportunities and ridership. The Regional Reduction Plan reduction measure Transportation-1 (Sustainable Communities Strategy) furthers these policies of transit and transit-oriented development within the city, and Transportation-2 (Smart Bus Technologies) requires the City of Redlands to work with Omnitrans. In addition the Regional Reduction Plan reduction measure Transportation-1 (Sustainable Communities Strategy) promotes nonmotorized travel by focusing on a pedestrian and bicycle path network connecting land uses within the City, which correlates with a number of the General Plan policies including Policies 5.50a, 5.50b, 5.50c, 5.60a, and 5.60b. These policies call for an integrated and connected transportation network that facilitates safe and convenient bicycling and walking citywide. The Regional Reduction Plan also implements and supports various regional transportation planning efforts in the City including the SCS in the SCAG RTP, the SCAG Compass Growth Visioning, and the San Bernardino County Non-Motorized Transportation Plan (SANBAG 2011). Transit and nonmotorized transportation infrastructure built on all roadways require review by City Planning and Traffic Engineering staff for approval to ensure that the improvements do not negatively impact the traffic flow.

Therefore, the Regional Reduction Plan implements and furthers the goals of the applicable plans, ordinances, or policies establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and nonmotorized travel. Further, because of City review of transit and nonmotorized infrastructure to ensure that these improvements do not negatively impact the traffic flow on roadways, the implementation of the Regional Reduction Plan will not conflict with the level of effectiveness for the performance of intersections,

roadways, highways and freeways set by the City of Redlands, the CMP and Caltrans. This impact would be ***less than significant***. No mitigation is required.

Threshold	Would the project 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?

The CMP defines a network of state highways and arterials, level of service standards and related procedures, a process for mitigation of the impacts of new development on the transportation system, and technical justification for the approach. The last update of the CMP was completed by SANBAG in 2012. Implementation of the Regional Reduction Plan may require transit or nonmotorized transportation infrastructure to be built on some CMP roadways. Transit and nonmotorized transportation infrastructure built on all roadways, including CMP-designated roadways, require review by City Planning and Traffic Engineering staff for approval to ensure that the improvements do not negatively impact the traffic flow on these major arterials.

The City of Redlands has a level of service standard of LOS C or better at all intersections within the City, while the San Bernardino County CMP uses an LOS standard of LOS E or better for CMP-designated roadways. Existing regulations require that development and redevelopment projects are reviewed by the City and comply with the City's LOS standard. Additionally, compliance with the City's funding system (Policy 5.31c) that will enable completion of arterial roadway improvements, which correlates with CMP's goal to develop and implement a development mitigation program that includes payment of fair share fees for the needed transportation system improvements. This impact would be ***less than significant***. No mitigation is required.

Threshold	Would the project 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?

The Regional Reduction Plan would not result in changes in air traffic patterns through an increase in traffic levels or a change in location. As such, no safety risks would occur. There would be ***no impact***.

Threshold	Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

The proposed project does not include facilities that would substantially increase hazards, nor would it construct incompatible uses. Energy-producing facilities needed for implementation of the Regional Reduction Plan would consist of solar arrays on new or existing buildings. Appropriate setbacks would be required as specified in the Municipal Code to ensure there would be no increase in hazards to vehicles as a result of implementation of the proposed project. This impact would be ***less than significant***. No mitigation is required.

Threshold	Would the project result in inadequate emergency access?

The Regional Reduction Plan reduces GHG emissions citywide and includes reduction measures such as energy efficiency goals, energy efficiency retrofits, renewable energy generation, the reduction of vehicle

trips and vehicle miles traveled to reduce transportation related emissions, waste diversion and water conservation programs. None of the reduction measures would alter emergency access or evacuation plans. Improvements to transit, bicycle, and pedestrian infrastructure along roadways that would serve as emergency access and evacuation within the City would be reviewed by the City Planning Department to ensure adequate ingress and egress along these roadways. Therefore, the impact would be ***less than significant***. No mitigation is required.

Threshold	Would the project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

As described above, the Regional reduces transportation related GHG emissions by furthering the policies, plans and programs for public transit, bicycle and pedestrian facilities. In particular the Regional Reduction Plan furthers the General Plan Policies listed in the Circulation Element, meant to improve and integrate the bicycle and pedestrian circulation system; and furthers to goals of the San Bernardino County Non-Motorized Transportation Plan. In addition the Regional Reduction Plan implements the SCS in the SCAG RTP, and the Redlands General Plan Policy 5.40b meant to improve the public transit system in the City. Transit and nonmotorized transportation infrastructure built on all roadways require review by City Planning and Traffic Engineering staff review and approval to ensure that performance standards and safety are not impacted negatively. Therefore, the impact would be ***less than significant***. No mitigation is required.

Cumulative Impacts

Because the Regional Reduction Plan does not create significant transportation impacts at a project level, implementation of the Regional Reduction Plan will not create impacts to transportation that are cumulatively considerable. Therefore, ***cumulative impacts would be less than significant***.

References

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4.15.17 Utilities/Service Systems

This section of the EIR analyzes the potential environmental effects on utilities/service systems (water supply, storage, and distribution; wastewater collection, transmission, and treatment; solid waste; and energy) in the City of Redlands from implementation of the Regional Reduction Plan. Data for this section were taken from Redlands General Plan (1995a) and associated environmental documents (1995b). Full reference-list entries for all cited materials are provided at the end of this section.

No comment letters addressing utilities/service systems were received in response to the notice of preparation (NOP) circulated for the Regional Reduction Plan.

Environmental Setting

Potable Water Supplies and Service Systems

The Redlands Planning Area domestic water sources are comprised of both surface (about 60 percent) and groundwater (about 40 percent). The City is entitled to surface water from both Mill Creek and the Santa Ana River. Mill Creek is subject to varying conditions such as rainfall and construction activity which occasionally create increased turbidity in the creek water. The turbidity of the stream water in dry weather is normally quite low. Mill Creek water is treated at the Henry Tate Water Treatment Plant (HTWTP), located northeast of the City. Water then flows by gravity from the Tate Treatment Plant to the City's distribution system. The City's entitlement to Santa Ana River flows are by virtue of direct and indirect stock ownership in Bear Valley Mutual Water Company. Santa Ana River water is treated at the Horace Hinckley Water Filtration Plant (HHWFP) (Redlands 1995).

The City draws about 40 percent of its water from wells which draw water from the Bunker Hill groundwater basin. The basin contains significant amounts of water to be developed, and as of 1995, there are no legal or institutional constraints on the amount of water which Redlands can withdraw from the basin (Redlands 1995). Consequently, new groundwater sources can be developed incrementally to support development as long as the basin itself remains viable. The task of monitoring the status of the Bunker Hill basin lies with the San Bernardino Valley Municipal Water District (Redlands 1995). The City owns fifteen domestic wells that pump directly into the system or into reservoirs. The City also receives water from two wells that are owned by the South Mountain Water Company. These wells are adequately separated from sewerage facilities.

Existing water transmission and distribution pipelines in the system range in size from 1 to 36 inches in diameter. There are approximately 400 miles of pipeline and 21,500 metered connections that serve domestic water (City of Redlands Municipal & Engineering Department Website).

Imported State Water Project (SWP) water is potentially available to the Planning Area, although this source is more costly than local sources. Historically, Redlands has used imported water only as a short term supplemental source. The San Bernardino Valley Municipal Water District (SBVMWD) is the purveyor of SWP water to the Planning Area. The actual amount of SWP water received by the City varies from year to year depending upon the availability of local groundwater supplies and the status of

statewide water supply conditions. When required, SWP water is treated at the Hinckley WTP and Tate WTP.

Wastewater Collection and Treatment

Wastewater generated by sewered development within the Planning Area is treated at the City's plant. The Redlands Wastewater Treatment Facility is located on approximately 50 acres. The facility currently employs a staff of twenty-three plus six operator-in-training volunteers and operates on a continuous basis. The facility has the ability to process 9.5 million gallons of wastewater per day, and is currently processing about 6 million gallons per day (Redlands Municipal Utilities & Engineering Department Website). The facility is very efficient in its ratio of gallons of wastewater treated to number of employees, and the degree of treatment achieved. The facility has never been cited for any violation and maintains a good reputation in the industry.

Parts of the Planning Area are served by septic systems. Septic systems are allowed by City Public Services Code 13.44.080. That code requires installation of dry sewer systems in addition to septic systems to facilitate a new development's eventual hook-up to a city sewer system. While the above agencies are the basic providers of existing sewage and collection, the California Regional Water Quality Board, Santa Ana Region, has planning and regulatory authority for any activities directly affecting surface or groundwater quality.

Solid Waste

According to the General Plan (1995), approximately 77,400 tons of waste was generated in the City of Redlands in 1990. Of these, 67,800 tons were disposed, and 9,600 tons were diverted, resulting in a diversion rate of 12.4 percent. Almost all waste disposed by generators in the City is hauled by the City of Redlands Municipal Utilities Department, Solid Waste Division, as a public service. Two City annexation areas are serviced by private haulers. The City collected solid waste is disposed of at the California Street Landfill. Sources are 50 percent from residential, 42 percent from commercial, and eight percent from industry. A small amount of waste is hauled directly to County Landfill by Planning Area residents and other entities (Redlands 1995).

Electricity

Electricity is provided to the City by Southern California Edison (SCE). SCE's transmission system includes 500 and 220 kilovolt (kV) transmission lines, which are generally reduced to 66 kV transmissions at transformers at substations.

SCE has forecast energy demands for its service area to reach 118,497 gigawatt-hours by 2016 (CEC 2007). Energy consumption per capita in 2006 for the SCE area is about 7,300 kilowatt-hours. This is forecast to remain constant through 2016 (CEC 2007).

Natural Gas

The Southern California Gas Company (TGC) provides natural gas service to the City of Redlands. TGC has gas mains throughout urbanized areas of the City.

Telephone and Communications

Communication services and telephone, mobile phone, cable, and internet services, are provided by private companies in the City of Redlands, including Verizon Communications, AT&T, and Time Warner Telecommunications. Cable service is provided to the City by local cable franchises, including Time Warner Cable, Comcast Cable, Cox Cable, and Charter Cable. Installation of cable services is provided by these private companies and supported by service fees.

For Internet service, transmission can be obtained through the phone lines for dial-up coverage or by broadband providers. Most Internet service providers are regulated by the California Public Utilities Commission. Broadband providers supply Internet services through cable lines or through Ethernet, a bundling of local area networks that are transmitted by fiber optics (DSL). Like cell phones, the Internet can also be provided through wireless connections. Infrastructure to support these services is therefore run over the associated local telephone and cable service provider lines.

Regulatory Framework

Utilities within the City of Redlands tend to grow proportionally with the population. The following discussion of regulations helps to understand how public utilities are evaluated.

Federal

Safe Drinking Water Act

The Safe Drinking Water Act (SDWA) is the main federal law that ensures the quality of Americans' drinking water. Under SDWA, the USEPA sets standards for drinking water quality and oversees the states, localities, and water suppliers who implement those standards. SDWA was originally passed by Congress in 1974 to protect public health by regulating the nation's public drinking water supply. The law was amended in 1986 and 1996, and requires many actions to protect drinking water and its sources: rivers, lakes, reservoirs, springs, and ground water wells. (SDWA does not regulate private wells which serve fewer than twenty-five individuals.)

Federal Energy Regulatory Commission (FERC)

The Federal Energy Regulatory Commission (FERC) is the United States federal agency with jurisdiction over interstate electricity sales, wholesale electric rates, hydroelectric licensing, natural gas pricing, and oil pipeline rates. FERC also reviews and authorizes liquefied natural gas (LNG) terminals, interstate natural gas pipelines and nonfederal hydropower projects.

Federal Communications Commission (FCC)

The Federal Communications Commission (FCC) regulates interstate and international communications by radio, television, wire, satellite and cable in all fifty states, the District of Columbia and U.S. territories. It was established by the Communications Act of 1934 and operates as an independent U.S. government agency overseen by Congress. Primary responsibilities of the FCC include promoting competition in broadband communications while maintaining the quality and integrity of the signal reaching the public,

and ensuring broad access to telecommunications by the public even in rural areas of the United States. The FCC has oversight over telecommunications and media regulations in the United States.

California Code of Regulations Title 22, Chapter 15 (Water Quality General Requirements)

California Code of Regulations (CCR) Title 22, Chapter 15, requires general water quality standards for water and wastewater discharge. The law ensures that pathogens and other contamination does not enter surface water or groundwater supplies within the state

California Health and Safety Code Article 1 (Pure and Safe Drinking Water)

California Health and Safety Code Article 1, Section 116270, was established a drinking water regulatory program within the Department of Health Services and provide drinking water standards for all water purveyors and distribution systems within the state. The law also requires regular sampling and record keeping of water supplies to ensure that potable water supplies are meeting the standards.

Senate Bills 610 and 210 Water Supply Assessment and Planning

To assist water suppliers, cities, and counties in integrated water and land use planning, the state passed Senate Bill (SB) 610 (Chapter 643, Statutes of 2001) and SB 221 (Chapter 642, Statutes of 2001), effective January 1, 2002. SB 610 and SB 221 improve the link between information of water supply availability and certain land use decisions made by cities and counties. SB 610 and SB 221 are companion measures that promote more collaborative planning between local water suppliers and cities and counties.

Both statutes require detailed information regarding water availability to be provided to city and county decision makers prior to approval of specified large development projects. Both statutes also require this detailed information be included in the administrative record as the evidentiary basis for an approval action by the city or county on such projects. Both measures recognize local control and decision making regarding the availability of water for projects and the approval of projects. Under SB 610, water supply assessments (WSA) must be furnished to local governments for inclusion in any environmental documentation for certain projects (as defined in Water Code Section 10912(a)) subject to CEQA. Under SB 221, approval by a city or county of certain residential subdivisions requires an affirmative verification of sufficient water supply. SB 221 is intended as a fail-safe mechanism to ensure that collaboration on finding the needed water supplies to serve a new large subdivision occurs before construction begins.

A WSA is required for any project if it is a residential development of 500 units or more; a shopping center or business establishment project employing more than 1,000 persons or having more than 500,000 square feet of floor space; a commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space; or an industrial, manufacturing, or processing plant or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area. Individual development projects implemented under the Proposed Land Use Plan would be required to prepare a WSA if they meet these requirements.

California Water Code Sections 10610–10656

In 1983, the California legislature enacted the Urban Water Management Planning Act (Water Code Sections 10610-10656). The act states that every urban water supplier that provides water to 3,000 or more customers, or that provides over 3,000 acre-feet of water annually, should make every effort to ensure the appropriate level of reliability in its water service to meet the needs of its various categories of customers during normal, dry, and multiple dry years. Both SB 610 and SB 221 repeatedly identify the UWMP as a planning document that, if properly prepared, can be used by a water supplier to meet the standards set forth in both statutes. Thorough and complete UWMPs are foundations for water suppliers to fulfill the specific requirements of these two statutes. UWMPs serve as important source documents for cities and counties as they update their General Plan. Conversely, General Plans are source documents as water suppliers update the UWMPs. These planning documents are linked, and their accuracy and usefulness are interdependent (CDWR 2003). The San Bernardino Valley Regional Urban Water Management Plan (RUWMP) is a foundational document for compliance with both SB 610 and SB 221.

Assembly Bill 939—Integrated Waste Management Act

Assembly Bill (AB) 939 (Chapter 1095, Statutes of 1989), the Integrated Waste Management Act, requires, among other things, every California city and county to divert 50 percent of its waste from landfills by the year 2000. In addition, AB 939 requires each county and each city within the county to prepare a Source Reduction and Recycling Element for its jurisdiction, identifying waste characterization, source reduction, recycling, composting, solid waste facility capacity, education and public information, funding, special waste (asbestos, sewage sludge, etc.), and household hazardous waste, and a countywide siting element, specifying areas for transformation or disposal sites to provide capacity for solid waste generated in the jurisdiction that cannot be reduced or recycled for a 15-year period.

California Energy Commission (CEC)

The California Energy Commission (CEC) is the state's primary energy policy and planning agency. Created by the Legislature in 1974 the CEC has six basic responsibilities in setting state energy policy. They are:

- Forecasting Energy needs within the state
- Promoting energy efficiency and conservation by setting the appliance and building efficiency standards for the state of California
- Supporting energy research that advances energy science and technology, energy technology development, and demonstration projects
- Licensing all thermal electric power plants of 50 megawatts or larger
- Planning for and directing State responses to energy emergencies

Regional

Southern California Association of Governments (SCAG)

SCAG's Energy Planning Program focusing on renewable energy projects and energy efficiency enable the region to support state and federal energy goals while growing in accordance with SCAG's adopted plans, such as the Regional Transportation Plan and Sustainable Communities Strategy, Compass Growth Vision, and Regional Comprehensive Plan.

County of San Bernardino Solid Waste Management Division (SWMD)

The County of San Bernardino Solid Waste Management Division (SWMD) is responsible for the operation and management of the County of San Bernardino's solid waste disposal system which consists of five regional landfills and nine transfer stations. SWMD administers the County's solid waste handling franchise program and the refuse collection permit program which authorizes and regulates trash collection by private haulers.

San Bernardino Valley Regional Urban Water Management Plan (RUWMP)

The Regional Urban Water Management Plan (Plan) is a tool that provides a summary of anticipated supplies and demands for the years 2010 to 2035. This document was prepared for a number of agencies within the San Bernardino Valley Municipal Water District service area including the City of Redlands.

Local

City of Redlands Municipal Code

City Municipal Code Chapter 13.06 (Water Conservation Plan) is designed to reduce the nonessential use of water to conserve city water supplies, thereby minimizing the effect of a shortage of water supplies on city users.

Municipal Code Chapter 15.54 (Water Efficient Landscaping) provides standards applicable to irrigation system design, scheduling, stormwater management, and encourages the use of recycled water where applicable.

Municipal Code Chapter 13.54 (Storm Drains) is designed to promote the future health, safety and general welfare of inhabitants of the city by controlling discharges into the Redlands storm drain system. This is accomplished by eliminating all non-permitted discharges to Redlands separate storm sewers, controlling the discharge to Redlands separate storm sewers from spills, dumping or disposal of materials other than stormwater and reducing pollutants in stormwater discharges to the maximum extent practicable.

Municipal Code Chapter 13.58 (Recycled Water) establishes procedures, specifications and limitations for the safe and orderly development and operation of recycled water facilities and systems, and to establish rules and regulations governing such use.

Municipal Code Chapter 13.66 (Recycling Requirements for Specified Development Activity) establishes requirements for recycling by specified development activities to facilitate the city's compliance with state

recycling mandates, remove architectural barriers to recycling and ensure the recycling of construction and demolition debris.

Pursuant to Public Resources Code Section 40100 et seq., Municipal Code Chapter 13.64 (Integrated Solid Waste Management) requires the City to conduct an integrated solid waste management program to reduce, reuse and recycle solid waste to extend the life of its sanitary landfill. The purpose of this chapter is to establish procedures for the regular collection, transfer, processing and disposal of solid waste from property in the city.

Municipal Code Chapter 18.178 (Wireless Service Facilities) requires review of installation of antennas and wireless communication facilities.

Redlands General Plan

The Redlands General Plan policies that are applicable to the development of infrastructure pertinent to utilities and service[15] systems include:

Policy 7.22a Minimize dependence on imported water by increasing entitlement in local surface sources, using wise groundwater management practices, conservation measures, and the use of reclaimed wastewater and non-potable water for irrigation of landscaping and agriculture, where feasible.

Policy 7.22b The City of Redlands overlies a portion of the Bunker Hill Groundwater Basin. This Basin contains in excess of 3 million acre feet of water. This local supply source must be cleaned up, used to its full potential, and protected from outside interests. This requires the cooperation of all agencies within the Basin.

Policy 7.22c The City of Redlands recognizes that the water sources that constitute the water supply of the City of Redlands are a limited and renewable resource subject to increasing demands; that the conservation and efficient use of urban water supplies are of statewide concern; but that planning for that use and the implementation of those plans can best be accomplished at the local level.

Policy 7.22d The City of Redlands believes it is in the best interest of its citizens to conserve the highest quality of water reasonably available to it for domestic use. Effort by its water users to achieve water conservation and efficient use of water will produce a sustainable lifestyle consistent with Redlands' unique heritage and community goals.

Policy 7.23a Conserve scarce or nonrenewable energy resources.

Policy 7.23b Support San Bernardino County in implementation of its energy-related policies.

Policy 7.23c Consider energy efficiency in architectural design.

Policy 7.24a Reduce the generation of solid waste, including household hazardous waste, and recycle those materials which are used, to slow the filling of local and regional landfills.

[15] These policies are not a complete listing of all policies contained in the General Plan; those policies that would be most applicable to the proposed project are included here.

Project Impact Evaluation

Thresholds of Significance

The following thresholds of significance are based on the 2012 CEQA Guidelines Appendix G. For purposes of this EIR, implementation of the San Bernardino County Regional GHG Reduction Plan might have a significant adverse impact on utilities/service systems if it would do any of the following:

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which would cause significant environmental effects
- Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which would cause significant environmental effects
- Not have sufficient water supplies available to serve the project from existing entitlements and resources, or need new or expanded entitlements
- Result in a determination by the wastewater treatment provider that serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments
- Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs
- Not comply with federal, state, or local statutes and regulations related to solid waste

Analytic Method

The programs and measures contained in the Regional Reduction Plan were compared to applicable utility infrastructure policies and capacity to determine if any inconsistency exists.

Effects Not Found to Be Significant

Threshold	Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

Implementation of the Regional Reduction Plan includes water conservation strategies, such as low flow toilets, and more efficient water using appliances such as dishwashers in new residential and commercial buildings along with existing building retrofit incentives to conserve water use. These water conservation strategies will reduce the amount of wastewater going to the wastewater treatment facilities but will not change the treatment process at those facilities. The quality of wastewater is overseen by two agencies, the Santa Ana Regional Water Quality Control Board (RWQCB) and the California Department of Public Health (CDPH). The Santa Ana RWQCB has regional permitting authority over water quality issues and the CDPH oversees standards and health concerns. California Code of Regulations Title 22 provides the regulatory setting for drinking water quality in California and is followed by these agencies when they assess water quality. Therefore, there would be ***no impact***.

Threshold	Would the project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which would cause significant environmental effects?

Implementation of the Regional Reduction Plan includes water conservation strategies, such as water-efficient landscaping, low flow toilets, and more efficient water using appliances such as dishwashers in new residential and commercial buildings along with existing building retrofit incentives to conserve water use. The Regional Reduction Plan also includes the retrofitting of existing water and wastewater treatment facilities to more energy efficient equipment at the treatment facilities but does not increase capacity or the need for additional water treatment. In fact, implementation of the Regional Reduction Plan will reduce the need for water and wastewater treatment through the various water conservation strategies. Therefore, there would be ***no impact***.

Threshold	Would the project require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which would cause significant environmental effects?

New stormwater drainage facilities would be needed, if a project increased impervious surfaces causing additional runoff or a project changed the surface flow in a way that required stormwater new drainage facilities. However, implementation of the Regional Reduction Plan would not result in a substantial (if any) increase in impervious surfaces in the City. The Proposed Project would facilitate development in transit-oriented areas and the bicycle and pedestrian infrastructure consistent with the General Plan, which are already developed with impervious surfaces. The Proposed Project would not to substantially change the drainage patterns on any site within the City. The impact would be ***less than significant***. No mitigation is required.

Threshold	Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or need new or expanded entitlements?

Implementation of the Regional Reduction Plan includes water conservation strategies, such as water-efficient landscaping, low flow toilets, and more efficient water using appliances such as dishwashers in new residential and commercial buildings along with existing building retrofit incentives to conserve water use. The net result of these measures is the reduction in water consumption. Therefore, the Regional Reduction Plan results in better management of existing water supplies within the City. For these reasons, the Regional Reduction Plan would have a beneficial impact on water supplies and impacts to water supply would be ***less than significant***. No mitigation is required.

Threshold	Would the project result in a determination by the wastewater treatment provider that 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?

Implementation of the Regional Reduction Plan includes water conservation strategies, such as low flow toilets, and more efficient water using appliances such as dishwashers in new residential and commercial buildings along with existing building retrofit incentives to conserve water use. These water conservation

strategies will reduce the amount of wastewater going to wastewater treatment facilities. Therefore, impacts would be ***less than significant***. No mitigation is required.

Threshold	Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Implementation of the Regional Reduction Plan includes solid waste diversion that would reduce the amount of waste currently going to landfills. Therefore, impacts would be ***less than significant***. No mitigation is required.

Threshold	Would the project comply with federal, state, or local statutes and regulations related to solid waste?

Implementation of the Regional Reduction Plan includes solid waste diversion. Recycling of solid waste as part of the solid waste diversion would comply with all federal, state, and local statutes and regulations related to the recycling of solid waste. Therefore, impacts would be ***less than significant***. No mitigation is required.

Cumulative Impacts

Because the Regional Reduction Plan does not create significant impacts to utilities and service systems at a project level, implementation of the Regional Reduction Plan will not create impacts that are cumulatively considerable. Therefore, ***cumulative impacts would be less than significant***.

References

California Energy Commission. (CEC). 2007. *The Role of Land Use in Meeting California's Energy and Climate Change Goals*. Report CEC-600-2007-008-SD.

Redlands, City of. 1995a. *Redlands General Plan*, October.

———. 1995b. *City of Redlands Master Environmental Assessment and Final Environmental Impact Report for the 1995 General Plan*, October 17 (last updated August 3, 2010).

———. n.d. *City of Redlands Municipal Code*.

San Bernardino Associated Governments (SANBAG). 2012. *San Bernardino County Regional Greenhouse Gas Reduction Plan*. Draft. Prepared by ICF International, December.

4.15.18 Mandatory Findings of Significance

Under the California Environmental Quality Act (CEQA), an EIR must be prepared when certain specified impacts might result from construction or implementation of a project. This EIR has been prepared for the San Bernardino County Regional GHG Reduction Plan to fully address all of the Mandatory Findings of Significance, as described below.

Thresholds of Significance

The following thresholds of significance are based on the 2012 CEQA Guidelines Appendix G. For purposes of this EIR, implementation of the San Bernardino County Regional GHG Reduction Plan might have a significant adverse impact on mandatory findings of significance if it would do any of the following:

- Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory
- Have impacts that are individually limited, but cumulatively considerable ("cumulatively considerable" means that the incremental effects of a 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)
- Have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly

Degradation of the Environment

Under CEQA Guidelines Section 15065(a), a finding of significance is required if a project "has the potential to substantially degrade the quality of the environment." In practice, this is the same standard as a significant effect on the environment, which is defined in CEQA Guidelines Section 15382 as "a substantial or potentially substantial adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance."

This EIR, in its entirety, addresses and discloses all potential environmental effects associated with construction and operation of the proposed project, including direct, indirect, and cumulative impacts in the following resource areas:

- Aesthetics
- Agriculture/Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology/Soils

- Greenhouse Gas Emissions
- Hazards/Hazardous Materials
- Hydrology/Water Quality
- Land Use/Planning
- Mineral Resources
- Noise
- Population/Housing
- Public Services
- Recreation
- Transportation/Traffic
- Utilities/Service Systems

As summarized in Table 2-22 (Summary of Mitigation Measures) and Table 4.15-5 (Summary of Environmental Effects of Implementing Local Reduction Measures in Redlands), this EIR discloses all potential environmental impacts, the level of significance prior to mitigation, project requirements that are required by law or are incorporated as part of the project description, feasible mitigation measures, and the level of significance after the incorporation of mitigation measures.

Long-Term Impacts

As described in CEQA Guidelines Section 15065(a)(2), a lead agency shall find that a project might have a significant effect on the environment where there is substantial evidence that the project has the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals. Section 5.1 (Significant Irreversible Environmental Effects) of this document addresses the short-term and irretrievable commitment of natural resources to ensure that the consumption is justified on a long-term basis. In addition, Section 5.2 (Growth-Inducing Impacts) identifies any long-term environmental impacts caused by the proposed project with respect to economic or population growth. Lastly, Section 5.4 (Significant Environmental Effects That Cannot Be Avoided if the Proposed Project is Implemented) identifies all significant and unavoidable project-related impacts that could occur.

Cumulative Impacts

A cumulative impact analysis is only provided for those thresholds that result in a less-than-significant or significant and unavoidable impact. A cumulative impact analysis is not provided for Effects Found Not to Be Significant, which result in no project-related impacts.

Under CEQA Guidelines Section 15065, a lead agency shall find that a project might have a significant effect on the environment where there is substantial evidence that the project has potential environmental effects that are individually limited, but cumulatively considerable. As defined in CEQA Guidelines Section 15065(a)(3), cumulatively considerable means "that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects." Cumulative impacts are addressed for each of the environmental topics listed above and are provided in Sections 4.15.1 through 4.15.17 of this EIR.

Impacts on Species

Under CEQA Guidelines Section 15065(a)(1), a lead agency shall find that a project might have a significant effect on the environment where there is substantial evidence that the project has the potential to (1) substantially reduce the habitat of a fish or wildlife species; (2) cause a fish or wildlife population to drop below self-sustaining levels; or (3) substantially reduce the number or restrict the range of an endangered, rare, or threatened species. Section 4.15.4 (Biological Resources) of this EIR fully addresses impacts related to the reduction of the fish or wildlife habitat, the reduction of fish or wildlife populations, and the reduction or restriction of the range of special-status species.

Impacts on Historical Resources

CEQA Guidelines Section 15065(a)(1) states that a lead agency shall find that a project might have a significant effect on the environment where there is substantial evidence that the project has the potential to eliminate important examples of a major period of California history or prehistory. Section 15065(a)(1) amplifies Public Resources Code (PRC) Section 21001(c) requiring that major periods of California history are preserved for future generations. It also reflects the provisions of PRC Section 21084.1 requiring a finding of significance for substantial adverse changes to historical resources. CEQA Guidelines Section 15064.5 establishes standards for determining the significance of impacts to historical resources and archaeological sites that are a historical resource. Section 4.15.5 (Cultural Resources) of this EIR) fully addresses impacts related to California history and prehistory, historic resources, archaeological resources, and paleontological resources.

Impacts on Human Beings

Consistent with CEQA Guidelines Section 15065(a)(4), a lead agency shall find that a project might have a significant effect on the environment where there is substantial evidence that the project has the potential to cause substantial adverse effects on human beings, either directly or indirectly. Under this standard, a change to the physical environment that might otherwise be minor must be treated as significant if people would be significant affected. This factor relates to adverse changes to the environment of human beings generally, and not to effects on particular individuals. While changes to the environment that could indirectly affect human beings would be represented by all of the designated CEQA issue areas, those that could directly affect human beings include air quality, geology/soils, hazards/hazardous materials, hydrology/water quality, noise, population/housing, public services, transportation/traffic, and utilities/service systems, which are addressed in Sections 4.15.3, 4.15.6, 4.15.8, 4.15.9, 4.15.12, 4.15.13, 4.15.14, 4.15.16, and 4.15.17 of this EIR, respectively.

References

Kostka, Stephan L., and Michael H. Zischke. 2005. *Practice under the California Environmental Quality Act.*

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