SAN BERNARDINO
ASSOCIATED GOVERNMENTS

SAN BERNARDINO COUNTY REGIONAL GREENHOUSE GAS EMISSIONS INVENTORIES AND REDUCTION PLAN

Environmental Impact Report

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Volume XVIII: Draft EIR (Section 4.17 [City of San Bernardino])

Prepared for

Governments
SANBAG
Working Together

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4.17 CITY OF SAN BERNARDINO

4.17.0 Introduction to the Analysis

This section of the EIR analyzes the potential environmental effects in the City of San Bernardino from implementation of the Regional Reduction Plan. The City of San Bernardino is in the southwestern portion of San Bernardino County, approximately 60 miles east of the City of Los Angeles. Located in the upper Santa Ana River valley, the City of San Bernardino is surrounded by the San Bernardino National Forest to the north, the Cities of Highland to the east, Redlands to the southeast, Loma Linda to the south, Colton to the southwest, and Rialto to the west. The southwestern portion of the Santa Ana River Valley is bounded by the San Bernardino Mountains on the northeast and east, Blue Mountain and Box Springs Mountain to the south adjacent to the Cities of Loma Linda and Redlands, the San Gabriel Mountains to the northwest; and the Jurupa Hills to the southwest.

The City comprises approximately 71 square miles (45,231 acres), which includes 368 acres of the Arrowhead Springs Specific Plan and 6,829 acres of unincorporated lands. The City is generally bounded by the Interstate 10 (I-10) Freeway on the south, Cajon Creek Wash and the San Bernardino Mountains to the north; see Figure 4.17-1 (City Boundaries and Sphere of Influence). Regional circulation to and through the City is provided by State Route 259 (SR-259), SR-30, SR-330, SR-18, I-215, and I-10 freeways.

The economy in San Bernardino is anchored by its service as a trucking, aviation, and railroad hub within the Inland Empire. Historically the City of San Bernardino has incorporated a variety of uses including tourism, transportation industries, agricultural, military, industrial, commercial, and residential land uses. Today the City has been mostly urbanized with single-family residential, open space, flood control, and educational uses dominating the northern portions of the City and industrial uses comprising the majority of the northwestern and southeastern areas. The center of the City is dominated by a mixture of older (with some newer infill) single- and multi-family residential units, commercial uses, and the civic center, which consists of government facilities for local, County and state agencies. These current land uses are reflected in the city's GHG inventory, with primary emissions sources in the light- and medium-duty vehicles, commercial and industrial (commercial electricity, and natural gas and stationary sources) sectors.

San Bernardino's population in 2010 was 209,924 (209,924 in 2008) making San Bernardino the seventeenth largest city in California and the 99th largest city in the Country. The population is expected to grow to 231,151 by 2020, an increase of 10 percent compared to 2008, and employment by approximately 12 percent.

Table 4.17-1 (Socioeconomic Data for San Bernardino) presents socioeconomic data for San Bernardino, including population, housing (single-family and multifamily), and employment (agricultural, industrial, retail, and nonretail).

Table 4.17-1 Socioeconomic Data for San Bernardino

Category	*2008*	*2020*
Population	209,924	231,151
Housing (du)	59,310	66,924
Single-Family (du)	36,161	40,660
Multifamily (du)	23,149	26,264
Employment (jobs)	101,253	113,357
Agricultural (jobs)	872	412
Industrial (jobs)	13,411	17,552
Retail Commercial (jobs)	23,920	26,062
Non-Retail Commercial (jobs)	63,050	69,331

du = dwelling unit

Two documents are used in reviewing the potential environmental impacts and mitigation within the City of San Bernardino from implementation of the Regional Reduction Plan. The first document is San Bernardino General Plan. 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 San Bernardino Chapter that describes the greenhouse gas reduction measures and reduction targets chosen by the City of San Bernardino. This second document is the Proposed Project as it pertains to the City of San Bernardino.

San Bernardino General Plan

The San Bernardino General Plan is the planning document for the City which reflects the community's view of its future and can be thought of as the blueprint for the City's growth and development. The Vision and Key Strategies are a framework for the policies of the General Plan and describe the important characteristics that define the future of San Bernardino. The Vision of the City is summarized in the following Key Strategies.

- Experience a new era of collaboration with an attitude of entrepreneurship and action
- Tap into the Inland Empire's dynamic economy
- Deal with new fiscal realities
- Develop a distinct personality both at a community wide and neighborhood level
- Realize quality housing in safe and attractive neighborhoods
- Enhance cultural, recreational, and entertainment opportunities
- Provide quality education at all levels
- Maintain a collective sense of community pride
- Achieve the Vision

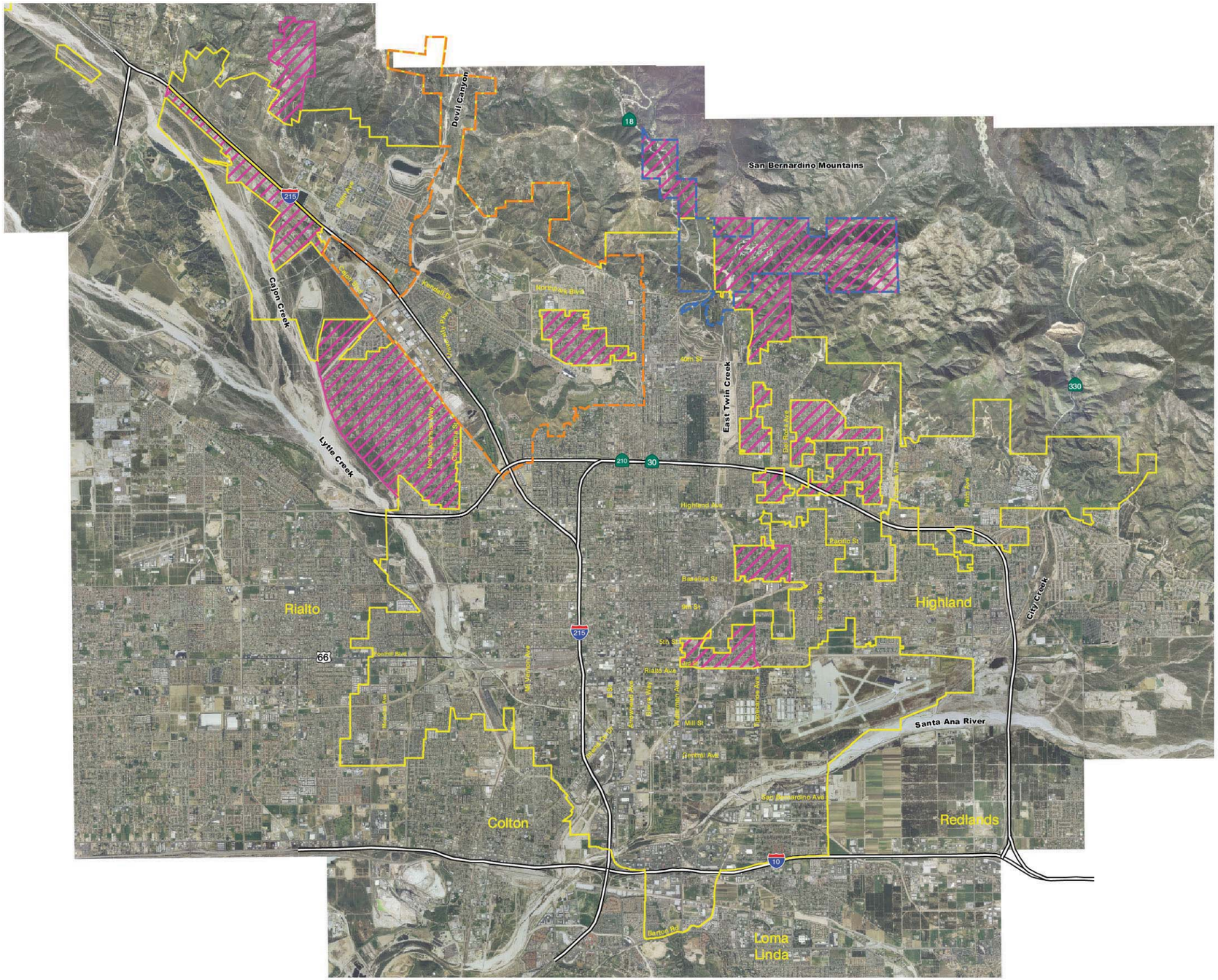

Figure 4.17-1
City Boundaries and Sphere of Influence

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The elements in the General Plan include:

- Introduction: Describes the background, development process, features and structure of the General plan as well as the Vision that guides the entire plan and Land Use Map.
- Land Use Element Designates the general distribution and intensity of land uses in the community and provides general development guidelines and policy direction for the use and development of land within the planning area.
- Housing: Assesses the current and projected housing needs, sets out policies and proposals for the improvement of housing and the provision of adequate sites for housing to meet the needs of all economic segments of the City.
- Economic Development: Addresses the economic outlook and opportunities in the community and presents strategies to enhance the financial health of the City.
- Community Design: Assesses the aesthetic qualities of the community and provides design guidelines to help improve the community's image.
- Circulation: Identifies the general location and extent of existing and proposed major transportation facilities, including major roadways, rail, transit systems, and airports.
- Public Facilities and Services: Addresses fire, police, and library services as well as schools and cultural facilities.
- Parks, Recreation, and Trails: Presents guidance for the acquisition, development, maintenance, and improvement of parks, community centers, and trails.
- Utilities: Provides guidance for infrastructure and utilities.
- Safety: Addresses geologic and seismic, hazardous materials, wind and fire, aviation, and flooding issues in the community.
- Historical and Archeological Resources: Addresses the enhancement and preservation of the City's historic resources.
- Natural Resources and Conservation: Provides guidance for the preservation, use, and enhancement of the City's natural resources.
- Energy and Water Conservation: Addresses the efficient use and conservation of the City's valuable energy and water resources.
- Noise: Identifies and appraises noise problems and includes policies to protect the City from excessive noise.

Policies in the General Plan that govern the decisions of the City of San Bernardino are shown in Table 4.17-2 (San Bernardino General Plan Policies).

The policies summarized and listed in Table 4.17-2 can mitigate environmental impacts associated with the Regional Reduction Plan in the City of San Bernardino. In addition, some of the General Plan policies contain quantitative and/or qualitative criteria concerning environmental topics the City requires that are used as thresholds of significance.

The second document used in reviewing potential environmental impacts and mitigation within the City of San Bernardino is the Regional Reduction Plan City of San Bernardino Chapter that describes The

Proposed Project including the reduction measures and reduction targets chosen by the City of San Bernardino.

Table 4.17-2 San Bernardino General Plan Policies

Policy No.	*Policies*
	LAND USE ELEMENT
Goal 2.1 Preserve and enhance San Bernardino' Unique Neighborhoods	
2.1.2	Require that new development with potentially adverse impacts on existing neighborhoods or residents such as noise, traffic, emissions, and storm water runoff, be located and designed so that quality of life and safety in existing neighborhoods are preserved.
2.1.4	Provide assistance in the form of grants, loans, home improvement efforts, coordinated code and law enforcement, public right-of-way maintenance and enhancement, and trash collection to help improve San Bernardino's residential neighborhoods.
2.1.5	Ensure compliance with maintenance and development standards through the rigorous enforcement of Code Enforcement and Safety standards.
Goal 2.2 Promote development that integrates with and minimizes impacts on surrounding land uses.	
2.2.1	Ensure compatibility between land uses and quality design through adherence to the standards and regulations in the Development Code and policies and guidelines in the Community Design Element.
2.2.2	Require new uses to provide mitigation or buffers between existing uses where potential adverse impacts could occur, including, as appropriate, decorative walls, landscape setbacks, restricted vehicular access, enclosure of parking structures to prevent sound transmission, and control of lighting and ambient illumination.
2.2.3	Sensitively integrate regionally beneficial land uses such as transportation corridors, flood control systems, utility corridors, and recreational corridors into the community.
2.2.6	Establish and maintain an ongoing liaison with the County of San Bernardino to conform development projects within the City's sphere of influence to the City's General Plan.
2.2.10	The protection of the quality of life shall take precedence during the review of new projects. Accordingly, the City shall utilize its discretion to deny or require mitigation of projects that result in impacts that outweigh benefits to the public.
Goal 2.3 Create and enhance dynamic, recognizable places for San Bernardino's residents, employees, and visitors.	
2.3.1	Commercial centers, open spaces, educational facilities, and recreational facilities should be linked to residential neighborhoods.
2.3.2	Promote development that is compact, pedestrian-friendly, and served by a variety of transportation options along major corridors and in key activity areas.
2.3.7	Improvements shall be made to transportation corridors that promote physical connectivity and reflect consistently high aesthetic values.
Goal 2.4 Enhance the quality of life and economic vitality in San Bernardino by strategic infill of new development and revitalization of existing development	
2.4.1	Quality infill development shall be accorded a high priority in the commitment of City resources and available funding.
2.4.2	Continue to provide special incentives and improvement programs to revitalize deteriorated housing stock, residential neighborhoods, major business corridors, and employment centers.
2.4.3	Where necessary to stimulate the desired mix and intensity of development, land use flexibility and customized site development standards shall be achieved through various master-planning devices such as specific plans, planned development zoning, and creative site planning.
2.4.5	Explore the creative use of powerline easements and other utility easements for economically viable uses.

Table 4.17-2 San Bernardino General Plan Policies

Policy No.	*Policies*
2.4.6	Work with Omnitrans to explore initiatives that promote redevelopment near transit stops in order to encourage transit ridership, reduce vehicular trips, improve air quality, and improve traffic congestion: a. Concentrate mixed use development, retail, employment, entertainment, educational, and civic/government uses within walking distance of transit stops. b. Explore the use of incentives that can be awarded to projects that provide pedestrian amenities (wide sidewalks, public plazas, seating areas, etc.) and/or include desirable uses located within walking distance (1/2 mile) of transit stops. Incentives may include density bonuses, increases in non-residential floor area, reductions in parking requirements, and modified development standards.
Goal 2.5 Enhance the aesthetic quality of land use and structures in San Bernardino.	
2.5.1	Use code enforcement in coordination with all relevant City departments to reverse deterioration and achieve acceptable levels of development quality. These efforts should focus on structural maintenance and rehabilitation, debris and weed removal, property maintenance, and safety.
2.5.3	Partner with the San Manuel Indians to jointly promote opportunities in the area and to address the needs of future developments in areas surrounding tribal lands.
2.5.5	Provide programs that educate residential and commercial property owners and tenants regarding methods for the maintenance and upkeep of their property.
2.5.6	Require that new developments be designed to complement and not devalue the physical characteristics of the surrounding environment, including consideration of: a. The site's natural topography and vegetation; b. Surrounding exemplary architectural design styles; c. Linkages to pedestrian, bicycle, and equestrian paths; d. The use of consistent fencing and signage; e. The provision of interconnecting greenbelts and community amenities, such as clubhouses, health clubs, tennis courts, and swimming pools; f. The use of building materials, colors, and forms that contribute to a "neighborhood" character; g. The use of extensive site landscaping; h. The use of consistent and well designed street signage, building signage, and entry monumentation; i. A variation in the setbacks of structures; j. The inclusion of extensive landscape throughout the site and along street frontages; k. The articulation of building facades to provide interest and variation by the use of offset planes and cubic volumes, building details, balconies, arcades, or recessed or projecting windows, and other techniques which avoid "box"-like structures; l. The integration of exterior stairways into the architectural design; m. The screening of rooftop mechanical equipment; n. The use of a consistent design through the use of unifying architectural design elements, signage, lighting, and pedestrian areas; o. The provision of art and other visual amenities; p. The inclusion of awnings, overhangs, arcades, and other architectural elements to provide protection from sun, rain, and wind; and q. The location of parking at the rear, above, or below the ground floor of non-residential buildings to enhance pedestrian connectivity.
Goal 2.6 Control development and the use of land to minimize adverse impacts on significant natural, historic, cultural, habitat, and hillside resources	
2.6.3	Capitalize on the recreational and environmental resources offered by the Santa Ana River and Cajon Wash by requiring the dedication and development of pedestrian and greenbelt linkages.

Table 4.17-2 San Bernardino General Plan Policies

Policy No.	*Policies*
Goal 2.8 Protect the life and property of residents, businesses, and visitors to the City of San Bernardino from crime and the hazards to flood, fire, seismic risk, and liquefaction.	
2.8.4	Control the development of industrial and other uses that use, store, produce, or transport toxics, air emissions, and other pollutants.
Goal 2.11 Create an identifiable and unique village that includes distinct residential neighborhoods and a full array of services and activities to meet the needs of residents of the area.	
2.11.2	Develop a trail system in Verdemont Heights and along Cable Creek that provide a complete access system and provides direct access to Verdemont Plaza.
2.11.3	Consider the development of a direct linkage at Belmont Avenue to the University to help make the University an integral part of the Verdemont Heights living experience. Two options are desired for this connection: either a pedestrian/bicycle trail and/or a rural two-lane road. ■ Any vehicular linkage to the University shall be designed to minimize traffic passing through the residential neighborhoods. Traffic shall be directed to Kendall Avenue down Pine Avenue. ■ Directional signage, traffic islands, speed bumps, and street neck-downs are examples of some of the methods that can be employed to calm and redirect traffic.
2.11.4	Develop an integrated corridor enhancement system, including landscaping and signage, which are unique to Verdemont Heights. The following policies shall direct the development of corridors within Verdemont Heights: ■ An informal, non-symmetrical grouping of landscaping should be used within the landscape setback along corridors. ■ Utilize drought-tolerant, fire resistant, and native landscaping in the right-of-ways. ■ Solid privacy or sound walls should be heavily screened by landscaping and utilize a variety of textures, materials, and colors. ■ Solid walls should be "broken up" by lush landscaping, pedestrian entries, offsets, pilasters, recesses, and undulations. ■ Utilize combinations of solid and view fences, which are constructed of durable materials, wherever possible to maintain views, enhance security, and to add variety to long stretches of walls. ■ All services and utilities should be screened from view either with fencing or landscaping or placed underground.
HOUSING ELEMENT	
Goal 3.1 Facilitate the development of a variety of types of housing to meet the needs of all income levels in the City of San Bernardino.	
3.1.1	Accommodate the production of new housing units on currently vacant or underutilized land at densities and standards designated in the Land Use Element of the General Plan
3.1.2	Provide a density bonus of 50% for very low and low income housing projects, consistent with state law.
3.1.4	Accommodate residential development in areas of the Central City designated for mixed commercial and residential use in accordance with policies in the Land Use Element.
Goal 3.2 Conserve and improve the condition of the existing affordable housing stock and revitalize neighborhoods containing a substantial percentage of deteriorated dwelling units.	
3.2.1	Assist in the maintenance and rehabilitation of rental units whose owners provide affordable housing to lower income tenants in exchange for long-term affordability agreements.
3.2.4	Incorporate neighborhood improvement strategies to complement housing rehabilitation in addressing general property conditions, public facilities, and city services for healthy neighborhoods.
3.2.5	Dedicate resources to eradicate and prevent blighting conditions and maintain standards to safeguard and preserve the City's neighborhoods, and continue to financially support the City's code compliance programs.
Goal 3.3 Assist in the development of adequate housing to meet the needs of low and moderate-income households	
3.3.3	Investigate the feasibility of reducing fees and modifying development standards for affordable infill housing projects when necessary to make such projects financially feasible.

Table 4.17-2 San Bernardino General Plan Policies

Policy No.	*Policies*
Goal 3.4 Assist the provision of housing for residents with special needs.	
3.4.1	Allow for the development of senior citizen and senior congregate-care housing facilities within the downtown (CR-2), multi-family residential areas (RU-1 and RU-2, RM, RMH, and RH), and commercial office areas (CC-1, and CC-2), provided that they are located in proximity to public transportation, supporting commercial, and health and social services.
ECONOMIC DEVELOPMENT ELEMENT	
Goal 4.1 Encourage economic activity that capitalizes upon the transportation and locational strengths of San Bernardino.	
4.1.2	Proactively seek out and retain businesses that are suited for our market, including: a. Attracting industrial and manufacturing users. b. Attracting commercial passenger and air cargo business. c. Pursuing airport development with a focus on transforming the area into a commercial aviation center with ancillary industrial and warehouse facilities. d. Attracting non-polluting, light manufacturing and assembly uses to industrial infill and buffer sites. Examples include high value printing and publishing, light packaging etc. e. Attracting industries/firms that require rail transportation, transportation-related industries, warehousing, and similar uses. f. Seeking collections of unique retailers/"outfitters" that can maintain market draw and sustain regional reputation (e.g., "mountain-related stores"; trucking training; information centers; etc.).
Goal 4.2 Retain and expand the City's Government/Public Office cluster use	
4.2.3	Attract public sector tenants to occupy historic/adaptive reuse projects.
Goal 4.5 Identify and attract new employment types/land uses that complement the existing employment clusters and foster long-term economic growth.	
4.5.2	Maintain and enhance commercial regional cores and economically sound community-serving commercial concentrations by attracting new regional outlets, maintaining the existing regional retail base, and stabilizing the future regional retail base.
4.5.6	Capitalize on the unique educational and research assets of the City by facilitating growth of technology businesses and related industry around California State University, San Bernardino (CSUSB). This would include the potential business/tech park that would abut CSUSB. This facility would serve as a new economic and employment hub in the north end of the City.
Goal 4.8 Build on Transportation clusters to attract and retain dependent employment sectors	
4.8.1	Examine opportunities to capitalize on the City's train and distribution uses as well as the historic Santa Fe Depot and its Metrolink Passenger Services.
4.8.2	Fund key surface transportation improvements including new interchanges along 1-215 and access from the 1-10 to the San Bernardino International Airport and Trade Center along Waterman, Mountain View, Tippecanoe, and Mill.
Goal 4.9 Prevent retail sales leakage and recapture regional retail expenditure through key sectors.	
4.9.1	Monitor and strive to capture an increasing percentage of the day-to-day regional shopping needs of the resident population.
Goal 4.10 Optimize existing redevelopment project areas to identify and prioritize development opportunities.	
4.10.1	Utilize all available redevelopment agency/City tools to revitalize and enhance strategic areas of the City.

Table 4.17-2 San Bernardino General Plan Policies

Policy No.	*Policies*
4.10.2	Market the City and proactively attract users by: ■ Concentrating on the Southeast Industrial Park in the near term to attract high value employers. ■ Attracting high value industrial/R&D uses to develop the Northwest and the State College (west of 1-215). ■ Enhancing Downtown as a Public/Government sector core. ■ Seeking development opportunities to the west of I-215 in the vicinity of the Santa Fe rail depot. ■ Promoting revitalization of the Carousel Mall Downtown through a mixture of land uses, such as additional office and mixed-use space. ■ Considering expanding uses adjacent to the Arrowhead Credit Union Park to include uses such as a Stadium Business Park office complex or a parking structure.
Goal 4.14 Enhance, maintain, and develop recreational, cultural, entertainment, and educational facilities within the City.	
4.14.1	Continue and expand educational, cultural, recreational, and supporting uses at California State University, San Bernardino and San Bernardino Valley College.
4.14.2	Seek and attract uses that foster a high level of evening activity (e.g., theaters and restaurants).
4.14.3	Attract uses that complement and intensify the Convention Center in downtown San Bernardino, including expanding convention facilities, hotels, restaurants, theaters, and similar uses.
Goal 4.15 Expand on historic and natural assets to attract recreational visitors.	
4.15.3	Promote the Santa Fe Depot District as a destination with easy connections via the Metrolink.
4.15.5	Allow and encourage the intensification of recreational uses at The National Orange Show, connecting it with the surrounding area and expanding allowable uses on the site (e.g. conference center, water feature).
COMMUNITY DESIGN ELEMENT	
Goal 5.2 Attractively design, landscape, and maintain San Bernardino's major corridors.	
5.2.1	Establish and implement a comprehensive citywide streetscape and landscape program for identified corridors and includes the following right-of-way improvements: a. Street trees b. Street lighting c. Streetscape elements (sidewalk/crosswalk paving, street furniture) d. Public signage
5.2.3	Require that all new street landscape incorporate an irrigation system to provide proper watering.
5.2.8	Provide for the use of kiosks or other street furniture along the City's streets.
Goal 5.3 Recognize unique features in individual districts and neighborhoods and develop a program to create unifying design themes to identify areas throughout the City.	
5.3.3	A well-integrated network of bike and pedestrian paths should connect residential areas to schools, parks, and shopping centers.
Goal 5.4 Ensure individual projects are well designed and maintained.	
5.4.1	Aggressively apply and enforce citywide landscape and development standards in new and revitalized development throughout the City
Goal 5.5 Develop attractive, safe, and comfortable single family neighborhoods.	
5.5.2	Improve the pedestrian atmosphere of the street by orienting new homes to the street with attractive front porches, highly visible street facades, and garages located in the rear of the property.
5.5.3	Maintain, improve and/or develop parkways with canopy street trees, providing shade, beauty and a unifying identity to residential streets.

Table 4.17-2 San Bernardino General Plan Policies

Policy No.	*Policies*
5.5.5	Provide continuous sidewalks and links to nearby community facilities and retail centers.
Goal 5.6 Ensure that multi-family housing is attractively designed and scaled to contribute to the neighborhood and provide visual interest through varied architectural detailing.	
5.6.4	Provide usable common open space amenities. Common open space should be centrally located and contain amenities such as seating, shade and play equipment. Private open space may include courtyards, balconies, patios, terraces and enclosed play areas.
5.6.5	Provide convenient pedestrian access from multi-family development to nearby commercial centers, schools, and transit stops.
Goal 5.7 Develop attractive and safe commercial, office, and industrial projects that are creatively designed and intelligently sited.	
5.7.1	Ensure the provision of people-gathering places and street-level amenities, such as mini-plazas, courtyards, benches, movable seating, shade, trash receptacles, water fountains awnings large storefront windows, arcades, small sitting areas, and accent landscaping.
5.7.2	Orient buildings toward major thoroughfares, sidewalks, and public spaces so that parking is convenient but not visually dominating.
5.7.5	Parking areas shall provide, where practical, pedestrian pathways for safe access to shopping and activity areas that are defined by landscaped planters and incorporated into the parking lot design.
5.7.8	Design public plazas and spaces that are both comfortable and convenient. They should be well defined by surrounding buildings, located near the street for visual contact and convenience, contain abundant seating opportunities, and incorporate amenities such as distinctive focal points, public art, ample shade, and eating and entertainment possibilities.
5.7.12	Install new streetlights in commercial districts that are pedestrian-oriented, attractively designed, compatible in design with other street furniture, and provide adequate visibility and security.
CIRCULATION	
Goal 6.1 Provide a well-maintained street system	
6.1.1	Maintain and rehabilitate all components of the circulation system, including roadways, sidewalks, bicycle facilities and pedestrian facilities.
Goal 6.3 Provide a safe circulation system	
6.3.1	Promote the principle that streets have multiple uses and users, and protect the safety of all users.
Goal 6.6 Promote a network of multi-modal transportation facilities that are safe, efficient, and connected to various points of the City and the region.	
6.6.1	Support the efforts of regional, state, and federal agencies to provide additional local and express bus service in the City.
6.62	Create a partnership with Omnitrans to identify public transportation infrastructure needs that improve mobility.
6.6.3	In cooperation with Omnitrans, require new development to provide transit facilities, such as bus shelters and turnouts, as necessary and warranted by the scale of the development.
6.3.4	Ensure accessibility to public transportation for seniors and persons with disabilities.
6.3.5	In cooperation with Omnitrans, explore methods to improve the use, speed, and efficiency for transit services. These methods might include dedicated or priority lanes/signals, reduced parking standards for selected core areas, and incorporating Intelligent Transportation System architecture.
6.3.6	Support and encourage the provision of a range of paratransit opportunities to complement bus and rail service for specialized transit needs.

Table 4.17-2 San Bernardino General Plan Policies

Policy No.	*Policies*
6.3.7	Encourage measures that will reduce the number of vehicle-miles traveled during peak periods, including the following examples of these types of measures: ■ Incentives for car-pooling and vanpooling. ■ Preferential parking for car-pools and vanpools. ■ An adequate, safe, and interconnected system of pedestrian and bicycle paths. ■ Conveniently located bus stops with shelters that are connected to pedestrian/bicycle paths.
6.3.8	Promote the use of car-pools and vanpools by providing safe, convenient park-and-ride facilities.
6.3.9	Work with Omnitrans to create transit corridors, such as the one currently being explored on E Street linking CSUSB to Hospitality Lane, to increase transit ridership, reduce traffic congestion, and improve air quality.
6.3.10	Consider the provision of incentives, such as reduced parking standards and density/intensity bonuses, to those projects near transit stops that include transit-friendly uses such as child care, convenience retail, and housing.
Goal 6.7 Work with the railroads and other public agencies to develop and maintain railway facilities that minimize the impacts on adjacent land uses.	
6.7.1	Accommodate railroad services that allow for the movement of people and goods while minimizing their impact on adjacent land uses.
6.7.2	Coordinate with SANBAG, SCAG, the County and other regional, state or federal agencies and the railroads regarding plans for the provision of passenger, commuter, and high-speed rail service.
Goal 6.9 Achieve a balance between parking supply and demand	
6.9.2	Study the parking standards in the Development Code to determine if adequate flexibility is available to accommodate desirable situations, such as shared parking, Corridor Improvement actions, or transit oriented developments.
6.9.4	Continue to provide an in-lieu parking fee option for developments in the Downtown area to satisfy all or part of their parking requirement through the payment of an in-lieu fee which will be utilized to provide parking in consolidated public parking facilities.
PUBLIC FACILITIES AND SERVICES	
Goal 7.1 Protect the residents of San Bernardino from criminal activity and reduce the incidence of crime.	
7.1.6	Require adequate lighting around residential, commercial, and industrial buildings in order to facilitate security surveillance.
Goal 7.2 Protect the residents and structures of San Bernardino from the hazards of fire.	
7.2.7	Develop and implement a comprehensive high-rise fire safety program.
PARKS, RECREATION AND TRAILS	
Goal 8.2 Design and maintain our parks and recreation facilities to maximize safety, function, beauty, and efficiency.	
8.2.1	Parks shall be designed in accordance with contemporary safety standards and "CPTED" (Crime Prevention Through Environmental Design) principles.
8.2.6	Design and improve our parks according to the following: a. Locate parks on collector or neighborhood streets so they are easily accessible to adjacent residential neighborhoods; b. Site uses so that they do not adversely impact adjacent residences (e.g., locating high activity, noise generating, and nighttime uses away from residences); c. Fulfill the particular needs of residents of the area they serve (i.e., senior citizens, and families with children); d. Provide for parking so that it does not disrupt abutting residences; and e. Incorporate landscape that "fits" with adjacent areas.

Table 4.17-2 San Bernardino General Plan Policies

Policy No.	*Policies*
Goal 8.3 Develop a well-designed system of interconnected multi-purpose trails, bikeways, and pedestrian paths.	
8.3.1	Work cooperatively with appropriate regional agencies to facilitate development of interconnected trails that tie into major activity areas.
8.3.2	Establish a multi-purpose trail system along the foothills of the San Bernardino Mountains, Santa Ana River, Cajon and Lytle Creeks, and interconnecting linkages in collaboration with the U.S. Forest Service, County of San Bernardino, City of Highland, Loma Linda, and other adjacent communities.
8.3.3	Establish a recreational greenbelt system linking the river and drainage corridors with the mountains.
8.3.4	All new developments on designated routes shall provide bicycle and pedestrian routes linked to adjacent facilities.
8.3.5	Provide routes accessible for disabled persons that link public facilities and commercial areas to residential neighborhoods.
8.3.6	Adequate and secure bicycle storage facilities shall be provided for new institutional and non-residential development
8.3.7	Provide bicycle racks in public facilities and in activity centers.
8.3.8	Install sidewalks and wheelchair ramps in existing Neighborhoods.
8.3.9	Separate bikeway and trail systems from traffic and roadways wherever possible.
8.3.10	Provide clear separation of hikers, joggers, and equestrians where possible.
8.3.11	Seek the use of easements and rights-of-way from owners and continue to negotiate agreements for the use of utility easements, flood controls channels, and railroad rights-of-way to expand the park and trail system.
8.3.12	Incorporate the following features in multi-purpose trails, bike routes, and pedestrian paths: a. Special paving or markings at intersections; b. Clear and unobstructed signing and trail/lane markings; c. Improved signal phasing; d. Vehicular turning restrictions at intersections; e. Hearing impaired cross walk signals; f. Trees to provide shade; g. Safe and well lighted rest areas; and h. Coordinated street furniture including signs, trash receptacles, newspaper stands, and drinking fountains.
UTILITIES	
Goal 9.4 Provide appropriate storm drain and flood control facilities where necessary.	
9.4.7	Develop San Bernardino's flood control system for multipurpose uses, whenever practical and financially feasible.
9.4.8	Minimize the amount of impervious surfaces in conjunction with new development.
9.4.9	Develop and implement policies for adopting Sustainable Stormwater Management approaches that rely on infiltration of stormwater into soils over detention basins or channels. Sustainable Stormwater Management techniques include use of pervious pavements, garden roofs, and bioswales to treat stormwater, and reusing stormwater for non-potable water uses such as landscape irrigation and toilet/urinal flushing.
Goal 9.5 Provide an adequate and orderly system for the collection and disposal of solid waste to meet the demands of new and existing developments in the City.	
9.5.3	Continue to reduce the amount of solid waste that must be disposed of in area landfills, to conserve energy resources, and be consistent with the County Solid Waste Management Plan and State law.
9.5.4	Continue to support implementation of regional recycling programs through participation in the County Solid Waste Advisory Committee, the County Solid Waste Management Plan, and appropriate State programs.
9.5.5	Develop and participate in local recycling programs.

Table 4.17-2 San Bernardino General Plan Policies

Policy No.	*Policies*
9.5.6	Develop and implement a program of public education regarding the benefits of recycling.
Goal 9.6 Ensure an adequate, safe, and orderly supply of electrical energy is available to support existing and future land uses within the City on a project level.	
9.6.5	Encourage and promote the use of energy-efficient (U.S. Department of Energy "Energy Star" or equivalent) lighting fixtures, light bulbs, and compact fluorescent bulbs in residences, commercial, and public buildings, as well as in traffic signals and signs where feasible.
Goal 9.9 Use the City's available geothermal resources as an alternative to natural gas and electricity.	
9.9.1	Provide for the continued development and expansion of geothermal energy distribution lines. Provide public funding to expand the existing geothermal production and distribution system.
9.9.2	Promote the use of geothermal resources particularly in the South San Bernardino Area.
SAFETY	
Goal 10.2 Promote proper operations of hazardous waste facilities and ensure regulations applicable to these facilities are enforced.	
10.2.2	Encourage businesses to utilize practices and technologies that will reduce the generation of hazardous wastes at the source.
10.2.4	Work with the Department of Environmental Health Services to promote waste minimization, recycling, and use of best available technology in City businesses.
Natural Resources and Conservation	
Goal 12.5 Promote air quality that is compatible with the health, well being, and enjoyment of life.	
12.5.2	Prohibit the development of land uses (e.g. heavy manufacturing) that will contribute significantly to air quality degradation, unless sufficient mitigation measures are undertaken according SCAQMD standards.
12.5.4	Evaluate the air emissions of industrial land uses to ensure that they will not impact adjacent uses.
12.5.5	Purchase City vehicles that use energy efficient fuel and minimize air pollution.
Goal 12.6 Reduce the amount of vehicular emissions in San Bernardino.	
12.6.1	Promote a pattern of land uses which locates residential uses in close proximity to employment and commercial services and provides, to the fullest extent possible, local job opportunities and commercial service to minimize vehicular travel and associated air emissions
12.6.2	Disperse urban service centers (libraries, post offices, social services, etc.) throughout the City to minimize vehicle miles traveled and the concomitant dispersion of air pollutants.
12.6.3	Install streetscape improvements and other amenities to encourage pedestrian activity in key City areas and reduce vehicular travel and associated air emissions.
12.6.4	Facilitate the development of centralized parking lots and structures in commercial districts to promote walking between individual businesses in lieu of the use of automobiles.
12.6.5	Require qualifying development to implement or participate in transportation demand management programs, which provide incentives for car pooling, van pools, and the use of public transit and employ other trip reduction techniques (consistent with the Circulation Element and South Coast Air Quality Management Plan).
12.6.6	Continue to cooperate with Omnitrans and the Rapid Transit District to expand as necessary the comprehensive mass transit system for the City to reduce vehicular travel.
12.6.7	Promote the use of public transit and alternative travel modes to reduce air emissions.

Table 4.17-2 San Bernardino General Plan Policies

Policy No.	*Policies*
Goal 12.7 Participate in regional initiatives and programs to improve the South Coast Basin's air quality.	
12.7.1	Cooperate with the South Coast Air Quality Management District and incorporate pertinent local implementation provisions of the Air Quality Management Plan.
12.7.3	Coordinate with SCAQMD to ensure that all elements of air quality plans regarding reduction of air pollutant emissions are being enforced.
12.7.4	Work with the other cities in the South Coast Air Basin to implement regional mechanisms to reduce air emissions and improve air quality.
12.7.5	Support legislation that promotes cleaner industry, clean fuel vehicles, and more efficient burning engines and fuels.
12.7.6	Encourage, publicly recognize, and reward innovative approaches to improve air quality.
12.7.7	Involve environmental groups, the business community, special interests, and the general public in the formulation and implementation of programs that actively reduce airborne pollutants.
ENERGY AND WATER CONSERVATION	
Goal 13.1 Conserve scarce energy resources	
13.1.1	Reduce the City's ongoing electricity use by 10 percent and set an example for residents and businesses to follow.
13.1.2	Ensure the incorporation of energy conservation features in the design of all new construction and site development in accordance with State Law.
13.1.3	Consider enrollment in the Community Energy Efficiency Program (CEEP), which provides incentives for builders who attain energy savings 30 percent above the National Model Energy Code, the Energy Star Program, which is sponsored by the United States Department of Energy and the Environmental Protection Agency and encourages superior energy efficiency by residents and businesses, or the State's Energy Efficiency and Demand Reduction Program, which offer rebates and incentives to agencies and developers who reduce energy consumption and use energy efficient fixtures and energy-saving design elements.
13.1.4	Require energy audits of existing public structures and encourage audits of private structures, identifying levels of existing energy use and potential conservation measures.
13.1.5	Encourage energy-efficient retrofitting of existing buildings throughout the City.
13.1.6	Consider program that awards incentives to projects that install energy conservation measures, including technical assistance and possible low-interest loans.
13.1.7	Ensure that new development consider the ability of adjacent properties to utilize energy conservation design.
13.1.8	Educate the public regarding the need for energy conservation, environmental stewardship, and sustainability techniques and about systems and standards that are currently available for achieving greater energy and resource efficiency, such as the U.S. Green Building Council's "Leadership in Energy and Environmental Design" (LEED) standards for buildings.
13.1.9	Encourage increased use of passive and active solar and wind design in existing and new development (e.g., orienting buildings to maximize exposure to cooling effects of prevailing winds, daylighting design, natural ventilation, space planning, thermal massing and locating landscaping and landscape structures to shade buildings).
13.1.10	Consider adopting an ordinance relating to energy conservation, environmental stewardship, and sustainability for new development that incorporates the LEED standards.
Goal 13.2 Manage and protect the quality of the City's surface waters and ground water basins.	
13.2.1	Coordinate and monitor the City's water conservation efforts on an annual basis and modify or expand them as necessary to ensure their effectiveness.
13.2.3	Consider the establishment of incentives, funding programs, or a rebate program for projects that implement water conservation measures, such as replacing aging, leaking, and/or inefficient plumbing with more efficient, water-saving plumbing.

Table 4.17-2 San Bernardino General Plan Policies	
Policy No.	***Policies***
13.2.4	Require the use of reclaimed water for landscape irrigation and other non-contact uses for industrial projects, golf courses, and freeways.
13.2.11	Continue to inform the public about water conservation, techniques and available water conservation programs they can utilize.
NOISE	
Goal 14.2 Encourage the reduction of noise from transportation related noise sources such as motor vehicles, aircraft operations, and railroad movements.	
14.2.10	Provide for the development of alternate transportation modes such as bicycle paths and pedestrian walkways to minimize the number of automobile trips.
14.2.12	Require that commercial and industrial uses implement transportation demand management programs consistent with the Air Quality Management Plan that provide incentives for car pooling, van pools, and the use of public transit to reduce traffic and associated noise levels in the City.
14.2.13	Work with local agencies and businesses to provide public transit services that reduce traffic and associated noise.

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

The City of San Bernardino selected a goal in to reduce its community GHG emissions to a level that is 15 percent below its projected emissions level in 2008. The City will meet and exceed their goal through a combination of state (~85 percent) and local (~15 percent) efforts. The City actually exceeds the goal with only state/county level actions (104 percent of goal), but has committed to several additional local measures. The Pavley vehicle standards, the state's low carbon fuel standard, the RPS, and other state measures will reduce GHG emissions in San Bernardino's on-road and building energy sectors in 2020. An additional reduction of 76,172 MT CO_2e will be achieved primarily through the following local measures, in order of importance: GHG Performance Standard for New Development (PS-1); Energy Efficiency for Existing Building (Energy-1), and implementation of the Sustainable Communities Strategy (Transportation-1). San Bernardino's Plan has the greatest impacts on GHG emissions in the solid waste management, on-road transportation, and building energy sectors.

The bars in Figure 4.17-2 (Emissions Reduction Profile for San Bernardino) show San Bernardino's 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 its projected emissions level in 2008). 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 (~85 percent) of the total reductions needed to achieve the 2020 target.

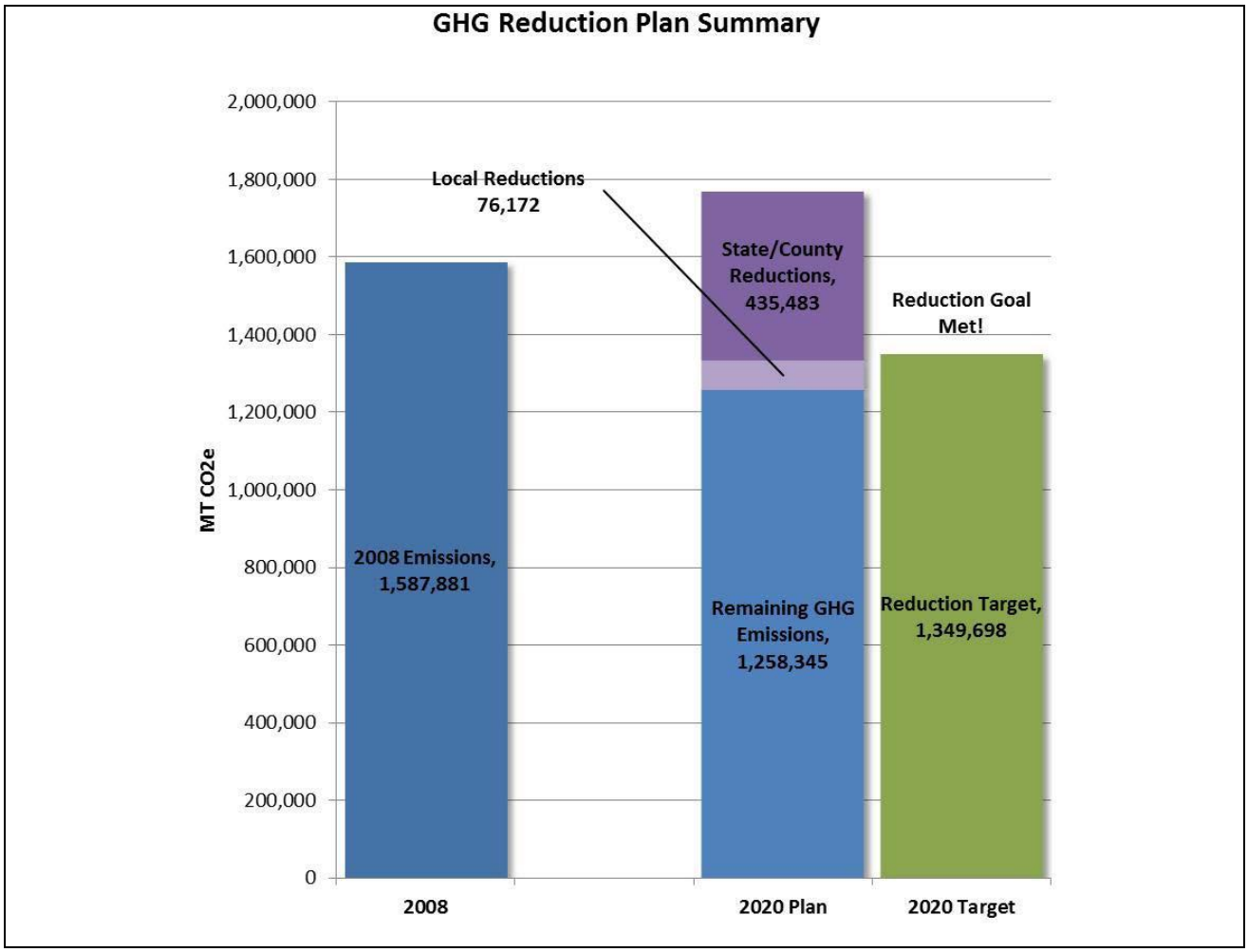

Figure 4.17-2 Emissions Reduction Profile for San Bernardino

Figure 4.17-3 (Emissions by Sector for San Bernardino) presents emissions by sector, for both the 2020 BAU and the 2020 reduction or Regional Reduction Plan scenarios. The largest emissions contributions are in the on-road transportation, building energy, and off-road equipment emissions sectors.

Table 4.17-3 (Emission Reduction by Sector for San Bernardino) 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 San Bernardino exceeds its emissions reduction goal. Emissions sectors with the greatest percent reduction include the solid waste management, on-road transportation and building energy, sectors.

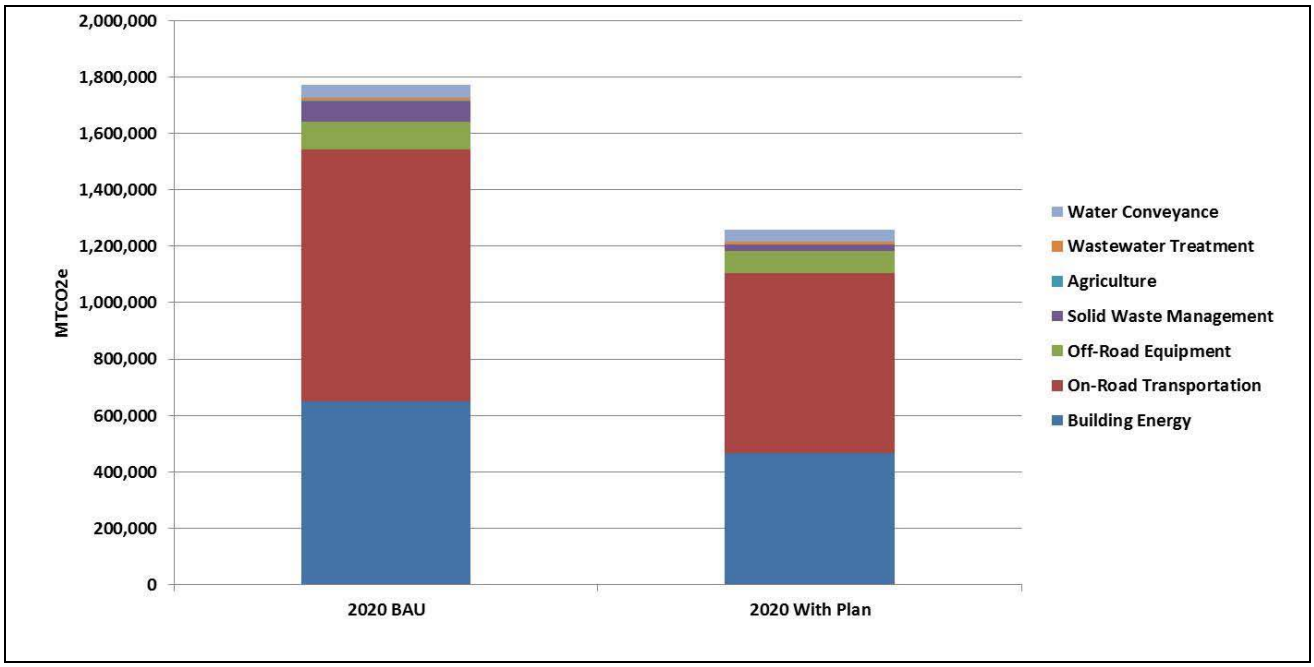

Figure 4.17-3 Emissions by Sector for San Bernardino

Table 4.17-3 Emission Reduction by Sector for San Bernardino

Sector	*2008*	*2020 BAU*	*Reductions*	*2020 Emissions with Plan*	*% Reduction*
Building Energy	578,446	649,824	170,938	478,886	26.3%
On-Road Transportation	810,557	891,216	250,578	640,638	28.1%
Off-Road Equipment	96,602	100,337	18,455	81,882	18.4%
Solid Waste Management	66,492	72,386	48,520	23,668	67.0%
Agriculture 356	1,909	973	0	973	0.0%
Wastewater Treatment 6	8,490	9,407	176	9,231	1.9%
Water Conveyance 29	25,365	45,858	2,939	42,919	6.4%
GHG Performance Standard*	—	—	20,049	—	—
Total Emissions	***1,587,881***	***1,770,000***	***511,655***	***1,258,345***	***28.9%***
Reduction Goal	**—**	**—**	**420,302**	**1,349,698**	**23.7%**
Met Goal?	—	—	Yes	Yes	Yes
Reductions Beyond Goal	**—**	**—**	***91,353***	**—**	**—**
Per-Capita Emissions	7.6	7.7	—	5.4	—
Per-Job Emissions	15.7	15.6	—	11.1	—
Excluded Stationary Source Emissions	322,801	301,927	—	—	—

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 4.17-4 (Emission Reductions by Control and by Sector for San Bernardino) 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 GHG Performance Standards for New Development.

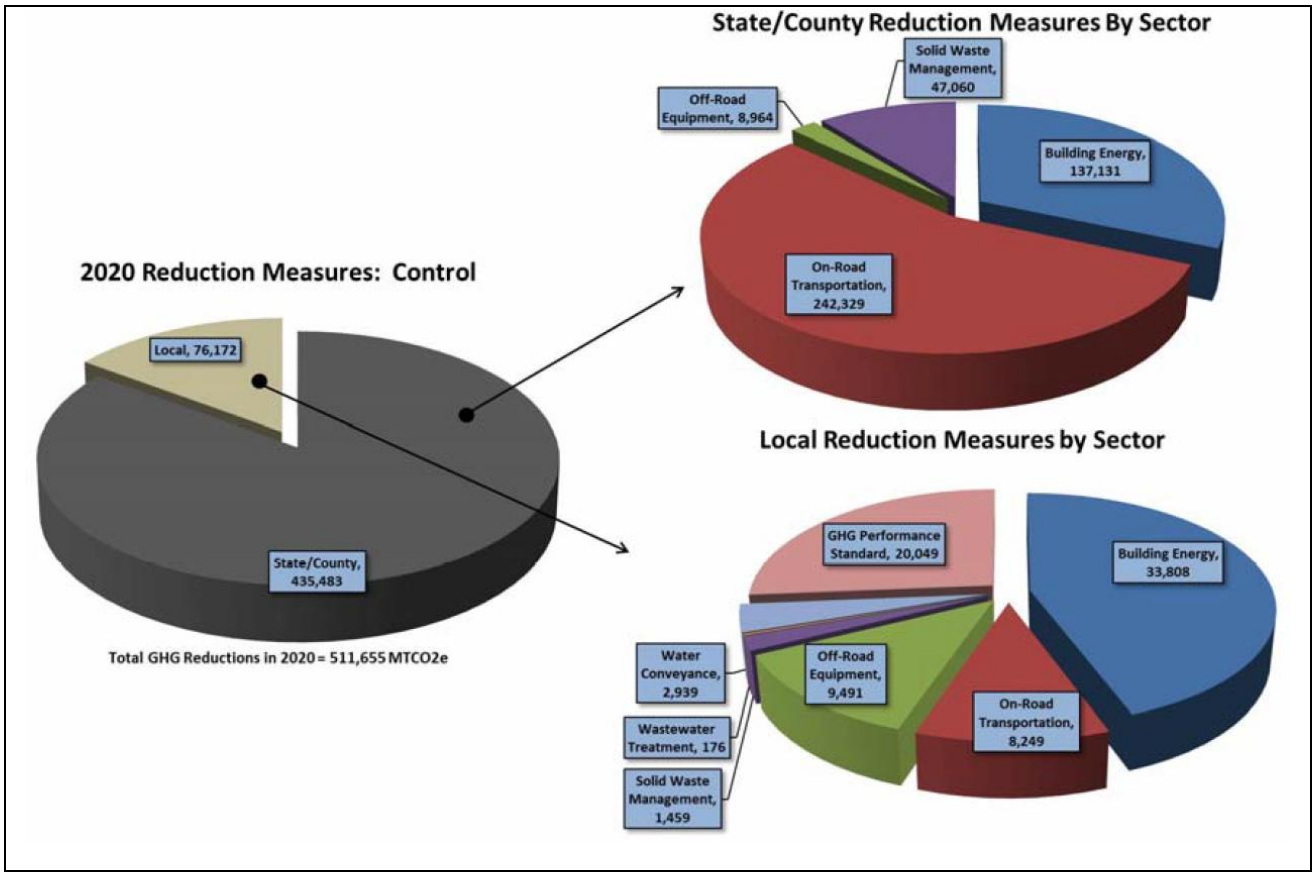

Figure 4.17-4 Emission Reductions by Control and by Sector for San Bernardino

Table 4.17-4 (GHG Reduction Measures and Estimated 2020 Reduced Emissions in San Bernardino) presents each reduction measure evaluated for San Bernardino. 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.

Table 4.17-4 GHG Reduction Measures and Estimated 2020 Reduced Emissions in San Bernardino

Reduction Measure Number	*Description*	*Emissions Reductions*
	STATE AND COUNTY MEASURES	
State-1	Renewable Portfolio Standard	91,336
State-2	Title 24	17,395
State-3	AB 1190	25,615
State-4	Solar Water Heating	555
State-5	Industrial Boiler Efficiency	2,229
State-6	Pavley and Low Carbon Fuel Standard	222,577
State-7	AB 32 Transportation Reduction Strategies	19,752
State-8	Low Carbon Fuel Standard-Off-road	8,964
State-9	AB 32 Methane Capture	1
County-1	County GHG Reduction Plan Landfill Controls	47,059
	LOCAL MEASURES	
Building Energy		
Energy-1	Energy Efficiency of Existing Buildings	10,324,
Energy-4	Solar Installation for New Housing	310,
Energy-5	Solar Installation for New Commercial	980
Energy-6	Solar Installation for Warehouse Space	1,836
Energy-7	Solar Installation for Existing Housing	3,176
Energy-8	Solar Installation for Existing Commercial/Industrial	1,183
Land Use-1 (BE)	*Tree Planting*	*149*
Wastewater-2 (BE)	*Equipment Upgrades*	*2,447*
Water-2 (BE)	*Renovate Existing Buildings to Achieve Higher Levels of Water Efficiency*	*6,644*
Water-4 (BE)	*Implement SBX 7-7*	*6,758*
On-Road Transportation		
Transportation-1	Sustainable Community Strategy	7,813
Transportation-2	Smart Bus Technologies	436
Off-Road Equipment		
Off-Road-1	Construction Equipment	5,781
Off-Road-2	Idling Ordinance	739
Off-Road-3	Landscaping Equipment	2,970
Solid Waste Management		
Waste-2	Waste Diversion	1,459

Table 4.17-4 GHG Reduction Measures and Estimated 2020 Reduced Emissions in San Bernardino

Reduction Measure Number	*Description*	*Emissions Reductions*
Wastewater Treatment		
Water-2 (WT)	*Renovate Existing Buildings to Achieve Higher Levels of Water Efficiency*	*100*
Water-4 (WT)	*Implement SBX 7-7*	*76*
Water Conveyance		
Water-2	Renovate Existing Buildings to Achieve Higher Levels of Water Efficiency	1,461
Water-3	Water Efficient Landscaping Practices	961
Water-4	Implement SBX 7-7	346
Wastewater-3 (WC)	*Recycled Water*	*172*
GHG Performance Standard for New Development		
PS-1	GHG Performance Standard for New Development (30% below Projected BAU emissions for projects)	20,049
	Total Reductions	***511,655***

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 San Bernardino Chapter describes The Proposed Project including the reduction measures and reduction targets chosen by the City of San Bernardino. 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 San Bernardino. No comment letters specific to the City of San Bernardino were received in response to the notice of preparation (NOP) circulated for the proposed project.

Table 4.17-5 (Summary of Environmental Impacts of Implementing Local Reduction Measures in San Bernardino) 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 impacts to less-than-significant levels:

Aesthetics (Scenic Vistas)

MM4.17.1-1a *Renewable energy generating facilities shall be placed or constructed below any major ridgeline when viewed from any designated scenic corridor as identified in the City of San Bernardino General Plan.*

MM4.17.1-1b *Renewable energy generating facilities shall not be:*

- *Located within middle and background scenic view sheds as identified in The Ontario Plan*
- *Located in an area that would substantially obstruct views of adjacent property owners*
- *Allowed in areas where prohibited by the Alquist-Priolo Earthquake Fault Zoning Act, the terms of any easement, or the listing of the proposed site in the National Register of Historic Places or the California Register of Historical Resources, or on the City's Historic Inventory*

MM4.17.1-1c *Renewable energy generating facilities shall be limited to a height of 80 feet on parcels between one and 5 acres, and limited to a height of 100 feet on parcels greater than 5 acres.*

Aesthetics (Visual Character or Quality)

MM4.17.1-2a *The minimum setback from any non-residential property line shall be equal to the renewable energy system height.*

MM4.17.1-2b *The minimum setback of a commercial-scale renewable energy system from any residential property line shall be at least 1,500 feet.*

MM4.17.1-2c *On open space, only one renewable energy system unit per 10 acres shall be allowed. Units shall be installed with at least 240 feet separation from each other. If the units are to 50 feet in height, a maximum of two units may be installed for every 5 acres. For every additional 5 acres, one additional unit may be added not to exceed a maximum of five units and the separation between the units may be reduced to twice the height of the systems.*

MM4.17.1-2d *Renewable energy generating facilities not incorporated into the building, or part of the parking structure, or considered an accessory structure to an existing residence shall be prohibited in urbanized residential neighborhoods.*

MM4.17.1-2e *Residential properties less than 5 acres shall be limited to one accessory wind energy system that shall not exceed the height of the zone in which it is located.*

MM4.17.1-2f *Residential properties that are 5 acres and more shall be limited to two accessory wind energy systems that shall not exceed the height of the zone in which it is located.*

Aesthetics (Light and Glare)

MM4.17.1-3a *All proposed energy-generating structures shall be constructed utilizing non-reflective materials to the maximum extent feasible. If a reflective material is used, appropriate shielding shall be placed or the structure relocated to reduce the amount of visible glare. The City shall review all discretionary projects prior to issuance of building permits to ensure that appropriate shielding and placement of such structures are included in design plans.*

MM4.17.1-3b *All proposed energy-generating structures in open spaces areas shall not be lighted unless required by code or regulation.*

Air Quality (Diesel Particulate Matter Emissions Near Passenger Rail Stations)

MM4.17.3-1a *Transit-oriented development near the passenger rail stations shall set back all sensitive land uses (residential, daycare facilities, schools, preschools, and eldercare facilities) at least 500 feet from the nearest railroad track to reduce concentrations of air pollution, to acceptable levels.*

MM4.17.3-1b *Transit-oriented development would not be allowed in conjunction with the San Bernardino Santa Fe Depot.*

Cultural Resources (Historical Resources)

MM4.17.5-1 *Prior to activities that would physically affect buildings or structures 45 years old or older or affect their historic setting, the project applicant shall retain a cultural resource professional who meets the Secretary of the Interior's Professional Qualifications Standards for Architectural History to determine if the project 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 San Bernardino, the appropriate 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. The technical report or memorandum shall be submitted to the City of San Bernardino for approval. As determined necessary by the City, environmental documentation (e.g., CEQA documentation) prepared for future development within the project site shall reference or incorporate the findings and recommendations of the technical report or memorandum. The project applicant shall be responsible for implementing methods for eliminating or reducing impacts on historical resources identified in the technical report or memorandum. Additional methods could include, but not be 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 4.17-5 Summary of Environmental Impacts of Implementing Local Reduction Measures in San Bernardino

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-4*	*Energy-5*	*Energy-6*	*Energy-7*	*Energy-8*	*Land Use-1*	*Wastewater-2*	*Wastewater-3*	*Transportation-1*	*Transportation-2*	*Off-Road-1*	*Off-Road-2*	*Off-Road-3*	*Water-2*	*Water-3*	*Water-4*	*Waste-2*	*PS-1*
Aesthetics																			
Scenic vistas	LS	**LS/MM**	**LS/MM**	**LS/MM**	**LS/MM**	**LS/MM**	NI	NI	NI	**LS/MM**	NI	NI	NI	NI	NI	NI	NI	NI	NI
Scenic highways	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	**LS/MM**	**LS/MM**	**LS/MM**	**LS/MM**	**LS/MM**	NI	NI	NI	**LS/MM**	NI	NI	NI	NI	NI	NI	NI	NI	NI
Light and glare	LS	**LS/MM**	**LS/MM**	**LS/MM**	**LS/MM**	**LS/MM**	NI	NI	NI	**LS/MM**	NI	NI	NI	NI	NI	NI	NI	NI	NI
Cumulative impacts	LS	LS/MM	LS/MM	LS/MM	LS/MM	LS/MM	NI	NI	NI	LS/MM	NI	NI	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
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
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
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
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
Cumulative impacts	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	NI	LS	LS
Violation of air quality standard	LS	NI	LS	LS	LS	NI	LS	LS	NI	LS	NI	LS	LS	LS	NI	NI	LS	NI	LS
Exposure of sensitive receptors	NI	NI	LS	NI	NI	NI	NI	NI	NI	**LS/MM**	NI	NI	NI	NI	NI	NI	NI	NI	NI
Creation of objectionable odors	NI	NI	LS	NI	NI	NI	LS	NI	NI	LS	NI	NI	NI	NI	NI	NI	NI	NI	NI

Table 4.17-5 Summary of Environmental Impacts of Implementing Local Reduction Measures in San Bernardino

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-4*	*Energy-5*	*Energy-6*	*Energy-7*	*Energy-8*	*Land Use-1*	*Wastewater-2*	*Wastewater-3*	*Transportation-1*	*Transportation-2*	*Off-Road-1*	*Off-Road-2*	*Off-Road-3*	*Water-2*	*Water-3*	*Water-4*	*Waste-2*	*PS-1*
Cumulatively considerable net increase of any nonattainment criteria pollutant	LS	LS	LS	LS	LS	LS	LS	NI	NI	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS
Biological Resources																			
Special-status species	NI	NI	LS/PR	NI	LS/PR	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI	NI	NI
Riparian habitat or other sensitive natural community	NI	NI	LS/PR	NI	LS/PR	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI	NI	NI
Protected wetlands	NI	NI	LS/PR	NI	LS/PR	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI	NI	NI
Wildlife movement	NI	NI	LS/PR	NI	LS/PR	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI	NI	NI
Conflict with any local policies or ordinances protecting biological resources	NI	NI	LS/PR	NI	LS/PR	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI	NI	NI
Conflict with habitat conservation plan	NI	NI	LS/PR	NI	LS/PR	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI	NI	NI
Cumulative impacts	NI	NI	LS/PR	NI	LS/PR	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI	NI	NI
Cultural Resources																			
Substantial adverse change in significance of a historical resource	**LS/MM**	NI	LS/PR	**LS/MM**	**LS/MM**	NI	NI	NI	NI	**LS/MM**	NI	NI	NI	NI	NI	NI	NI	NI	NI
Substantial adverse change in significance of a archaeological resource	NI	NI	LS/PR	NI	LS/PR	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI	NI	NI
Destruction of a unique paleontological resource or site or unique geologic feature	NI	NI	LS/PR	NI	LS/PR	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI	NI	NI
Disturb any human remains	NI	NI	LS/PR	NI	LS/PR	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI	NI	NI
Cumulative impacts	LS/MM	NI	LS/PR	LS/PR	LS/MM	NI	NI	NI	NI	LS/MM	NI	NI	NI	NI	NI	NI	NI	NI	NI
Geology/Soils																			
Fault rupture, strong seismic groundshaking, seismic-related ground failure, including liquefaction, landslides	NI	LS/PR	LS/PR	LS/PR	LS/PR	LS/PR	NI	LS	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI	NI	NI

Table 4.17-5 Summary of Environmental Impacts of Implementing Local Reduction Measures in San Bernardino

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-4*	*Energy-5*	*Energy-6*	*Energy-7*	*Energy-8*	*Land Use-1*	*Wastewater-2*	*Wastewater-3*	*Transportation-1*	*Transportation-2*	*Off-Road-1*	*Off-Road-2*	*Off-Road-3*	*Water-2*	*Water-3*	*Water-4*	*Waste-2*	*PS-1*
Substantial soil erosion or loss of topsoil	NI	NI	LS/PR	NI	LS/PR	NI	NI	NI	NI	LS/PR	NI	NI	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	LS/PR	NI	LS/PR	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI	NI	NI
Located on expansive soil	NI	NI	LS/PR	NI	LS/PR	NI	NI	NI	NI	LS/PR	NI	NI	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
Cumulative impacts	NI	NI	LS/PR	LS/PR	LS/PR	NI	NI	LS	NI	LS/PR	NI	NI	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
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
Hazards/Hazardous Materials																			
Create significant hazard through the routine transport, use, or disposal of hazardous materials	LS/PR	NI	LS/PR	LS/PR	LS/PR	NI	NI	NI	NI	LS/PR	NI	NI	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
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
Located on a site that is included on a list of hazardous materials sites, creating significant hazard	NI	NI	LS/PR	NI	LS/PR	NI	NI	NI	NI	LS	NI	NI	NI	NI	NI	NI	NI	NI	NI
Located within 2 miles of a public airport or public use airport	NI	NI	LS/PR	NI	LS/PR	NI	NI	NI	NI	LS/PR	NI	NI	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

Table 4.17-5 Summary of Environmental Impacts of Implementing Local Reduction Measures in San Bernardino

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-4*	*Energy-5*	*Energy-6*	*Energy-7*	*Energy-8*	*Land Use-1*	*Wastewater-2*	*Wastewater-3*	*Transportation-1*	*Transportation-2*	*Off-Road-1*	*Off-Road-2*	*Off-Road-3*	*Water-2*	*Water-3*	*Water-4*	*Waste-2*	*PS-1*
Impair or interfere with an adopted emergency response plan or emergency evacuation plan	NI	NI	LS/PR	NI	LS/PR	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI	NI	NI
Risk of loss, injury, or death involving wildland fires	NI	NI	LS/PR	LS/PR	LS/PR	LS/PR	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI	NI	NI
Cumulative impacts	LS/PR	NI	LS/PR	LS/PR	LS/PR	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI	NI	NI
Hydrology/Water Quality																			
Violate any water quality standards or waste discharge requirements	NI	NI	LS/PR	NI	LS/PR	NI	NI	NI	LS	LS/PR	NI	NI	NI	NI	NI	NI	LS	NI	NI
Deplete groundwater supplies or interfere with groundwater recharge	NI	NI	NI	NI	NI	NI	NI	NI	LS	LS	NI	NI	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	LS/PR	NI	LS/PR	NI	NI	NI	NI	LS/PR	NI	NI	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	LS/PR	NI	LS/PR	NI	NI	NI	NI	LS/PR	NI	NI	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	LS/PR	NI	NI	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI	NI	NI
Otherwise degrade water quality	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
Place within a 100-year flood hazard area structures that would impede or redirect flood flows	NI	NI	LS/PR	LS/PR	LS/PR	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI	NI	NI
Risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam	NI	NI	LS/PR	LS/PR	LS/PR	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI	NI	NI
Inundation by seiche, tsunami, or mudflow	NI	NI	LS/PR	LS/PR	LS/PR	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI	NI	NI
Cumulative impacts	NI	NI	LS/PR	LS/PR	LS/PR	NI	NI	NI	LS	LS/PR	NI	NI	NI	NI	NI	NI	LS	NI	NI

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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-4*	*Energy-5*	*Energy-6*	*Energy-7*	*Energy-8*	*Land Use-1*	*Wastewater-2*	*Wastewater-3*	*Transportation-1*	*Transportation-2*	*Off-Road-1*	*Off-Road-2*	*Off-Road-3*	*Water-2*	*Water-3*	*Water-4*	*Waste-2*	*PS-1*
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
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
Conflict with any applicable habitat conservation plan or natural community conservation plan	NI	NI	LS/PR	NI	LS/PR	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI	NI	NI
Cumulative impacts	LS	LS	LS/PR	LS	LS/PR	LS	LS	LS	LS	LS/PR	LS	LS	LS	LS	LS	LS	LS	LS	LS
Mineral Resources																			
Loss of availability of a known mineral resource	NI	NI	LS/PR	NI	LS/PR	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI	NI	NI
Loss of availability of a locally important mineral resource recovery site	NI	NI	LS/PR	NI	LS/PR	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI	NI	NI
Cumulative impacts	NI	NI	LS/PR	NI	LS/PR	NI	NI	NI	NI	LS/PR	NI	NI	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	LS/PR	LS/PR	LS/PR	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI	NI	NI
Excessive groundborne vibration or groundborne noise levels	NI	NI	LS/PR	LS/PR	LS/PR	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI	NI	NI
Permanent increase in ambient noise levels	NI	NI	NI	NI	NI	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI	NI	NI
Temporary or periodic increase in ambient noise levels	NI	NI	LS/PR	LS/PR	LS/PR	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI	NI	NI
Excessive noise levels within 2 miles of a public airport or public use airport	NI	NI	NI	NI	NI	NI	NI	NI	NI	LS/PR	NI	NI	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
Cumulative impacts	NI	NI	LS/PR	NI	LS/PR	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI	NI	NI

Table 4.17-5 Summary of Environmental Impacts of Implementing Local Reduction Measures in San Bernardino

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-4*	*Energy-5*	*Energy-6*	*Energy-7*	*Energy-8*	*Land Use-1*	*Wastewater-2*	*Wastewater-3*	*Transportation-1*	*Transportation-2*	*Off-Road-1*	*Off-Road-2*	*Off-Road-3*	*Water-2*	*Water-3*	*Water-4*	*Waste-2*	*PS-1*
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
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
Displace substantial numbers of people	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	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
Cumulative impacts	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
Construction or expansion of recreational facilities	NI	NI	NI	NI	NI	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI	NI	NI
Cumulative impacts	NI	NI	NI	NI	NI	NI	NI	NI	NI	LS/PR	NI	NI	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	LS	LS	NI	NI	NI	NI	NI	NI	NI	LS
Conflict with an applicable congestion management program	NI	NI	NI	NI	NI	NI	NI	NI	NI	LS	LS	NI	NI	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
Increase hazards due to a design feature or incompatible uses	NI	NI	LS/PR	NI	LS/PR	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI	NI	NI
Inadequate emergency access	NI	NI	LS/PR	NI	LS/PR	NI	NI	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	NI	NI	NI

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Environmental Impacts	*Regional Reduction Plan Local Reduction Measure*																		
	Energy-1	*Energy-4*	*Energy-5*	*Energy-6*	*Energy-7*	*Energy-8*	*Land Use-1*	*Wastewater-2*	*Wastewater-3*	*Transportation-1*	*Transportation-2*	*Off-Road-1*	*Off-Road-2*	*Off-Road-3*	*Water-2*	*Water-3*	*Water-4*	*Waste-2*	*PS-1*
Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities	NI	NI	NI	NI	NI	NI	NI	NI	NI	LS	LS	NI	NI	NI	NI	NI	NI	NI	LS
Cumulative impacts	NI	NI	LS/PR	NI	NI	NI	NI	NI	NI	LS/PR	LS	NI	NI	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	LS	LS	NI	NI	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	LS	LS	NI	NI	NI	NI	NI	LS	LS	NI	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
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	LS	LS	LS	NI	NI
Inadequate wastewater treatment capacity	NI	NI	NI	NI	NI	NI	NI	LS	LS	NI	NI	NI	NI	NI	NI	NI	LS	NI	NI
Insufficient permitted solid waste disposal capacity	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	LS	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	LS	NI	LS	NI
Cumulative impacts	NI	NI	NI	NI	NI	NI	NI	LS	LS	NI	NI	NI	NI	NI	LS	LS	LS	LS	NI

4.17.1 Aesthetics

This section of the EIR analyzes the potential environmental effects on aesthetics in the City of San Bernardino from implementation of the Regional Re. Data for this section were taken from the San Bernardino General Plan (2005a) and associated environmental document (2005b). 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

As set forth in CEQA Guidelines Section 15125(a) this section describes the physical environmental conditions in the City and SOI at the time the environmental analysis commenced. It constitutes the baseline physical conditions by which the City of San Bernardino will determine whether an Aesthetic impact is significant.

Urban Visual Character

The City of San Bernardino lies on a broad, gently sloping lowland that flanks the southwest margin of the San Bernardino Mountains. The lowland is underlain by alluvial sediments eroded from bedrock in the adjacent mountains and washed by rivers and creeks into the valley region where they have accumulated in the layers of gravel, sand, silt and clay. This low lying valley is framed by the San Bernardino Mountains on the northeast and east, Blue Mountains and Box Springs Mountain abutting the Cities of Loma Linda and Redlands to the south, and the San Gabriel Mountains and the Jurupa Hills to the northwest and southwest, respectively. The Santa Ana River has a number of tributaries in the vicinity of San Bernardino that contribute flow to the main stem of the river including Lytle Creek, Cajon Creek, Warm Creek, East Creek, and West Twin Creek (see Figure 4.17-1 [City Boundaries and Sphere of Influence] in Section 4.17.0 [Introduction to the Analysis]). The east branch of the California Aqueduct traverses the northwestern portion of the City. These watercourses provide valuable riparian habitat that supports flora and fauna within the San Bernardino Valley.

The City's total planning area is 45,231 acres, or approximately 71 square miles. This includes 38,402 acres (60 square miles) of incorporated territory and 6,829 acres (11 square miles) of unincorporated lands within the City's SOI.

The City of San Bernardino is surrounded by Highland on the east, Redlands to the southeast, Loma Linda on the south, Colton to the southwest and Rialto on the west. These cities also lie in the valley region of San Bernardino and are comprised primarily of urban land uses. To the north, in the San Bernardino Mountain range, the City is bounded by the San Bernardino National Forest. In addition the San Manuel Indian Reservation abuts the City's northeastern boundary.

The existing Arrowhead Springs resort is nestled in the San Bernardino Mountains perched on a flat plateau area above the City of San Bernardino. The Arrowhead Springs Specific Plan area encompasses a larger area that is surrounded on the west, north and east by the San Bernardino National Forest, while

urban areas of the City are located to the south. Being adjacent to the San Bernardino National Forest provides for vast areas of open space, and the opportunity to buffer the developed areas from view of urban areas in the City of San Bernardino.

The only residents in the existing Arrowhead Springs area are a few employees who occupy the bungalows that are part of the resort. The Arrowhead Springs area is primarily rural, although its primary use corresponds to its unique geological setting, as it is located in an area known for its geothermal resources. As a result, the Arrowhead Springs Specific Plan area has historically been utilized as a tourist destination for individuals seeking the luxuries associated with the mud baths, steam caves, hot springs, and the famous Ester Williams pool. In the past, tourism in the Arrowhead Springs area relied upon the pristine natural environment and valuable geothermal resources that this area rests on. The resort is no longer open to the general public. These geothermal resources are inextricably linked to the hydrology and the tectonic activity beneath this area.

Arrowhead springs is located within the West Twin Creek and East Twin Creek watersheds. There are three primary water courses that flow through the Arrowhead Springs property. The East Twin Creek, Strawberry Creek, and the West Twin Creek that flows through Waterman Canyon compose the major waterways.

Scenic Vistas and Corridors

Much of the City of San Bernardino's character is derived from its location adjacent to the San Bernardino Mountains, unique geothermal resources, and central location in the San Bernardino Valley. In addition, the City's character is also obtained from its distinct neighborhoods that have or can have a unique character and source of pride for the residents. Historic structures, such as the Arrowhead Springs Hotel also provide local character for the neighborhoods. These distinct neighborhoods make up the aesthetic foreground (closest viewing areas) for the City of San Bernardino.

The rivers, creeks and washes located within the City Boundaries add to the aesthetic middle ground of the views (Middle ground are areas that are visible from between 500 feet to 1 mile away). Waterways within the City include the Santa Ana River in the southern portion, Lytle Creek Wash and Cajon Wash in the northwestern portion, and Warm Creek located in the northeast portion of the City. The trails associated with these waterways also provide viewing opportunities for these areas. Within the Arrowhead Springs area rolling hills; West Twin Creek which meanders through Waterman Canyon; and East Twin Creek and Strawberry Creek cut through Cold Water Canyon. In addition, a unique geologic formation that resembles an arrowhead rises above the historic Arrowhead Springs Hotel and gives the area its name. This unique resource is only visible from limited areas within the City.

Background views for the City are dominated by the San Bernardino Mountains that tower over the City to the north. Background views are areas that are visible from greater than 1 mile and include the horizon.

Regulatory Framework

Federal

There are no federal regulations pertaining to visual quality.

State

State Scenic Highways Program

The State Scenic Highways program administered by the California Department of Transportation identifies scenic highways. As the City of San Bernardino does not contain any highway segments designated a state scenic highway (Caltrans n.d.) and the Regional Reduction Plan would not have a significant impact on scenic highways, these regulations are not applicable.

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).

Regional

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

San Bernardino General Plan

The San Bernardino General Plan, updated in 2005, provides the framework for the City's physical, economic, social, and environmental development and addressing all geographic areas in the City, as well as those areas that surround the City that may be served by the City in the future. The San Bernardino

General Plan contains numerous policies aimed at preserving the visual character and quality of the City. The General Plan policies and its SOI that are applicable to the proposed project[1] are as follows:

Policy 2.1.2 Require that new development with potentially adverse impacts on existing neighborhoods or residents such as noise, traffic, emissions, and storm water runoff, be located and designated so that the quality of life and safety in existing neighborhoods are preserved.

Policy 2.1.4 Provide assistance in the form of grants, loans, home improvement efforts, coordinated code and law enforcement, public right-of-way maintenance and enhancement, and trash collection to help improve San Bernardino's residential neighborhoods.

Policy 2.2.2 Require new uses to provide mitigation or buffers between existing uses where potential adverse impacts could occur, including, as appropriate, decorative walls, landscape setbacks, restricted vehicular access, enclosure of parking structures to prevent sound transmission, and control of lighting and ambient illumination.

Policy 2.2.3 Sensitively integrate regionally beneficial land uses such as transportation corridors, flood control systems, utility corridors, and recreational corridors into the community.

Policy 2.2.7 Control the development of industrial and similar uses that use, store, produce or transport toxics, air emissions, and other pollutants.

Policy 2.2.10 The protection of the quality of life shall take precedence during the review of new projects. Accordingly, the City shall utilize its discretion to deny or require mitigation of projects that result in impacts that outweigh benefits to the public.

Policy 2.3.1 Commercial centers, open spaces, educational facilities, and recreational facilities should be linked to residential neighborhoods.

Policy 2.3.2 Promote development that is compact, pedestrian-friendly, and served by a variety of transportation options along major corridors and in key activity areas.

Policy 2.3.6 Circulation system improvements shall continue to be pursued that facilitate connectivity across freeway and rail corridors.

Policy 2.3.7 Improvements shall be made to transportation corridors that promote physical connectivity and reflect consistently high aesthetic values.

Policy 2.4.1 Quality infill development shall be accorded a high priority in the commitment of City resources and available funding.

Policy 2.4.2 Continue to provide special incentives and improvement programs to revitalize deteriorated housing stock, residential neighborhoods, major business corridors, and employment centers.

Policy 2.4.3 Where necessary to stimulate the desired mix and intensity of development, land use flexibility and customized site development standards shall be achieved through various master-planning devices such as specific plans, planned development zoning, and creative site planning.

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

Policy 2.5.6 Require that new developments be designed to complement and not devalue the physical characteristics of the surrounding environment, including consideration of:

- The site's natural topography and vegetation;
- Surrounding exemplary architectural design styles;
- Linkages to pedestrian, bicycle, and equestrian paths;
- The use of consistent fencing and signage;
- The provision of interconnecting greenbelts and community amenities, such as clubhouses, health clubs, tennis courts, and swimming pools;
- The use of building materials, colors, and forms that contribute to a "neighborhood" character;
- The use of extensive site landscaping;
- The use of consistent and well designed street signage, building signage, and entry monumentation;
- A variation in setbacks of structures;
- The inclusion of extensive landscape throughout the site and along street frontages;
- The articulation of building facades to provide interest and variation by the use of offset planes and cubic volumes, building details, balconies, arcades, or recessed or projecting windows, and other techniques which avoid "box"-like structures;
- The integration of exterior stairways into the architectural design;
- The screening of rooftop mechanical equipment;
- The use of consistent design through the use of unifying architectural design elements, signage, lighting, and pedestrian areas;
- The provision of art and other visual amenities;
- The inclusion of awnings, overhangs, arcades, and other architectural elements to provide protection from sun, rain, and wind; and
- The location of parking at the rear, above or below the ground floor of non-residential buildings to enhance pedestrian connectivity.

Policy 5.2.1 Establish and implement a comprehensive citywide streetscape and landscape program for those corridors identified in the General Plan and include the following right-of-way improvements:

- Street trees
- Street lighting
- Streetscape elements (sidewalk/crosswalk paving, street furniture)
- Public signage

Policy 5.3.3 A well-integrated network of bike and pedestrian paths should connect residential areas to schools, parks, and shopping centers.

Policy 5.5.2 Improve the pedestrian atmosphere of the street by orienting new homes to the street with attractive front porches, highly visible street facades, and garages located in the rear of the property.

Policy 5.2.3 Maintain, improve and/or develop parkways with canopy street tress, providing shade, beauty, and a unifying identity to residential streets.

Policy 5.5.5 Provide continuous sidewalks and links to nearby community facilities and retail centers.

Policy 5.6.5 Provide convenient pedestrian access from multi-family development to nearby commercial centers, schools, and transit stops.

Policy 5.7.5 Parking areas shall provide, where practical, pedestrian pathways for safe access to shopping and activity areas that are defined by landscaped planters and incorporated into the parking lot design.

Policy 5.7.12 Install new streetlights in commercial districts that are pedestrian-oriented, attractively designed, compatible in design with other street furniture, and provide adequate visibility and security.

City of San Bernardino Municipal Code

The City of San Bernardino Municipal Code includes several regulations and standard conditions associated with the visual character of the City. The following is a list of those codes and a brief description of the content.

- Section 19.04 (Residential Districts)—Contains applicable regulations pertaining to the commercial zone and industrial district development standards within the City
- Section 19.06 (Commercial Districts)—Contains applicable regulations pertaining to residential development standards within the City
- Section 19.20 (Property Development Standards)—Ensure that new or modified uses and development will produce an urban environment of stable desirable character that is harmonious with the existing and future development, consistent with the General Plan
- Section 19.20.030—No glare incidental to any use shall be visible beyond the boundary line of the parcel
- Section 19.20.030—Exterior lighting shall be energy-efficient and shielded or recessed so that direct glare and reflections are contained within the boundaries of the parcel, and shall be directed downward and away from adjoining properties and public rights-of-way; no lighting shall blink, flash, or be of unusually high intensity or brightness; all lighting fixtures shall be appropriate in scale, intensity, and height to the use it is serving. Security lighting shall be provided at all entrances/exits
- Section 19.22 (Sign Regulations)—Establishes sign regulations that are intended to protect the general public health, safety, welfare, and aesthetics of the community; implement community design standards, consistent with the General Plan; promote the Community's appearance by regulating the design, character, location, type, quality of materials, scale, color, illumination and maintenance of signs; limit the use of signs which provide direction and aid orientation for businesses and activities; promote signs that identify uses and premises without confusion; and reduce possible traffic and safety hazards through good signage

- Section 19.24 (Parking Standards and Design)—Contains applicable regulations pertaining to parking standards and design within the City
- Section 19.28 (Landscaping Standards)—Includes general regulations, screening requirements, setback and parkway treatment standards and landscape design guidelines for new development within the City; these landscaping regulations are intended to enhance the aesthetic appearance of development in all areas of the City by providing standards relating to quality, quantity, and functional aspects of landscaping and landscape screening; increase compatibility between residential and abutting commercial and industrial land uses; reduce the heat and glare generated by development; protect public health, safety, and welfare by minimizing the impact of all forms of physical and visual pollution, controlling soil erosion, screening incompatible land uses, preserving the integrity of neighborhoods, and enhancing pedestrian and vehicular traffic and safety; and establish a water conservation plan to reduce water consumption in the landscape environment by using drought tolerant principals

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

The following analysis takes into account the attribute of aesthetics or visual character, which pertains to aspects of the visual character of existing development and of the City, such as architecture, color, design, décor, mass, and height. The inherent subjectivity of issues and values of visual character creates a challenge in arriving at a conclusive determination of what constitutes a "significant impact" for the purposes of CEQA. 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).

Effects Not Found to Be Significant

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

The City of San Bernardino does not contain a state scenic highway. Therefore, the proposed project would not impact scenic resources associated with state scenic highways. There would be ***no impact***. Further analysis is not required.

Project Impacts and Mitigation Measures

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

Impact 4.17.1-1 **The proposed project could adversely affect a scenic vista. Implementation of mitigation measures MM4.17.1-1a through MM4.17.1-1c would reduce this impact to *less than significant*.**

Significant scenic vistas within the City include: views of the San Bernardino Mountains visible throughout the City. The San Bernardino General Plan policies identified above protect these scenic views. Further, the City requires that all projects be reviewed for consistency with General Plan policies prior to approval.

However, one potential impact would be renewable energy generation facilities that could obstruct scenic views even if they conform to the scale and massing requirements in the development review standards and approval process as part of the General Plan policies. Renewable generation facilities could adversely affect the scenic view of the area by introducing numerous man-made structures into a visual vista setting, a potentially significant impact. To reduce this potential impact, the following mitigation measures shall be implemented:

MM4.17.1-1a *Renewable energy generating facilities shall be placed or constructed below any major ridgeline when viewed from any designated scenic corridor as identified in the San Bernardino General Plan.*

MM4.17.1-1b *Renewable energy generating facilities shall not be:*

- *Located within middle and background scenic view sheds as identified in the General Plan*
- *Located in an area that would substantially obstruct views of adjacent property owners*
- *Allowed in areas where prohibited by the Alquist-Priolo Earthquake Fault Zoning Act, the terms of any easement, or the listing of the proposed site in the National Register of Historic Places or the California Register of Historical Resources, or on the City's Historic Inventory*

MM4.17.1-1c *Renewable energy generating facilities shall be limited to a height of 80 feet on parcels between one and 5 acres, and limited to a height of 100 feet on parcels greater than 5 acres.*

Implementation of mitigation measures MM4.17.1-1a through MM4.17.1-1c would reduce potential adverse impacts from energy systems in open space areas on scenic views by limiting structure heights and restricting locations such that views would not be obstructed. In addition, any future facilities under the Regional Reduction Plan would be evaluated for conformance to these policies to ensure that scenic views are not adversely affected. The impact would be ***less than significant***.

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

Impact 4.17.1-2 The proposed project could degrade the visual character or quality of the City. Implementation of mitigation measures MM4.17.1-2a through MM4.17.1-2f would reduce this impact to *less than significant*.

The Regional Reduction Plan does not propose specific development. Rather, it encourages densification in the Downtown and along transit corridors, furthering the goals of the San Bernardino General Plan. The Regional Reduction Plan establishes policies that encourage energy-saving retrofits to existing buildings and incorporation of energy-generating components in new construction, such as solar arrays. These structures would likely be visible to visitors, employees, and residents, and screening would inhibit energy production. In addition, renewable energy generating facilities could be developed in open space areas that would introduce man-made structures into a natural setting. Depending on the size and mass of these energy-generating components, future redevelopment or development could result in degradation of the visual character and quality of an individual site and its surroundings.

Future development that would incorporate renewable energy systems on the building, such as photovoltaic panels, would be required to comply with proposed policies that regulate the design of new buildings as well as protect the existing visual quality of the City. For example, Policy 2.5.6 requires new developments to be designed to complement and not devalue the physical characteristics of the surrounding environment. In addition, all development or redevelopment projects would undergo further environmental and design review on a project-by-project basis to ensure that the visual quality of the surrounding environment is not substantially compromised.

In addition to the Community Design Element of the General Plan, the City's Development Code, urban design standards, and master plan areas address citywide as well as localized policies and ordinances covering development standards. The standards identify key architecture and site design elements that are important to the City. They also provide examples of desirable design methods and features. The City requires that industrial project sites are designed so that areas used for loading, outdoor storage (where allowed), and other potentially unsightly areas are screened from public view. By applying design guidelines proposed for new architecture to the rehabilitation of existing architecture, the entire neighborhood, over time, will eventually be unified into a cohesive whole that accommodates diversity of forms, follows guidelines for the use of color and materials, and therefore, reinforces district identity while minimizing visual clutter and providing the City's residents with a comfortable environment.

It is possible that photovoltaic or wind energy systems could be installed in existing residential neighborhoods as an accessory structure to an existing residence which could also result in an adverse change in the visual character and quality of the site. Land use designations under the General Plan consist of nine broad land uses: Single Family Residential, Multi-Family Residential, Commercial Office, Commercial General, Commercial Regional, Commercial Heavy, Industrial, Public Facility/Quasi Public, and Open Space. Each of these Foundation Components is subdivided into more detailed land use designations at the General Plan level. As previously discussed regarding Impact 4.17.1-1, projects in scenic areas could have an impact on a scenic vista. However, the implementation of mitigation measures MM4.17.1-1a through MM4.17.1-1c would reduce those impacts to less than significant. That same

mitigation would also be applied here to protect the visual character and quality of the area. To ensure that any proposed renewable energy generating facility in open space areas would not adversely affect visual character or quality, the following mitigation measures shall also be implemented:

MM4.17.1-2a *The minimum setback from any non-residential property line shall be equal to the renewable energy system height.*

MM4.17.1-2b *The minimum setback of a commercial-scale renewable energy system from any residential property line shall be at least 1,500 feet.*

MM4.17.1-2c *On open space, only one renewable energy system unit per 10 acres shall be allowed. Units shall be installed with at least 240 feet separation from each other. If the units are to 50 feet in height, a maximum of two units may be installed for every 5 acres. For every additional 5 acres, one additional unit may be added not to exceed a maximum of five units and the separation between the units may be reduced to twice the height of the systems.*

To ensure that any proposed renewable energy generating facility in residential areas would not adversely affect visual character or quality, the following mitigation measures shall be implemented:

MM4.17.1-2d *Renewable energy generating facilities not incorporated into the building, or part of the parking structure, or considered an accessory structure to an existing residence shall be prohibited in urbanized residential neighborhoods.*

MM4.17.1-2e *Residential properties less than 5 acres shall be limited to one accessory wind energy system that shall not exceed the height of the zone in which it is located.*

MM4.17.1-2f *Residential properties that are 5 acres and more shall be limited to two accessory wind energy systems that shall not exceed the height of the zone in which it is located.*

With implementation of the identified mitigation, potential adverse impacts to visual character or quality of energy systems developed in open space areas and accessory wind energy systems in urbanized residential areas would be reduced to less than significant. Energy retrofits on existing structures and installation of solar arrays on rooftops of buildings would not substantially degrade the visual quality or character of the City, as future projects are required to comply with all City ordinances and relevant specific plans, including consistency with the General Plan policies and city adopted design guidelines. On a program level, this impact would be ***less than significant***.

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

Impact 4.17.1-3 **The proposed project could result in new sources of substantial light or glare that could adversely affect day or nighttime views in the area. Implementation of mitigation measures MM4.17.1-3a and MM4.17.1-3b would reduce this impact to *less than significant*.**

Developed areas of the City have a significant amount of ambient light and glare from urban uses that already exists. The energy-generating structures that could be constructed under the Regional Reduction Plan would not generally include lighting and, therefore, there would be no increased sources of light as a result of implementation of the proposed project. However, it is possible that increased glare could result

from energy-generating structures. Glare results from sharply reflected light caused by sunlight or artificial light reflecting from highly finished surfaces such as window glass or brightly colored surfaces. The types of land uses that are typically sensitive to excess glare include homes, hospitals, senior housing, and other types of uses where excessive glare may disrupt sleep. In addition, glare may interfere with the vision of drivers. Implementation of the Regional Reduction Plan could result in energy-efficient or energy-generating rooftop structures such as photovoltaic arrays that could introduce substantial new sources of glare. Rooftop solar panels, to be effective, must be oriented to maximize solar radiation absorption. If these structures were to be constructed adjacent to residential uses or sensitive receptors, the impact from increased glare would be potentially significant.

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 drivers. Other energy-generating structures such as wind turbines could consist of reflective materials that could increase localized glare.

The San Bernardino General Plan policies related to quality of design and maintenance of existing neighborhood character are contained in the Land Use and Community Design Elements. Policy 2.2.2 requires new uses to provide mitigation or buffers where potential adverse impacts from lighting and ambient illumination could occur. Policies 2.5.6 and 5.7.12 require consistency with the physical characteristics of the surrounding environment including lighting. Policy 5.2.1 is to establish a comprehensive citywide streetscape and landscape program that takes street lighting into account. In addition, San Bernardino Municipal Code Section 19.20.030 regulates light and glare impacts from new development. While these policies address impacts from lighting, it is unknown at this time where or how many such structures would be constructed under the Regional Reduction Plan. Therefore each discretionary project pursuant to the Regional Reduction Plan would be required to undergo individual design and environmental review to develop appropriate mitigation measures particular to each project site. In addition, the following mitigation measure shall be implemented for all discretionary projects under the Regional Reduction Plan to reduce glare impacts:

MM4.17.1-3a *All proposed energy-generating structures shall be constructed utilizing non-reflective materials to the maximum extent feasible. If a reflective material is used, appropriate shielding shall be placed or the structure relocated to reduce the amount of visible glare. The City shall review all discretionary projects prior to issuance of building permits to ensure that appropriate shielding and placement of such structures are included in design plans.*

MM4.17.1-3b *All proposed energy-generating structures in open spaces areas shall not be lighted unless required by code or regulation.*

With implementation of mitigation measures MM4.17.1-3a and MM4.17.1-3b, impacts of glare from implementation of the proposed project would be reduced to less than significant by ensuring that energy-generating structures do not pose a safety risk to drivers or adversely affect sensitive receptors. On a program level, this impact would be ***less than significant***.

Cumulative Impacts

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

The geographic context for an analysis of cumulative impacts on a scenic vista is the City and the view seen from beyond the City, as existing scenic views are confined to this geographic area. Past and present development has somewhat affected scenic views to the extent that development has been allowed in hillside and the Arrowhead Springs areas. However, the San Bernardino General Plan contains Policies including 2.5.6, which protect the physical character of the surrounding environment including the site's natural topography and vegetation. Further, The City requires that all projects be reviewed for consistency with General Plan policies prior to approval. Therefore, future development in the City would not likely result in a significant adverse impact on scenic views. Implementation of project-level mitigation measures MM4.17.1-1a through MM4.17.1-1c would reduce this impact to less than significant by establishing maximum tower height, prohibiting development on major ridgelines viewable from any designated scenic corridor as defined in the General Plan, and prohibiting location of facilities that would substantially obstruct scenic views of adjacent property owners. Therefore, the proposed project would not make a cumulatively considerable contribution to any significant cumulative impact on scenic views. The project's ***cumulative impact would be less than significant***.

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

Due to the City's location where certain areas are bounded by mountains and hills, the geographic context for this cumulative analysis is the City and the view seen from beyond the City as the affected area would not be visible from surrounding areas nor would the Regional Reduction Plan have an influence on surrounding areas. Since the Regional Reduction Plan covers the entire City, cumulative impacts would be same as the impacts identified above for the proposed project, and would be potentially significant if substantial development occurs in open space areas. All future development would be required to comply with proposed policies that regulate the design of new buildings as well as protect the existing visual quality of the City. In addition, implementation of project-level mitigation measures MM4.17.1-2a through MM4.17.1-2f would ensure that the proposed project would not make a cumulatively considerable contribution to adverse impacts relating to visual character and quality. Therefore, on a cumulative level, implementation of the proposed project would not substantially degrade the visual quality or character of the City, and the ***cumulative impact would be less than significant***.

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

Impacts from light and glare are generally localized and site-specific; therefore, the context for an analysis of cumulative impacts from light and glare would be geographically limited to the City. Cumulative development in this geographic area has resulted in moderate to high levels of ambient light and glare typical of urban areas in the more developed areas, and lower levels of light and glare near City boundaries. Future development in this geographic context would further increase sources of light and

glare, which could be potentially significant if future projects introduce light and glare into areas of the City that have lower levels of ambient lighting. The proposed project would not result in new sources of substantial light, since future energy-generating structures would generally not be lighted. Therefore, the proposed project would not make a cumulatively considerable contribution to any cumulative light impact. The proposed project could result in localized increases sources of glare. However, implementation of project-level mitigation measures MM4.17.1-3a and MM4.17.1-3b would reduce any localized glare impact to less than significant and the project would not make a cumulatively considerable contribution to any cumulative glare impact. The ***cumulative impact would be less than significant***.

References

California Department of Transportation (Caltrans). n.d. California Scenic Highway Mapping System San Bernardino County. http://www.dot.ca.gov/hq/LandArch/scenic_highways/index.htm (accessed January 28, 2013).

San Bernardino, City of. 2005a. *City of San Bernardino General Plan,* November 1.

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4.17.2 Agriculture/Forestry Resources

This section of the EIR analyzes the potential environmental effects on agriculture/forestry resources in the City of San Bernardino from implementation of the Regional Reduction Plan. Data for this section were taken from the San Bernardino General Plan (2005a) and associated environmental document (2005b). 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

As set forth in CEQA Guidelines Section 15125(a) this section describes the physical environmental conditions in the City and SOI at the time the environmental analysis commenced. It constitutes the baseline physical conditions by which the City of San Bernardino will determine whether an impact to agricultural resources is significant.

Designated Agricultural Lands

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 Farmland Mapping and Monitoring Program (FMMP). Additional information on the FMMP is provided in this Section under title "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 4 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 4 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 nonirrigated orchards or vineyards, as found in some climatic zones in California. The land must also have been cropped at some time during the 4 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.

A review of the Department of Conservation Farmland Maps for San Bernardino County indicated that there are no areas designated as Prime, Farmland of Statewide Importance, or Unique farmland by the California Resources Agency within the City. San Bernardino consists of Grazing Land and Urban and Built Up Land designations according to the Department of Conservation Farmland Maps for the County.

Past and Present Agricultural Uses in and Around San Bernardino

There is no existing farmland in the City of San Bernardino designated as Important Farmland. Further no land in San Bernardino has been designated as Important Farmland for more than 6 years.

Areas Surrounding San Bernardino

Some of the only agricultural land surrounding San Bernardino is in Redlands and Loma Linda, to the south of the City. Much of this farmland to the south and southwest of San Bernardino is designated Prime Farmland by the Department of Conservation, based on 2010 data. Farmland of Statewide Importance and Unique Farmland are also located within the City of Redlands.

Regulatory Framework

Federal

There are no federal regulations pertaining to agricultural resources.

State

California Land Conservation Act of 1965 (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. To prevent local governments from losing tax revenue on these lands, the Open Space Subvention Act of 1971 gives local governments an annual subvention. Under the Act, either the land owner or the planning jurisdiction (the City) has the ability to submit the property for nonrenewal. There are currently no lands in the City of San Bernardino under Williamson Act contracts.

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

Southern California Agricultural Land Foundation Preserves

The San Bernardino County Agricultural Land Preserves were managed by the Southern California Agricultural Land Foundation (SoCALF) until 2006, when the County of San Bernardino took over management of these parcels. The SoCALF Preserves were established and maintained with funds from the 1988 Park Bond Act regulations.

Local

There are no local regulations pertaining to agricultural 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 Dept. 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 resources within the City of San Bernardino.

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 San Bernardino, 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.

A review of the Department of Conservation Farmland Maps for San Bernardino County indicated that there are no areas designated as Prime, Farmland of Statewide Importance or Unique Farmlands by the California Resources Agency within the City. The City of San Bernardino consists of Grazing Land and Urban Built Up land designations. Therefore, implementation of the proposed Regional Reduction Plan would not convert any agricultural use to nonagricultural use, which includes all California Resource Agency designated Prime Farmland, Unique Farmland, and Farmland of Statewide Importance. There would be ***no impact***. Further analysis is not required.

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 San Bernardino, but does not include conversion of agricultural. There is no land currently under a Williams Act contract in the City and the actions associated with this project would not conflict with existing zoning for agricultural uses. The Regional Reduction Plan includes agricultural related reduction measures to capture and use methane emissions at large dairies, but implementation of these measures would not conflict with existing Williamson Act Contracts. There would be ***no impact***. Further analysis is not required.

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))?

The City of San Bernardino is mostly urbanized and does not contain areas classified as timberland, zoned as timberland, or considered forested with timber. Therefore, implementation of the Regional Reduction Plan in the City of San Bernardino would not result in impacts to timberlands, or conflict with existing forest land zoning. There would be ***no impact***. Further analysis is not required.

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

The City of San Bernardino is mostly urbanized and does not contain forest land. Therefore, implementation of the Regional Reduction Plan in the City of San Bernardino would not result in impacts or conversion of forest land. There would be ***no impact***. Further analysis is not required.

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?

Implementation of the Regional Reduction Plan includes densification and development near transit stations and within urbanized portions of San Bernardino, increased sources of renewable energy sources, and energy efficiency retrofits of existing buildings within the City. The reduction measures within the Regional Reduction Plan related to renewable energy sources focus on including renewable energy sources within existing and future development. As discussed previously, there are no agricultural uses within the City of San Bernardino that are considered Important Farmlands. There would be ***no impact***. Further analysis is not required.

Cumulative Impacts

As discussed for the project-level impacts above, densification of transit-oriented land uses near transit stations would occur during implementation of the Regional Reduction Plan. However, implementation the Regional Reduction Plan will not convert agricultural land uses to nonagricultural uses within the City of San Bernardino. Because there are no Important Farmlands in San Bernardino, agricultural lands

adjacent to farmlands in neighboring communities and cities, near the transit stations, or urbanized areas in the City of San Bernardino, implementation of the Regional Reduction Plan will not convert agricultural uses within the City to nonagricultural uses that may be adjacent to agricultural uses in neighboring communities. Therefore the City's implementation of the Regional Reduction Plan will not impact adjacent agricultural land uses in neighboring communities and cities. The ***cumulative impact would be less than significant***.

References

The California Department of Conservation, Division of Monitoring Program. 2010. *San Bernardino County Important Farmland*, September.

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4.17.3 Air Quality

This section of the EIR analyzes the potential environmental effects on air quality in the City of San Bernardino from implementation of the Regional Reduction Plan. Data for this section were taken from the San Bernardino General Plan (2005a), associated environmental document (2005b), and various sources, including the South Coast Air Quality Management District's (SCAQMD's) 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 San Bernardino 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. The weather station nearest the site is the San Bernardino Station (AQs No. 060719004). The average low is reported at 39.4°F in December and January and the average high is 96.6°F in July. 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 around 16.7 inches per year in San Bernardino.

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 4.17.7 [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 (SCAB), 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 federal Clean Air Act Section 112, Subsection (b) (42 United Sates code Section 7412(b)), is a toxic air contaminant. Under state law, the California Environmental Protection Agency (Cal/EPA), 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 11 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 San Bernardino are best documented by measurements made by the SCAQMD. The City is in the northern and central portions of Source Receptor Area (SRA) 34 (San Bernardino Valley [Central San Bernardino Valley]). The SCAQMD air quality monitoring station in the SRA 34 that is closest to the City is the San Bernardino Monitoring Station. Data from these two stations are summarized in Table 4.17.3-1 (Ambient Air Quality Monitoring in the City of San Bernardino). 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.

Regulatory Framework

Federal

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

The federal Clean Air Act (CAA) of 1970 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 Cal/EPA, 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 4.17.3-1 Ambient Air Quality Monitoring in the City of San Bernardino

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.

Table 4.17.3-2 (State and Federal Ambient Air Quality Standards) shows the California Ambient Air Quality Standards and NAAQS for each of the criteria pollutants.

Table 4.17.3-2 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 4.17.3-3 (Attainment Status of Basin) shows the attainment status for criteria air pollutants in the Basin.

Table 4.17.3-3 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

San Bernardino General Plan

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

Policy 2.4.6 Work with Omnitrans to explore initiatives that promote redevelopment near transit stops in order to encourage transit ridership, reduce vehicular trips, improve air quality, and improve traffic congestion:

a. Concentrate mixed use development, retail, employment, entertainment, educational, and civic/government uses within walking distance of transit stops.

b. Explore the use of incentives that can be awarded to projects that provide pedestrian amenities (wide sidewalks, public plazas, seating areas, etc.) and/or include desirable uses located within walking distance (1/2 mile) of transit stops. Incentives may include density bonuses, increases in non-residential floor area, reductions in parking requirements, and modified development standards.

Policy 2.8.4 Control the development of industrial and other uses that use, store, produce, or transport toxics, air emissions, and other pollutants.

Policy 6.3.9 Work with Omnitrans to create transit corridors, such as the one currently being explored on E Street linking CSUSB to Hospitality Lane, to increase transit ridership, reduce traffic congestion, and improve air quality.

Policy 12.5.2 Prohibit the development of land uses (e.g., heavy manufacturing) that will contribute significantly to air quality degradation, unless sufficient mitigation measures are undertaken according SCAQMD standards.

[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 12.5.4 Evaluate the air emissions of industrial land uses to ensure that they will not impact adjacent uses.

Policy 12.5.5 Purchase City vehicles that use energy efficient fuel and minimize air pollution.

Policy 12.6.1 Promote a pattern of land uses which locates residential uses in close proximity to employment and commercial services and provides, to the fullest extent possible, local job opportunities and commercial service to minimize vehicular travel and associated air emissions.

Policy 12.6.2 Disperse urban service centers (libraries, post offices, social services, etc.) throughout the City to minimize vehicle miles traveled and the concomitant dispersion of air pollutants.

Policy 12.6.3 Install streetscape improvements and other amenities to encourage pedestrian activity in key City areas and reduce vehicular travel and associated air emissions.

Policy 12.6.4 Facilitate the development of centralized parking lots and structures in commercial districts to promote walking between individual businesses in lieu of the use of automobiles.

Policy 12.6.5 Require qualifying development to implement or participate in transportation demand management programs, which provide incentives for car pooling, van pools, and the use of public transit and employ other trip reduction techniques (consistent with the Circulation Element and South Coast Air Quality Management Plan).

Policy 12.6.6 Continue to cooperate with Omnitrans and the Rapid Transit District to expand as necessary the comprehensive mass transit system for the City to reduce vehicular travel.

Policy 12.6.7 Promote the use of public transit and alternative travel modes to reduce air emissions.

Policy 12.7.1 Cooperate with the South Coast Air Quality Management District and incorporate pertinent local implementation provisions of the Air Quality Management Plan.

Policy 12.7.3 Coordinate with SCAQMD to ensure that all elements of air quality plans regarding reduction of air pollutant emissions are being enforced.

Policy 12.7.4 Work with the other cities in the South Coast Air Basin to implement regional mechanisms to reduce air emissions and improve air quality.

Policy 12.7.5 Support legislation that promotes cleaner industry, clean fuel vehicles, and more efficient burning engines and fuels.

Policy 12.7.6 Encourage, publicly recognize, and reward innovative approaches to improve air quality

Policy 12.7.7 Involve environmental groups, the business community, special interests, and the general public in the formulation and implementation of programs that actively reduce airborne pollutants.

Policy 14.2.12 Require that commercial and industrial uses implement transportation demand management programs consistent with the Air Quality Management Plan that

provide incentives for car pooling, van pools, and the use of public transit to reduce traffic and associated noise levels in the City.

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 4.17.3-4 (SCAQMD Thresholds of Significance).

Table 4.17.3-4 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 NOx 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 San Bernardino 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 vehicle miles travelled (VMT) emissions offsets following the recent changes in USEPA requirements.

The Proposed Project (Regional Reduction Plan) would implement measures within San Bernardino designed to increase energy efficiency and reduce vehicle miles traveled (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 of San Bernardino will implement transportation measures to improve air quality. These include VMT reduction strategies such as Regional Reduction Plan reductions as detailed under Transportation-1 (Sustainable Communities Strategy) such as On-Road-1.9 (Trip Reduction Ordinance) and On-Road-1.11 (Pedestrian Bicycle Lanes). Other reduction measures that relate to reduced vehicle emissions include a Transportation Demand Management (TDM) program reduce employee commuter trips through ride-share and transit programs, telecommuting programs, and nonmotorized commutes to work, as included in the Regional Reduction Plan and reflected in the City's General Plan (Policies 6.3.7 and 6.3.8).

The Regional Reduction Plan includes pedestrian and bicycle infrastructure planning for bikeways and pedestrian paths to be build that connect various land uses. A key benefit to the implementation of pedestrian and bicycle infrastructure within the City will be a reduction in traffic and improved air quality. Implementation of these measures through the Regional Reduction Plan would reduce VMT and thereby improve air quality by reducing vehicle-related air pollutant emissions. In addition, 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 local criteria air pollution. The implementation of the Regional Reduction Plan will further the goals of the Air Quality Management Plan for the Basin. Therefore, this impact would be ***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 grading or excavation activities (if required, for installation of energy-generating structures or bicycle/pedestrian paths and transit infrastructure), and building energy retrofits, 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 sources of VOC emissions are the application of architectural coating and off-gas emissions associated with asphalt paving. Information regarding specific facilities and building details required to implement the Regional Reduction Plan reduction measures is not available, therefore 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 energy-efficiency retrofits, renewable energy project, pedestrian and bicycle paths and transit infrastructure. These offsets would result in an overall reduction in both GHG and criteria air pollutant emissions.

Although short-term construction emissions cannot be quantified, the reduction in long-term emissions of criteria pollutants from operation of the energy efficiency measures, renewable energy generation, methane capture systems, water conservation measures, solid waste diversion programs, and the various transportation measures can be quantified. This is because of the level of commitment that the City of San Bernardino has chosen in implementing the reduction measures in the Regional Reduction Plan. Table 4.17.3-5 (City of San Bernardino Regional Emissions [lb/day]) compares the criteria pollutant emissions predicted in the San Bernardino General Plan with the predicted reductions in those emissions through implementation of the Regional Reduction Plan.

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

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

The occurrence and severity of potential odor impacts depend on several factors: the nature of the source, the frequency and strength of the emissions, the presence/absence of odor-sensitive receptors near the source, and the local pattern of wind speeds and directions. While offensive odors rarely cause any physical harm, they can be unpleasant and cause distress among the public and generate citizen complaints. Odor impacts can result from siting a new odor source near existing receptors or siting a new sensitive receptor near an existing odor source. Typical land uses that have the potential to generate considerable odors include wastewater treatment plants, landfills, confined animal facilities, composting stations, food manufacturing plants, refineries, and chemical plants.

Table 4.17.3-5 City of San Bernardino Regional Emissions (lb/day)

Emission Sources[a]	*VOC*	*NO_X*	*CO*	*SO_X*	*PM_{10}*
San Bernardino General Plan					
Transportation	2,203	3,010	23,881	63	12,164
Area Sources:					
Natural Gas	32.96	446.86	181.61	-	0.82
Hearth	12,297.46	139.62	13,564.80	21.48	1,858.04
Landscaping	—	—	—	—	—
Consumer Products	537.13	—	—	—	—
Subtotal Area Sources	*12,867.55*	*586.49*	*13,746.40*	*21.48*	*1,858.86*
Total San Bernardino Plan Emissions	***15,071***	***3,597***	***37,627***	***84***	***14,022***
Changes in Emissions with the Regional Reduction Plan[b]					
Transportation	-619.0	-845.8	-6710.6	-17.7	-3418.1
Area Sources:					
Natural Gas	-2.0	-26.8	-10.9	0.0	0.0
Hearth	0.0	0.0	0.0	0.0	0.0
Landscaping	-10.0	-0.1	-5.3	0.0	-0.1
Consumer Products	0.0	0.0	0.0	0.0	0.0
Subtotal Area Sources Changes	*-12.0*	*-26.8*	*-16.2*	*0.0*	*-0.1*
GHG Performance Standard[c]	-170.7	-40.7	-426.2	-1.0	-158.8
Total Changes in Emissions with the Regional Reduction Plan	***-802***	***-913***	***-7,153***	***-19***	***-3,577***
Emission Comparison					
Net San Bernardino General Plan Emissions with Implementation of the Regional Reduction Plan	14,269	2,684	30,474	65	10,445
Estimated Regional Reduction Plan Percent Reduction in Air Pollution	5.3%	25.4%	19.0%	22.2%	25.5%
SCAQMD Threshold	**55**	**55**	**550**	**150**	**150**
Is the General Plan Significant with the Regional Reduction Plan Reductions?	Yes	Yes	Yes	No	Yes
Is the Regional Reduction Plan Significant?	No	No	No	No	No

lb/day = pounds per day

a. The General Plan EIR (dated July 2005) does not include existing emissions or PM2.5 emissions.

b. Regional Reduction Plan reductions based on percentage reductions by sector (energy sector = natural gas, etc.)

c. GHG Performance Standard is not sector specific. Estimated reductions based upon expected reductions of totals for new development

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 San Bernardino include components that typically generate odors. Therefore, this impact would be ***less than significant***. No mitigation is required.

Project Impacts and Mitigation Measures

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

Impact 4.17.3-1 **The proposed project could expose sensitive receptors to substantial pollutant concentrations. Implementation of mitigation measure MM4.17.3-1a and MM4.17.3-1b would reduce this impact to less than significant.**

As shown in Table 4.17.3-5, the Regional Reduction Plan will reduce criteria pollutant emissions within the City of San Bernardino. However, there is the potential to increase concentrations of air pollution within areas near transit stations as a result of the reduction measure On-Road Transportation-1 (Sustainable Communities Strategy [SCS]) in the Regional Reduction Plan. This is particularly true with transit-oriented development because emission sources such as diesel-engines for buses and for pulling the Metrolink commuter train can be in close proximity to sensitive receptors such as residential land uses. Transit oriented development within the SCS for the City of San Bernardino includes the development of the sbX rapid transit bus system, the Downtown San Bernardino and Redlands Passenger Rail Projects, and a increase in Metrolink trains, which increases the concentrations of air pollutants including diesel particulate matter (DPM) within the neighborhoods of transit-oriented development.

The California ARB's Land Use and Air Quality: A Community Health Perspective (California ARB 2005) recommends setbacks of sensitive land uses such as residential from sources of DPM to reduce concentrations of air pollution within sensitive land uses down to background levels. The document recommends a setback of 500 feet from high traffic roadways and a setback of 1,000 feet from major service and maintenance rail yards. DPM emissions near transit stations are not as high as either of these uses. In particular, rail yards have much higher DPM concentrations than transit stations because of the idling "switch engines" working within the major service and maintenance rail yards. Therefore, a setback for residential and other sensitive land uses (day care, preschools, and elder care facilities) of at least 500 feet but no more than 1,000 feet from a typical transit rail line would sufficiently reduce concentrations of air pollutants down to background levels. In addition, to still be transit-oriented development, residential units within the development must be within 0.25 mile (1,320 feet) from the transit station. However, the San Bernardino Metrolink Station is not a typical transit rail-line as it also serves as an Amtrak station and BNSF rail yard. The level of activity at the San Bernardino Station precludes transit oriented development as sensitive receptors cannot be built within ¼ mile of the station without exceeding health risk standards.

The Omnitrans sbX Street Corridor Bus Rapid Transit (BRT) Project introduces a 15.7-mile corridor between north San Bernardino and Loma Linda. The project's completion is scheduled for 2014 and once completed will begin service at 16 stops using compressed natural gas buses. As this project will not add additional diesel engines, there will be no increase in DPM from this project.

The Downtown San Bernardino and Redlands Passenger Rail Projects will extend service from the San Bernardino Santa Fe Depot along a 9-mile stretch of existing railroad corridor. The projects will implement passenger rail service between Redlands and San Bernardino. These trains will be operated

using diesel engines. To evaluate the California ARB recommended setbacks within the context of new transit stations, dispersion modeling was conducted using the USEPA Screen3 dispersion model to predict the DPM emissions concentrations and associated health risks at 500 feet, 1,000 feet, and 1,320 feet from the locomotive engine pulling the Metrolink commuter train. It was assumed that by project buildout in 2020, 20 trains per day would stop at stations between the Santa Fe Depot and the Redlands terminus with an average wait time of 2 minutes per stop. Table 4.17.3-6 (DPM Concentrations and Health Impacts) shows the results of the predicted concentration of DPM and associated health risks.

Table 4.17.3-6 DPM Concentrations and Health Impacts

Distance from Tracks	*DPM Concentration (µg/m³)*	*Cancer Risk*	*Hazard Quotient*	*Significant?*
500 feet	0.00462	1.47	0.00092	No
1,000 feet	0.00237	0.75	0.00047	No
1,320 feet	0.00219	0.70	0.00044	No
SCAQMD Thresholds		10	1	

SOURCE: SCAQMD (2012).

Dispersion modeling predicts that sensitive land uses can be safely placed within transit-oriented development near the passenger rail stations if those sensitive land uses are at least 500 feet from the rail lines. It is hoped that the SCS and associated transit-oriented development will increase ridership of the trains by two to three times the current run schedule, but that level of activity would only occur if ridership warrants it. Table 4.17.3-6 shows that activity levels on the rail line would have to increase seven fold before the SCAQMD recommended threshold is reached for cancer risk at a distance of 500 feet. Therefore, the 500-foot setback will reduce impacts associated with exposure to substantial concentrations of air pollutants. Note that this mitigation does not affect transit-oriented development built around the Omnitrans Smart Bus system or any future *light-rail* systems because they are natural gas or electric engines. These types of transit do not cause high concentrations of air pollutants near the transit stations. Therefore, the following mitigation measure is needed to reduce impacts from diesel operated transit to less than significant:

MM4.17.3-1a *Transit-oriented development near the passenger rail stations shall set back all sensitive land uses (residential, daycare facilities, schools, preschools, and eldercare facilities) at least 500 feet from the nearest railroad track to reduce concentrations of air pollution, to acceptable levels.*

MM4.17.3-1b *Transit-oriented development would not be allowed in conjunction with the San Bernardino Santa Fe Depot.*

Implementation of mitigation measure MM4.17.3-1a and MM4.17.3-1b would reduce this impact to ***less than significant***.

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 4.17.3-5, the Regional Reduction Plan will reduce criteria pollutant emissions within the City of San Bernardino. 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 San Bernardino General Plan to be less than cumulatively considerable. Therefore, the net emissions resulting from the San Bernardino 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 San Bernardino General Plan was identified in the San Bernardino General Plan EIR.

However, because implementation of the Regional Reduction Plan has a net reduction in air pollution, this impact with regard to the proposed project ***would not be cumulatively considerable***. No mitigation is required.

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4.17.4 Biological Resources

This section of the EIR analyzes the potential environmental effects on biological resources in the City of San Bernardino from implementation of the Regional Reduction Plan. Data for this section were taken from the San Bernardino General Plan (2005a) and associated environmental document (2005b). 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

As set forth in CEQA Guidelines Section 15125(a) this section describes the physical environmental conditions in the City and SOI at the time the environmental analysis commenced. It constitutes the baseline physical conditions by which the Lead Agency and the City of San Bernardino will determine whether a Biological Resources impact is significant.

Existing Habitats and Vegetation Communities within the City of San Bernardino

The City of San Bernardino is located in the valley and upland region of San Bernardino County and has been largely disturbed by urban and agricultural uses. The northernmost parts of the City lie within the foothills and mountains of the San Bernardino Mountain range and are bound by the San Bernardino National Forest. In the developed portions of the City, there are few remaining areas of natural habitat. Open space consists primarily of developed parks, recreation areas, and golf courses. These areas mostly contain nonnative species of plants and animals, while the northern portions of the City, which has a great deal of natural open space, contain the majority of the City's significant biological resources. Figure 4.17.4-1 (Biological Resource Areas) shows the general areas where biological resources, including riparian corridors, may be present.

The majority of the City lies on broad, sloping lowlands along the southwest margins of the San Bernardino Mountains. The lowland is underlain by alluvial sediments eroded from bedrock in the mountains and washed down into the valley by rivers and creeks. Alluvial fans and floodplains of the valley floor support distinctive alluvial scrub and alluvial fan scrub vegetation. Upland areas support inland coastal sagebrush scrub vegetation. Above the valley floor and uplands are deep canyons which support riparian and oak woodland habitats and riparian forest. Broad canyons and mountain slopes of the foothills support chaparral and woodland vegetation. Disturbed and developed areas of the City support nonnative annual grasslands. Plant communities within the City include the following:

Coastal Sage Scrub

Coastal sage scrub communities consist of drought-deciduous, low, soft-leaved shrubs and herbs on gentle to steep slopes below 3,000 feet in elevation. Coastal sage-chaparral scrub is found on upland slopes, typically south-facing. It is often considered part of a collection of series referred to as coastal scrub. Dominant shrub species include California sagebrush, California brittlebush, and California buckwheat. Other species may include deerweed and white sage, black sage, and chamise. Several

dominant species occur within coastal sage scrub communities and some areas may be overwhelmingly dominated by one or two species. In addition, several coastal sage scrub communities support representative dominant species of two separate communities and are designated as such. Coastal sage scrub communities within the planning area may include buckwheat scrub, coastal sage-chaparral scrub, Riversidean sage scrub, and Riversidean alluvial fan sage scrub. Coastal sage scrub is present on the hillsides surrounding drainages. Riversidean alluvial fan sage scrub habitat dominates the Santa Ana River flood plain that traverses the southern portion of the City.

Chaparral

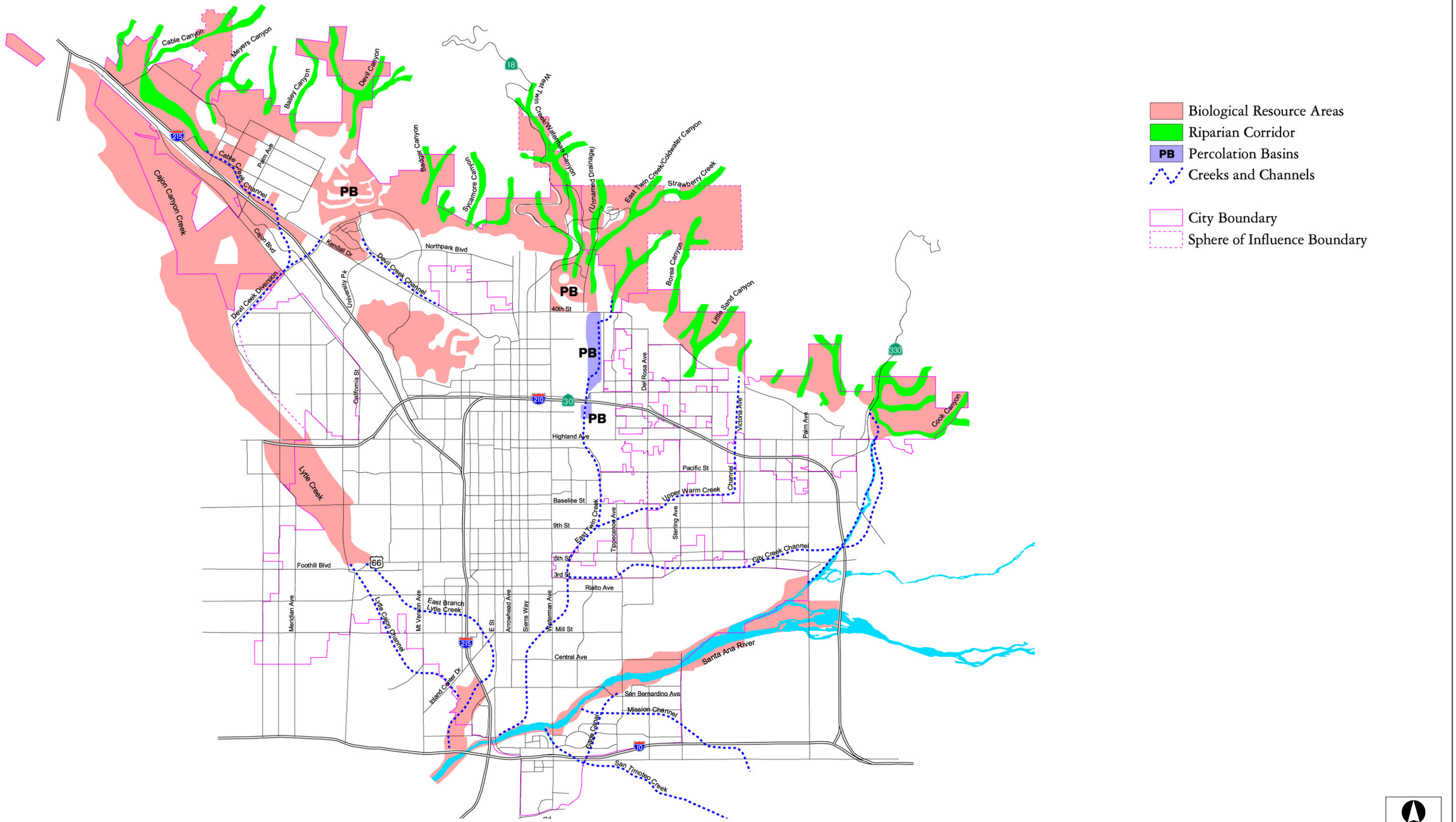
Chaparral communities consist of evergreen, medium height to tall sclerophyllous (woody with leathery leaves) shrubs that form a dense cover on steep slopes. The dense, almost impenetrable, cover allows very little to no understory growth and usually consists mostly of leaf litter. Chaparral is an upland habitat and is found mainly on the upper slopes and higher elevations in the mountain ranges in the northern portion of the City. Dominant species include chamise, buckwheat species, chaparral whitethorn and yucca. Common species may include hoaryleaf ceanothus, mountain mahogany, and coast live oak. The type of chaparral community depends upon the dominant species. Chaparral communities found within the planning area may include chamise chaparral, scrub-chaparral, mixed chaparral, and soft chaparral.

Riparian

Riparian communities occur along water courses or water bodies adaptable to seasonal flooding. Structurally, riparian areas may range from a dense canopy of large trees with a bramble/thicket understory within a steep canyon, to open, lower-growing species within a sandy wash. Riparian plant species include willows, Fremont's cottonwood, sycamore, white alder, California walnut, mulefat, and broad-leaved cattail. Herbaceous species include red monkeyflower, California mugwort, white-flowered deadly nightshade, croton, and poison oak Shrubs along the canyon sides include mountain mahogany, California brickellia, and hoaryleaf ceanothus. California bay and coast live oak are occasionally found in these communities. Riparian communities may include southern willow scrub and mule fat scrub. Riparian communities may also include the riparian woodland and forest communities described below.

Woodland

Woodland communities are associated with multi-layered vegetation canopies ranging from open, to moderately dense cover and have a tree canopy that is at least 20 percent open. Woodland habitats are often associated with watercourses and riparian communities. Within the planning area, stands of riparian woodlands primarily occur within the major drainage courses in the northern portion of the City and may include southern sycamore-alder riparian woodland, sycamore willow woodland, and California walnut woodland.



***Source*:** City of San Bernardino 2005.

Figure 4.17.4-1
Biological Resource Areas

ATKINS

Forest Communities

Forest communities consist of multi-layered vegetation that forms a dense canopy cover that is almost completely closed. The ground layer of plants is sparse or absent. Forest communities may occur in stream benches and terraces, and canyon bottoms near streams. Within the planning area forest communities may include southern coast live oak riparian forest, southern cottonwood-willow riparian forest, white alder riparian forest, and lower montane coniferous forest. Southern coast live oak riparian forest may be dominated by coast live oak, Englemann oak, and California bay. Southern cottonwood-willow riparian forest community consists of tall, open, broadleafed winter-deciduous riparian forests dominated by Fremont cottonwood and several tree willows. Understories are usually shrubby willows. Lower montane coniferous forest is dominated by Coulter pine, manzanita, coast live oak, and occasional stands of scrub oak.

Annual Grasslands [Valley and Foothill Grasslands]

This extensive collection of series (including Annual Grasslands and several Needlegrass Grasslands) is composed of many alien and native annual species. Composition varies among stands and many species beyond those typically listed may also be present. Species include ripgut brome, soft chess, foxtail chess, filarees, common goldfields, lupine, wild oats, and Italian rye-grass. Stands of once extensive series of valley needlegrass grasslands now typically include nonnative annual species mixed with the perennial grasses and herbs. Foothill needlegrass, nodding needlegrass, and purple needlegrass occur sympatrically, but do not typically mix. The nonnative annual grassland areas are typically disturbed or graded areas and vacant lots that have revegetated with opportunistic weedy species.

Ornamental Woodland

Ornamental woodlands are created woodlands using nonnative trees and shrubs. Common species of trees found within ornamental woodlands throughout the City of San Bernardino include various species of eucalyptus tree, tamarisk and Peruvian pepper trees. Ornamental woodlands often provide excellent nesting habitat for raptors and other birds. Ornamental woodlands also provide shade, wind protection, erosion control and aesthetic value to people. Scattered ornamental woodlands and windrows exist throughout the City.

Developed/Disturbed

Although most of the land within the City limits supported coastal sage and alluvial communities at one time, much of the land today is either developed or has been extensively modified by human activity sometime in the recent past. Development includes any form of human disturbances, especially in cases of permanent impacts to natural communities. Disturbed areas would include dirt roads, off-highway use, pavement, concrete, buildings and structures, bridges, active agricultural activities, and permanent flood control measures. Fallow agricultural areas are in various stages of succession and are covered with nonnative grasslands, emergent native vegetation and exotics. These areas may provide suitable habitat for the San Bernardino kangaroo rat (SBKR), a federally endangered species of rodent. In developed areas, native species have been replaced by landscaping or a variety of annual grasses. The nonnative annual grass species found include a variety of bromes, Bermuda grass and the large Johnston grass. Nonnative tree clusters and windrows are also located within the developed portions of the City,

consisting of large eucalyptus, California pepper, and olive trees and oleander. In disturbed areas ruderal species consist of weedy grasses such as red brome and Mediterranean grass, and weedy forbs such as short-podded mustard, Russian thistle, and tocalote. Native species may include California croton, deerweed and scalebroom, and doveweed.

Nonnative Landscaping

Nonnative landscaping includes palms, blue gum [eucalyptus], Peruvian pepper tree, nonnative oaks, pines, fruit trees, olive, and other landscape trees and shrubs.

Wildlife

The vegetation communities within the City of San Bernardino provide habitat for a wide variety of animal species. Common birds in the area include the roadrunner, horned lark, scrub jay, plain tit-mouse, verdin, wrentit, Bewick's wren, California thrasher, American goldfinch, Brown California towhee, lesser goldfinch, and song sparrow. Raptors and owls exist in some of the open areas of the City.

Within the City limits, common mammal species are limited to those that have adapted to or can coexist with humans, such as pocket gophers, California ground squirrels, desert cottontail rabbits, striped skunk, and opossum. Smaller mammals still persist in the streamside woodland areas within the northern limits of the City and the SOI. Pocket gopher, California pocket mouse, kangaroo rats, various white-footed mice, California vole, black-tail jackrabbit, brush rabbit, and cottontail rabbit are typically found in undisturbed areas containing Riversidean Alluvial Fan Sage Scrub. Moderate size mammals such as spotted striped skunk, Gray squirrel, opossum, raccoon, bobcat, and gray fox are typically found in the mixed chaparral habitat located in the northern areas of the City. Very few large mammals, such as black bear, mountain lion, and mule deer occur within the City limits, but have been observed in the mountainous areas north of the City.

Sensitive Biological Resources

Sensitive biological resources include vegetation types and habitats that are either unique, of relatively limited distribution in a region, or of particularly high value to wildlife. These resources include a variety of plant and animal species that are specialized and endemic to a particular habitat type. Due to loss of habitat, some of these species have been designated by federal and state government resource agencies as threatened or endangered. Species listed as threatened are those whose numbers have dropped to such low levels and/or whose populations are so isolated that the continuation of the species could be jeopardized. Endangered species are those with such limited numbers or subject to such extreme circumstances that they are considered in imminent danger of extinction.

Other government agencies and resource organizations also identify sensitive species, those that are naturally rare and that have been locally depleted and put at risk by human activities. While not in imminent danger of jeopardy or extinction, sensitive species are considered vulnerable and can become candidates for future listing as threatened or endangered. These include plants identified as sensitive by the California Native Plant Society (CNPS), wildlife considered as species of special concern, special animals, or fully protected species in California.

Sensitive Natural Communities

Portions of the City support habitat types considered sensitive by resource agencies, namely the California Department of Fish and Wildlife (CDFW), due to their scarcity and ability to support a number of state- and federally listed endangered, threatened, and rare vascular plants, and sensitive wildlife species. The California Natural Diversity Database (CNDDB) reports the occurrence of sensitive biological elements, including sensitive plant and animal species, and vegetation communities within and in the vicinity of Highland. The primary purpose of the CNDDB classification is to assist in the location and determinations of significance and rarity of various vegetation types. Thus, ranking of natural communities by their rarity and threat is an important facet of the classification. The CNDDB community lists, notes rare communities that are either known or believed to be of high priority for inventory in CNDDB. Sensitive vegetation communities (i.e., "high priority" habitat types) that are known or may occur within the San Bernardino planning area include the following:

- Valley Needlegrass Grassland
- Wildflower Field (California Annual Grassland Series)
- Riversidean Alluvial Fan Sage Scrub
- Southern Willow Scrub
- Southern Coast Live Oak Riparian Forest
- Southern Cottonwood-Willow Riparian Forest
- Southern Riparian Forest
- White Alder Riparian Forest
- Southern Sycamore-Alder Riparian Woodland
- California Walnut Woodland
- Freshwater Seep

Sensitive Plants

Sensitive plants include those listed, or are candidates for listing, by the U.S. Fish and Wildlife Service (USFWS), CDFW, and CNPS. The sensitive plant species listed in Table 4.17.4-1 (Sensitive Plant Species Potentially Occurring in the City of San Bernardino) were reported in the CNDDB from the Harrison Mountain, Redlands San Bernardino South, and Yucaipa USGS quadrangles and potentially occur within or in the vicinity of the City.

Sensitive Wildlife

Sensitive wildlife includes those species listed as endangered or threatened under the federal Endangered Species Act (FESA) or California Endangered Species Act (CESA), as candidates for listing and species of special concern by the USFWS and CDFW, and fully protected species. A number of sensitive wildlife species from the region were reported in the CNDDB and are listed in Table 4.17.4-2 (Sensitive Wildlife Species Known or Potentially Occurring in the City of San Bernardino). Several raptor species that may be migrants to the general area are also considered sensitive and are included.

Table 4.17.4-1 Sensitive Plant Species Potentially Occurring in the City of San Bernardino

Scientific Name	*Common Name*	*Habitat*	*Federal/State Listing Status*	*CNPS Designation*
Arenaria paludicola	Marsh sandwort	Marshes and swamps (freshwater or brackish)	FE/SE	1B.1
Berberis nevinii	Nevin's barberry	Chaparral, cismontane woodland, coastal scrub, riparian scrub	FE/SE	1B.1
Brodiaea filifolia	Thread-leaved brodiaea	Chaparral (openings), cismontane woodland, coastal scrub, playas, valley and foothill grassland, vernal pools	FT/SE	1B.1
Carex comosa	Bristly sedge	Coastal prairie, marshes and swamps (lake margins), valley and foothill grassland	None/None	2.1
Centromadia pungens ssp. *laevis*	Smooth tarplant	Chenopod scrub, meadows and seeps, playas, riparian woodland, valley and foothill grassland	None/None	1B.1
Calochortus plummerae	Plummer's mariposa lily	Coastal scrub, chaparral, valley and foothill grassland, woodland, lower montane coniferous forest. Occurs on rocky and sandy sites, usually of granitic or alluvial material.	None/None	4.2
Chorizanthe parryi var. *parryi*	Parry's spineflower	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland	None/None	1B.1
Chorizanthe xanti var. *leucotheca*	White-bracted spineflower	Coastal scrub (alluvial fans), Mojavean desert scrub, pinyon and juniper woodland	None/None	1B.2
Cordylanthus maritimus ssp. *laevis*	Salt marsh bird's-beak	Coastal dunes, marshes and swamps (coastal salt)	FE/SE	1B.2
Dodecahema leptoceras	Slender-horned spineflower	Chaparral, cismontane woodland, coastal scrub (alluvial fan)	FE/SE	1B.1
Dudleya multicaulis	Many-stemmed dudleya	Chaparral, coastal scrub, valley and foothill grassland	None/None	1B.2
Eriastrum densifolium spp. *sanctorum*	Santa Ana River woollystar	Chaparral and coastal scrub (alluvial fan)	FE/SE	1B.1
Fimbristylis thermalis	Hot springs fimbristylis	Meadows and seeps (alkaline, near hot springs)	None/None	2.2
Galium californicum ssp. *primum*	California bedstraw	Chaparral, lower montane coniferous forest	None/None	1B.2
Helianthus nuttallii ssp. *parishii*	Los Angeles sunflower	Marshes and swamps (coastal salt and freshwater)	None/None	1A
Horkelia cuneata ssp. *puberula*	Mesa horkelia	Chaparral, woodland, coastal scrub. Occurs on sand or gravelly sites.	None/None	1B.1
Lepidium virginicum var. *robinsonii*	Robinson's pepper-grass	Chaparral, coastal scrub. Occurs in dry soils, shrubland.	None/None	1B.2
Lilium parryi	Lemon lily	Lower montane coniferous forest, meadows and seeps, riparian forest, upper montane coniferous forest	None/None	1B.2
Lycium parishii	Parish's desert-thorn	Coastal scrub, Sonoran desert scrub	None/None	2.3

Table 4.17.4-1 Sensitive Plant Species Potentially Occurring in the City of San Bernardino

Scientific Name	*Common Name*	*Habitat*	*Federal/State Listing Status*	*CNPS Designation*
Monardella pringlei	Pringle's monardella	Coastal scrub (sandy)	None/None	1A
Ribes divaricatum var. *parishii*	Parish's gooseberry	Riparian woodland	None/None	1A
Rorippa gambelii	Gambel's water cress	Marshes and swamps (freshwater or brackish)	FE/ST	1B.1
Schoenus nigricans	Black sedge	Marshes and swamps (often alkaline)	None/None	2.2
Sidalcea neomexicana	Salt spring checkerbloom	Alkali playas, brackish marshes, chaparral, coastal scrub, lower montane coniferous forest, Mojavean desert scrub.	None/None	2.2
Theylypteris puberula var. *sonorensis*	Sonoran maiden fern	Meadows and seeps (seeps and streams)	None/None	2.2

SOURCES: City of San Bernardino (2005b); CNPS (2013).
USFWS Categories
FE = Federally listed as Endangered
FT = Federally listed as Threatened
SE = State listed as Endangered
ST = State listed as Threatened
CNPS Categories
1A = Plants presumed extinct in California
1B = Plants that are rare, threatened, or endangered in California and elsewhere
2 = Plants that are rare, threatened, or endangered in California but more common elsewhere
3 = Plants about which the CNPS needs more information. This is a review list.
4 = Plants of limited distribution. This is a watch list.
CNPS Threat Code Extensions
None = Plant is lacking threat information
1 = Seriously endangered in California
2 = Fairly endangered in California
3 = Not very endangered in California

Table 4.17.4-2 Sensitive Wildlife Species Known or Potentially Occurring in the City of San Bernardino

Scientific Name	*Common Name*	*Habitat*	*Federal/State Listing Status*	*Other Designation*
Insects				
Rhaphiomidas terminates abdominalis	Delhi Sands flower-loving fly	Wholly or partially consolidated dunes (Delhi soils series), open sand. Fine, sandy soils with sparse vegetation cover of California buckwheat, croton, deerweed, and evening primrose	FE/None	None
Fish				
Catostomus santaanae	Santa Ana sucker	Small and shallow streams and tributaries	FT/SC	None
Rhinichthys osculus ssp.	Santa Ana speckled dace	Small springs or streams to large rivers and deep lakes	None/SC	None

Table 4.17.4-2 Sensitive Wildlife Species Known or Potentially Occurring in the City of San Bernardino

Scientific Name	*Common Name*	*Habitat*	*Federal/State Listing Status*	*Other Designation*
Amphibians				
Batrachoseps gabrieli	San Gabriel slender salamander	San Gabriel Canyon system, typically above 1,000 meters	None/None	SA
Rana aurora draytonii	California red-legged frog	Coastal drainages	FT/SC	None
Rana muscosa	Mountain yellow-legged frog	Highly aquatic, found within a meter or two from the edge of water	FE/SC	None
Reptiles				
Aspidoscelis hyperythra	Orange-throated whiptail	Coarse soils in open coastal sage scrub vegetation, chaparral, dry riparian areas	None/SC	None
Charina bottae umbratica	Southern rubber boa	Mixed conifer-oak forests and woodlands	None/ST	None
Lampropeltis zonata parvirubra	San Bernardino mountain kingsnake	Pine forest, oak forest, and chaparral	None/SC	None
Phrynosoma coronatum (*blainvillii population*)	coast (San Diego) horned lizard	Open areas of sandy soil with coastal sage scrub, chaparral, grassland, riparian, and washes and watercourses	None/None	CSC/FS
Birds				
Accipiter cooperi (nesting)	Cooper's hawk	Oak and riparian woodlands, windrows, open fields. Known to use urban areas occupying trees among residential/commercial uses.	None/None	CSC
Accipiter striatus (nesting)	Sharp-shinned hawk	Variety of residential, chaparral, grassland, sage scrub, crop land, riparian, and oak woodland, windrows, open fields.	None/None	CSC
Aimophila ruficeps canescens Southern	California rufous-crowned sparrow	Open shrubby habitat on rocky slopes	None/SC	None
Aquila chrysaetos	Golden eagle	Grasslands, brushlands, deserts, oak savannas, open coniferous forests and montane valleys. Nests rock outcrops and ledges.	None/None	CSC/SFP/ BCC/BLM/FS
Athene (*Speotyto*) *cunicularia hypuaea*	Burrowing owl	Shortgrass prairies, grasslands lowland scrub, agricultural lands, coastal dunes, desert floors, and some artificial open areas. Uses abandoned ground squirrel burrows and artificial structures such as berms, culverts, and underpasses.	None/None	CSC/BCC/ BLM/FS
Buteo swainsoni (nesting)	Swainson's hawk	Grasslands and other open terrain	None/ST	FS/BCC
Circus cyaneus (nesting)	Northern harrier	Grasslands and other open terrain. Soars over open fields, low perches.	None/None	CSC

Table 4.17.4-2 Sensitive Wildlife Species Known or Potentially Occurring in the City of San Bernardino

Scientific Name	*Common Name*	*Habitat*	*Federal/State Listing Status*	*Other Designation*
Coccyzus americanus occidentalis	Western yellow-billed cuckoo	Riparian. Uncommon to rare summer resident of valley foothill and desert riparian habitats	FC/SE	None/BCC/FS
Eremophila alpestris actia	California horned lark	Variety of open habitats, usually where trees and large shrubs are absent.	None/None	CSC
Falco columbarius (wintering)	merlin	Grasslands, coastal sage scrub and estuaries, windrows, open fields.	None/None	CSC
Falco mexicanus (nesting)	Prairie falcon	Grasslands, coastal sage scrub, and estuaries.	None/None	CSC/BCC
Falco peregrines anatum (nesting)	Peregrine falcon	Estuaries, wetlands, and coastal bluffs. Breeding habitat in high cliffs along the coast.	Delisted/SE	None/BCC/SFP
Polioptila californica californica	Coastal California gnatcatcher	Low elevation coastal sage scrub and coastal bluff scrub	None/None	CSC
Vireo bellii pusillus	Least Bell's vireo	Riparian vegetation	FE/SE	None
Mammals				
Chaetodipus (*Perog nathus*) *fallax fallax*	Northwestern San Diego pocket mouse	Coastal sage scrub, sage scrub/grassland ecotones, and chaparral communities. Moderately gravelly and rocky substrates, disturbed grassland and open sage scrub vegetation with sandy-loam to loam soils	None/None	CSC
Dipodomys merriammi parvus	San Bernardino kangaroo rat	Riversidean alluvial fan sage scrub and sandy loam soils, alluvial fans/flood plains, and along washes near sage scrub. Prefers sandy loam substrates. Santa Ana River, Cajon Creek Wash, Lytle Creek Wash, City Creek, and upper Etiwanda Wash in San Bernardino County.	None/none	CSC
Dipodomys stephensi	Stephen's kangaroo rat	Sparsely vegetated annual grassland and sage-scrub communities	FE/ST	None
Eumops perotis californicus	California mastiff bat	Open areas with high cliffs.	None/None	CSC/BLM
Lasiurus xanthinus	Western yellow bat	Desert regions. Found near water features; open grassy areas and scrub, canyons, landscape palms and orchards.	None/None	SA
Neotoma lepida intermedia	San Diego desert wood rat	Riversidean coastal sage scrub, chaparral and grasslands. Shrub and desert habitats, primarily associated with rock outcroppings, boulders, cacti, or areas of dense undergrowth	None/None	CSC
Onychomys torridus	Ramona Southern grasshopper mouse	Desert and semi-desert scrub, rocky soils, creosote	None/SC	None

Table 4.17.4-2 Sensitive Wildlife Species Known or Potentially Occurring in the City of San Bernardino

Scientific Name	*Common Name*	*Habitat*	*Federal/State Listing Status*	*Other Designation*
Perognathus longimembris brevinasus	Los Angeles pocket mouse	Inhabits open sandy ground. Probably prefers sparsely vegetated habitats.	None/None	CSC/FS

SOURCE: City of San Bernardino 2005b

Federal Designations

FE = Federally listed as Endangered

FT = Federally listed as Threatened

FC = Federal Candidate

BLM = US Department of the Interior, Bureau of Land Management sensitive species

FS = US Forest Service sensitive species

BCC = USFWS Birds of Conservation Concern

Delisted = Delisted species are monitored for 5 years

State Designations

SE = State listed as Endangered

CSC = California Species of Special Concern

SFP = State Fully Protected Species

SA = Special Animal. Taxa of concern to the California Natural Diversity Data Base regardless of their current legal or protected status.

None = Not listed or designated as sensitive.

Observed = Recorded observation during previous surveys.

Wildlife Movement Corridors

Wildlife corridors link areas of suitable habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. Corridors are links between different populations of a species and mitigate the effects of habitat fragmentation by (1) allowing animals to move between remaining habitats (which allows replenishment of depleted populations and promotes genetic diversity); (2) providing escape routes from fire, predators, and human disturbances that put populations or local species at risk; and (3) serving as travel routes for individuals moving within their home ranges for food, water, mates, and shelter. Wildlife movement activities usually fall into one of three movement categories: dispersal, seasonal migration, or movements related to home range activities. Large open spaces will generally support a diverse wildlife community engaging in all types of movement. Wildlife movement may range from nonmigratory movement of amphibians, reptiles, and some birds on a local level to the many-square-mile home ranges of large mammals moving at a regional level.

Historically, the land within the City of San Bernardino provided movement in both north/south and east/west directions, and provided a connection between the nearby San Bernardino Mountains to the valley floor. Currently, the City is mostly developed, with most of the land converted from open space areas to commercial, industrial, residential, and recreational uses. Wildlife movement on a north/south regional basis has ceased due the development of the valley floor. Major wildlife movement within the City is not likely to occur. Regional wildlife movement in an east/west orientation in the mountains and along the undeveloped foothills northeast of I-215 and north of SR-30/I-210 may still provide viable wildlife corridors. Wildlife corridors within the City are most likely limited to the northern undeveloped portions of the City. Cajon Canyon, Lytle Creek Wash may also serve as potential movement corridors, but to a lesser extent, as portions of the channels have been modified by aggregate extraction activities. East/west corridors may exist along the Santa Ana River although large portions of the wash have also been modified for flood control and water conservation facilities, and by active aggregate mining activities. Local wildlife corridors are likely to occur within the canyons and washes in the foothills and mountains north of the City.

Jurisdictional Waters and Wetlands

U.S. Army Corps of Engineers (USACE) jurisdiction must exhibit specific characteristics related to hydrology, soils, and hydrophytic plants, which are plants that grow in soils that are permanently or periodically saturated. In the absence of wetlands, USACE jurisdiction in nontidal waters such as rivers, lakes, and intermittent streams extends to the ordinary high-water mark. Pursuant to Sections 1600–1603 of the California Fish and Wildlife Code, CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake that supports fish or wildlife. There are differences between USACE and CDFW jurisdictions. The CDFW uses less defined and more ecologically based criteria in their jurisdiction determinations. For a watercourse to be considered under CDFW jurisdiction, it must have a terminus, banks, and channel through which water can flow, at least periodically, and needs to exhibit evidence of an ordinary high water mark. CDFW jurisdiction may only exhibit one of the three USACE indicators. Generally, CDFW jurisdiction may extend to the wider limit of riparian vegetation associated with the watercourse, encompassing the entire limits of USACE jurisdiction.

The City of San Bernardino contains three large watercourses determined to be "waters of the U.S." that traverse portions of the City as tributaries within the Santa Ana watershed (see Figure 4.17.4-1). The northwestern and western boundary of the City approximately parallels and encompasses portions of Cajon Canyon Wash and Lytle Creek Wash. The Santa Ana River and wash bounds and traverses through the southeastern portion of the City. Several blue line streams flow within canyons through the mountains and foothills of the San Bernardino Mountains from the north including:

- Cable Canyon
- East Twin Creek/Coldwater Canyon
- Meyers Canyon
- Strawberry Creek
- Bailey Canyon
- Borea Canyon
- Devil Canyon
- Little Sand Creek
- Badger Canyon
- Sand Creek/Sand Canyon
- Sycamore Canyon
- City Creek, Cook Canyon
- West Twin Creek/Waterman Canyon

Various unnamed canyons and drainages also emanate from the foothills and drain toward the valley and the City. Riparian resources, including wetlands that occur along these drainages potentially fall under the jurisdiction of the USACE and CDFW. The east branch of the State Water Project California Aqueduct also traverses the northwestern portion of the City. Several tributaries, including East Twin Creek, Warm

Creek, Lytle Creek, and City Creek traverse the urbanized portions of the City as flood control channels and canals. Within the developed area of the northwest portion of the City are features that have been modified for flood control, including reservoirs, flood control basins, and percolation basins constructed to receive flow from drainages including Devil Canyon, Bailey Canyon, West Twin Creek, and East Twin Creek.

Regulatory Framework

Federal

Endangered Species Act

The FESA of 1973, 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 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 section 7 of the act 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 San Bernardino is within the jurisdiction of the Santa Ana RWQCB (Region 8).

Clean Water Act, Section 404

The 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 U.S. 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. If there is potential for cultural resources to be present, Section 106 review 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 CESA generally parallels the main provisions of the FESA and is administered by the 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 Wildlife 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 CNDDB project. Informally listed taxa are not protected per se, but warrant consideration in the preparation of biological resources assessments.

California Fish and Wildlife Code, Section 1600

California Fish and Wildlife 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.

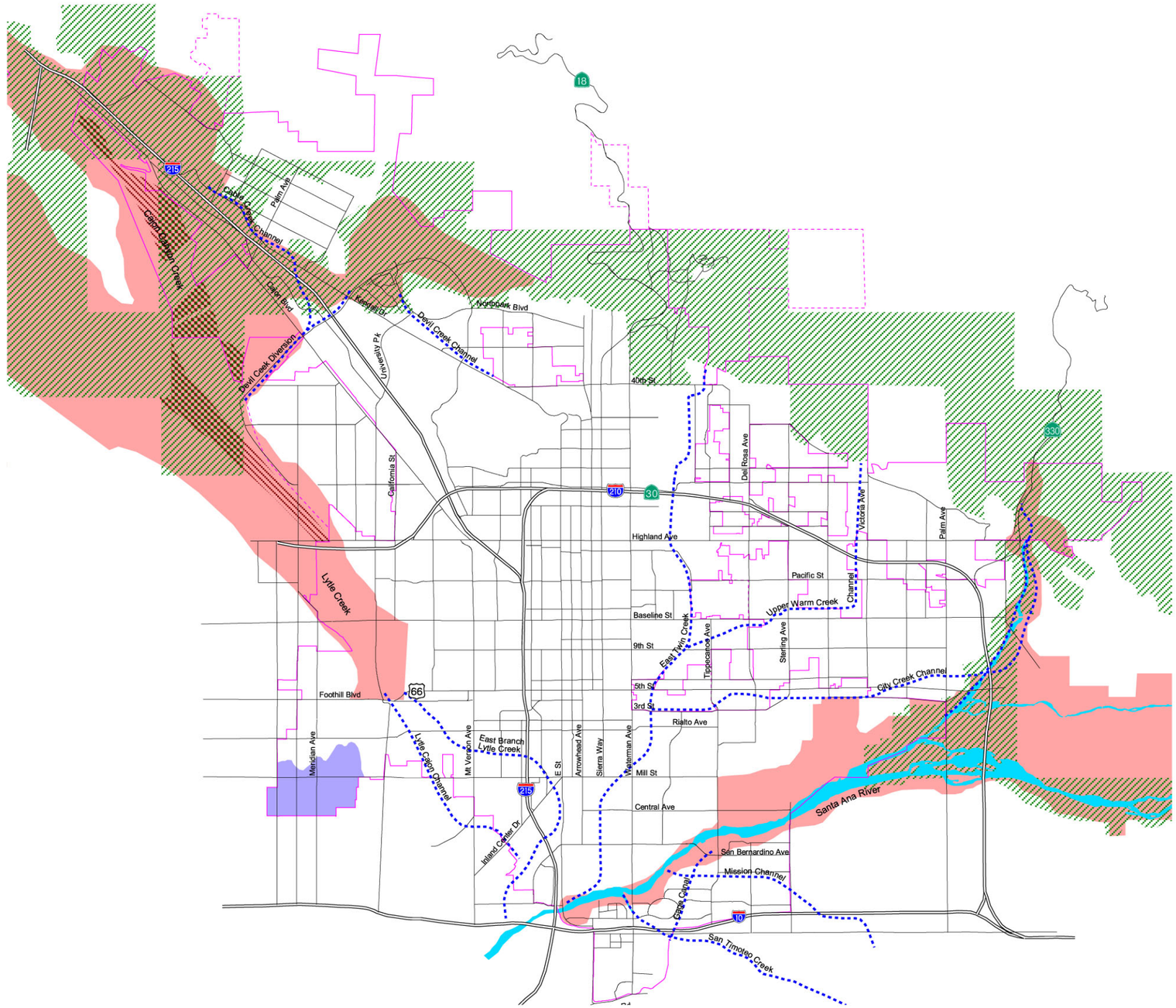
Regional

San Bernardino Kangaroo Rat Critical Habitat

The SBKR (*Dipodomys merriammiparvus*) was emergency listed as federally endangered in January 1998, when its population had been reduced by approximately 95 percent due to habitat loss, urban development, degradation, water conservation activities, and fragmentation owing to sand and gravel mining operations. The species is typically found on alluvial fans, in floodplains, along washes, in adjacent upland areas, and in areas with historic braided channels. Final designation of critical habitat for the SBKR was issued in April 2002. A total of approximately of 33,295 acres in San Bernardino and Riverside Counties have been designated as critical habitat for the species. Portions of the City are located within two of four critical habitat units. Critical habitat is shown in Figure 4.17.4-2 (Designated Habitat for Sensitive Wildlife). The City overlays the westernmost extent of Critical Habitat Unit 1 (Santa Ana River and San Timoteo Canyon) which roughly covers the areas encompassing City Creek, Plunge Creek, and the Santa Ana River wash. It contains tributaries, flood plain terraces and active hydrological channels. Unit 2 (Lytle and Cajon Creeks) roughly covers habitat along and between Lytle and Cajon Creeks from the point that the creeks emanate from canyons within San Bernardino National Forest to flood control channels downstream. The northwestern-most portions of the City are located within Unit 2.

Coastal California Gnatcatcher Critical Habitat

The coastal California gnatcatcher is a federally listed threatened, state Species of Special Concern that typically occurs in or near sage scrub habitat. The species was listed as threatened in 1993. Final designation of critical habitat for the gnatcatcher was issued in October 2000. A total of approximately of 513,560 acres in Los Angeles, Orange, San Diego, San Bernardino, and Riverside Counties are designated as critical habitat for the species. Portions of the City are located within Critical Habitat Unit 11, which roughly covers approximately 58,000 acres along the foothills of the San Gabriel and San Bernardino Mountains and within the Jurupa Hills on the border of San Bernardino and Riverside counties. Critical habitat is shown in Figure 4.17.4-2. Undeveloped areas from the northwestern-most portion of the City to the northeastern-most portion are located within California gnatcatcher critical habitat.



***Source*:** City of San Bernardino 2005.

NORTH
NOT TO SCALE

Figure 4.17.4-2
Designated Habitat for Sensitive Wildlife

ATKINS

Santa Ana Sucker Critical Habitat and Santa Ana Sucker Conservation Program

Critical habitat for the Santa Ana sucker (SAS) was designated January 4, 2005, by USFWS. Approximately 23,719 acres of aquatic and riparian habitats essential to the species conservation was identified. Two areas in Los Angeles County totaling 8,305 acres were designated as critical habitat units. The remaining acreage comprises "essential habitat" for the SAS within the Santa Ana River in Orange, Riverside, and San Bernardino Counties. However this area has been excluded in the revised final designation of critical habitat because USFWS concluded that the habitat is protected within existing programs including the SAS Conservation Program.

The purpose of the SAS Conservation Program is to promote the conservation of the sucker, while providing the necessary authorization, to allow for the incidental take of a limited number of suckers that is anticipated to occur when the participating agencies (regional and local water and flood control districts) implement their Covered Activities. Covered Activities include operation, maintenance, repair, and reconstruction of existing projects and facilities (e.g., rebuilding existing levees for water conservation, constructed wetlands, and flood control) and the continuation of existing programs for flood control, water conservation, water treatment and discharge, protection of transportation routes, and wildlife conservation. The City of San Bernardino Municipal Water Department which operates the Rapid Extraction and Infiltration (RIX) Facility is one of seven participants in the program.

Draft Recovery Plan for the Delhi Sands Flower-Loving Fly

The Draft Recovery Plan for the Delhi sands flower-loving fly (DSFLF) was prepared in 1997. While no critical habitat has been designated for DSFLF, a Recovery Plan has been developed by the USFWS that details specific tasks needed to successfully recover the species. The plan defines three Recovery Units, areas that USFWS would like to preserve for the continued survival and ecological recovery of the DSFLF, such that protection under the FESA is no longer necessary. The southwestern-most portion of the City falls within the DSFLF Colton Recovery Unit which is roughly bounded by Pennsylvania Road to the east; Baseline Road to the north; Cedar Avenue in Rialto to the west; and the Santa Ana River to the south. All but two of the known populations of DSFLF are located in this Recovery Unit. Areas within the City of San Bernardino containing Delhi sands (potential habitat for the DSFLF) are limited to the southwest boundary of the City, as shown in Figure 4.17.4-2.

Cajon Creek Conservation Banks

Within the Lytle Creek and Cajon Creek wash system in the City of San Bernardino, the sand and gravel company Vulcan (formerly CalMat) has established a 1,378-acre conservation site and mitigation land bank within the Riversidean alluvial fan sage scrub habitat. The conservation bank is located north of the Devil Creek Diversion Channel, south of I-215, in the Cajon wash running parallel to and near Cajon Boulevard (see Figure 4.17.4-2). The Cajon Creek Conservation Bank was established to conserve populations of 24 species associated with alluvial fan scrub habitat, including the Santa Ana River woollystar, SBKR, and coastal California gnatcatcher.

Another 153 acres of Riversidean alluvial fan sage scrub habitat have been set aside by CEMEX (formerly Sunwest) and a 150-acre Santa Ana River Woolly-Star Preserve at the southern tip of the San Bernardino County Sheriff's Training Facility have been set aside as conservation lands within the Lytle

Creek/Cajon Creek wash area. In addition, the County of San Bernardino will be establishing a conservation area/mitigation bank in Riversidean alluvial fan sage scrub habitat in the Cajon Wash on the east side of the Glen Helen Regional Park. Lands within and around these conservation lands and mitigation banks are available to offset impacts to sensitive biological resources.

Upper Santa Ana River Wash Land Management and Habitat Conservation Plan

Landowners, land managers, regulatory agencies and interested stakeholders have been meeting over the past several years to develop a consensus-based land use strategy for the Santa Ana River alluvial fan, which supports most of the remaining stands of Santa Ana River woolly-star (*Eriastrum densifolium* spp. *sanctorum*), slender-horned spineflower (*Dodecahema leptoceras*), and other rare plant and animal species. The plan was adopted in November 2008. The aim of this effort is to develop a reserve design and conservation plan that protects the most important habitat areas while consolidating sand and gravel extraction and water spreading activities. The proposed Upper Santa Ana River Wash Land Management and HCP for the upper Santa Ana Wash involves an area of approximately 4,365 acres located in the upper Santa Ana River Wash area. The planning area begins at the mouth of the Santa Ana canyon at Greenspot Road, 1 mile downstream from the Seven Oaks Dam, and extends west westward for approximately 6 miles to Alabama Street. It contains the existing Woolly Star Preservation Area (WSPA) preserved by the USACE and three flood control districts; and the BLM's Santa Ana River Area of Critical Concern/Research Natural Area. The proposed conservation area is just outside of and adjacent to the current City of San Bernardino limits just southeast of the San Bernardino International Airport.

Proposed Conservation Plans and Areas

San Bernardino Valley Wide Multi-Species Habitat Conservation Plan

Presently, there is no approved HCP/Natural Community Conservation Plan for the valley portion of San Bernardino County. The San Bernardino Valley-wide Multi Species Habitat Conservation Plan (MSHCP) is currently in preparation. The proposed MSHCP encompasses approximately 500 square miles containing six unlisted species, six state-listed endangered or threatened species, and thirteen federally listed endangered threatened species, and 53 species of special concern. San Bernardino County, through the San Bernardino County Museum staff, has been conducting biological and botanical surveys for several years in order to identify habitat needs and requirements for the various species. The schedule for completion and adoption of the MSHCP is uncertain at this time. Completion of the plan is not expected anytime within the near future. The City participated in previous planning efforts, with the intent to be a Local Permittee upon adoption of the plan. Should work on the MSHCP resume, the City would reevaluate merits of participation. This plan has not yet been adopted; therefore, development in the City is currently not subject to this plan.

Local

City of San Bernardino Municipal Code

City Ordinances MC-1027 and MC-682 (Municipal Code, Title 15, Chapter 15.34) prohibits the removal and/or destruction of more than five trees within any 36-month period from a development site or parcel of property without first being issued a permit from the Development Services Department. Per the ordinances, a permit shall not be required when a lawful order to remove the trees for health and

safety purposes has been issued by a local, state or federal government agency; nor shall a permit be required if a removal is to be accomplished by, or under the auspices of a governmental entity.

The City's Development Code (Title 19, Land Use/Subdivision Regulations) also contains a Hillside Management Overlay District that allows for low-density residential development in the City's hillside areas. Policies of this overlay district regulate protection of the hillside's natural and topographic character, environmental, and aesthetic qualities through requirements to minimize grading and erosion effects, and preservation of slope banks, ridgelines, significant rock outcroppings, native plant materials, and natural hydrology.

San Bernardino General Plan

The San Bernardino General Plan policies that are applicable to biological resources[3] are contained in the Natural Resources and Conservation Element and are as follows:

Policy 12.1.2 Site and develop land uses in a manner that is sensitive to the unique characteristics of and that minimizes the impacts upon sensitive biological resources.

Policy 12.1.3 Require that all proposed land uses in the "Biological Resource Management Area" (BRM) be subject to review by the Environmental Review Committee

Policy 12.1.4 Require that development in the BRM:

a. Submit a report prepared by a qualified professional(s) that addresses the proposed project's impact on sensitive species and habitat, especially those that are identified in State and Federal conservation programs;
b. Identify mitigation measures necessary to eliminate significant adverse impacts to sensitive biological resources;
c. Define a program for monitoring, evaluating the effectiveness of, and ensuring the adequacy of the specified mitigation measures; and
d. Discuss restoration of significant habitats.

Policy 12.2.1 Prohibit development and grading within 50 feet of riparian corridors, as identified by a qualified biologist, unless no feasible alternative exists.

Policy 12.2.2 Generally permit the following uses within riparian corridors:

a. Education and research, excluding buildings and other structures;
b. Passive (non mechanized) recreation;
c. Trails and scenic overlooks on public land(s);
d. Fish and wildlife management activities;
e. Necessary water supply projects;
f. Resource consumptive uses as provided for in the Fish and Wildlife Code and Title 14 of the California Administrative Code;
g. Flood control projects where no other methods are available to protect the public safety;

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

h. Bridges and pipelines when supports are not in significant conflict with corridor resources.

Policy 12.2.4 Development adjacent to riparian corridors shall:

a. Minimize removal of vegetation;
b. Minimize erosion, sedimentation, and runoff by appropriate protection or vegetation and landscape;
c. Provide for sufficient passage of native and anadromous fish as specified by the California Department of Fish and Wildlife;
d. Minimize wastewater discharges and entrapment;
e. Prevent groundwater depletion or substantial interference with surface and subsurface flows; and provide for natural vegetation buffers.

Policy 12.3.1 Identify areas and formulate recommendations for the acquisition of property, including funding, to establish a permanent corridor contiguous to the National Forest via Cable Creek and/or Devil Canyon. The City shall consult with various federal, state and local agencies and City departments prior to the adoption of any open space corridor plan.

Policy 12.3.2 Seek to acquire real property rights of open space corridor parcels identified as being suitable for acquisition.

Policy 12.3.3 Establish the following habitat types as high-priority for acquisition as funds are available:

a. Habitat of endangered species;
b. Alluvial scrub vegetation;
c. Riparian vegetation dominated by willow, alder, sycamore, or native oaks; and
d. Native walnut woodlands.

Policy 12.3.4 Preserve and enhance the natural characteristics of the Santa Ana River, City Creek, and Cajon Creek as habitat areas.

Policy 12.3.5 Prevent further loss of existing stands of Santa Ana River Wooly-star (Eriastrum densifolium sanctorum) and Slender-horned Centrostegia (Centrostegia leptoceras).

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 San Bernardino.

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.

The sensitive plant and wildlife species with the potential to occur in San Bernardino are listed above in Table 4.17.4-1 and Table 4.17.4-2. Parts of the City of San Bernardino have been designated critical habitat for the SBKR and Coastal California gnatcatcher, and as a recovery unit for the Delhi-Sands Flower-loving Fly. These areas are located on the edges of the city.

Projects such as renewable power generation facilities within critical habitat for the SBKR or Coastal California gnatcatcher, or within the recovery unit for the Delhi-Sands Flower-loving Fly would be required to conduct focused surveys and consult with the USFWS regarding mitigation measures to minimize adverse impacts to the species.

It is the policy of the City to comply with state and federal regulations regarding protected species. See General Plan Policy 12.1.4. Policy 12.1.4 of the Natural Resources and Conservation Element of the City of San Bernardino General Plan requires development in areas that contain important biological resources to submit a report prepared by a qualified professional that addresses the proposed project's

impact on sensitive species and habitat, especially those that are identified in State and Federal conservation programs, and identify mitigation measures necessary to eliminate significant adverse impacts to sensitive biological resources. Policies 12.3.1 through 12.3.5 promote efforts such as off-site habitat acquisition and restoration to preserve natural habitat.

Renewable energy projects considered for approval on vacant land under the Regional Reduction Plan would be required to provide independent CEQA and need to determine whether there is potential habitat on-site for sensitive species. If potential habitat were found on-site, focused surveys for those sensitive species potentially present would be required. 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 requirements of 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.

As stated previously, individual projects undergoing environmental review under CEQA would be required to determine whether there is potential habitat onsite for sensitive species. If sensitive species were found onsite, the project proponent would be required to consult with the CDFW regarding impacts to sensitive species and ensuing mitigation. Additionally, General Plan Policies 12.2.1 through 12.2.5 place specific limits on construction in riparian corridors to minimize habitat removal and indirect impacts. Development and grading is prohibited within 50 feet of riparian corridors (see General Plan Policy 12.2.1). 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***. No mitigation is 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?

Federally protected wetlands are potentially located throughout the City, including three large watercourses determined to be "waters of the U.S." that traverse portions of the City as tributaries within the Santa Ana watershed, specifically the Lytle Creek, Devil Creek Diversion, and East Twin Creek (see Figure 4.17.4-1). The Santa Ana River and wash bounds and traverses through the southeastern portion of the City. Several blue line streams flow within canyons through the mountains and foothills of the San Bernardino Mountains. Various unnamed canyons and drainages also emanate from the foothills and drain toward the valley and the City. Riparian resources, including wetlands that occur along these drainages potentially fall under the jurisdiction of the USACE and CDFW.

Implementation of the proposed Regional Reduction Plan would not result in direct impacts to waters of the state because the San Bernardino General Plan does not grant specific entitlements for development. Implementation of the Regional Reduction Plan includes energy efficiency standards for new development, energy efficiency retrofits for existing buildings, water conservation measures, transportation measures to reduce trips and vehicle miles traveled, waste diversion programs. Implementation of these types of reduction measures will not affect bodies of water or wetlands.

Increased renewable energy generation will also 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 waters of the state, that project would be subject to approval by the CDFW through Streambed Alteration Agreements and would require mitigation as determined by the 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?

Major wildlife movement within the urbanized portions of the City is not likely to occur. Regional wildlife movement in an east/west orientation in the mountains and along the undeveloped foothills northeast of I-215 and north of SR-30/I-210 may still provide viable wildlife corridors. Wildlife corridors within the City are most likely limited to the northern undeveloped portions of the City. As described above, development in the undeveloped areas of the City would be required to identify and mitigate potential impacts in accordance with CDFW or USFWS requirements and guidelines. Additionally, most of the potential wildlife corridor land lies within the critical habitat for California Coastal gnatcatcher. Any development in this area would be required to consult with the USFWS regarding mitigation measures to minimize adverse impacts to the species, including habitat avoidance or restoration. Therefore, implementation of the Regional Reduction Plan is not anticipated to impair the use of existing undeveloped area as wildlife movement corridors.

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. Consequently, 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 San Bernardino General Plan policies and the Municipal Code Sections MC-1027 and MC-682, which prohibit the substantial removal of trees without a permit. The San Bernardino General Plan policies listed above from the Natural Resources and Conservation Element support the protection of biological resources through requirements for habitat avoidance and mitigation, and establishment, restoration, and conservation of high quality habitat areas. Projects that implement the Regional Reduction Plan would be required to comply with Municipal Code Sections MC-1027 and MC-682 as well as restrictions in undeveloped areas of the City and riparian corridors as outlined in the San Bernardino General Plan Natural Resources and Conservation Element. 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 four local HCPs relevant to this threshold question: the San Bernardino Recovery Unit for the DSFLF, Critical Habitat for the SBKR, Critical Habitat for the coastal California gnatcatcher, and the SAS Conservation Program.

Delhi Sands Flower-Loving Fly

Areas within the City of San Bernardino containing Delhi sands (potential habitat for the DSFLF) are limited to the southwest boundary of the City, as shown in Figure 4.17.4-2. Projects implementing the Regional Reduction Plan that are proposed within the Delhi sands would be required to have focused surveys for DSFLF conducted on the project sites and consult with the USFWS regarding mitigation of impacts on any DSFLF found, pursuant to FESA Section 7. The Regional Reduction Plan does not include development of vacant lands other than the potential for renewable energy generation facilities to increase renewable energy within the City. Those types of projects, if proposed within the Delhi sands, would need to ascertain requirements for focused surveys for DSFLF from the USFWS on a case-by-case basis. Therefore, the Regional Reduction Plan would comply with this HCP.

San Bernardino Kangaroo Rat

The City of San Bernardino includes portions of Habitat Units 1 and 2 for SBKR. Any development project within SBKR critical habitat that was proposed by a federal agency or involved federal funding or a federal permit would be required under FESA Section 7 to consult with USFWS as to what impacts the project may have on SKBR, and mitigation of any such impacts. USFWS often requires focused surveys

on project sites within critical habitat, even those not involving federal agencies, funding, or permits, as part of assessing impacts and formulating mitigation. The Regional Reduction Plan would not grant specific entitlements for development, and would not conflict with FESA requirements and USFWS regulations regarding critical habitat. The Regional Reduction Plan does not include development of vacant lands other than the potential for renewable energy generation facilities to increase renewable energy within the City. Those types of projects, if proposed within the SBKR critical habitat, would need to comply with General Plan Policy 12.1.4 on a case-by-case basis, which requires preparation of a biological resources technical report and implementation of mitigation measures for impacts to sensitive habitat, especially Federal conservation program lands, such as SBKR critical habitat. Therefore, the Regional Reduction Plan would comply with this HCP.

Coastal California Gnatcatcher

Undeveloped areas from the northwestern-most portion of the City to the northeastern-most portion are located within California gnatcatcher critical habitat. Similar to SBKR critical habitat, any development project within coastal California Gnatcatcher critical habitat that was proposed by a federal agency or involved federal funding or a federal permit would be required under FESA Section 7 to consult with USFWS as to what impacts the project may have on coastal California gnatcatcher, and mitigation of any such impacts. The Regional Reduction Plan would not grant specific entitlements for development, and would not conflict with FESA requirements and USFWS regulations regarding critical habitat. The Regional Reduction Plan does not include development of vacant lands other than the potential for renewable energy generation facilities to increase renewable energy within the City. Those types of projects, if proposed within the critical habitat, would need to comply with General Plan Policy 12.1.4 on a case-by-case basis, which requires preparation of a biological resources technical report and implementation of mitigation measures for impacts to sensitive habitat, especially Federal conservation program lands, such as designated critical habitat. Therefore, the Regional Reduction Plan would comply with this HCP.

Santa Ana Sucker

Portions of the Santa Ana River are designated essential habitat for the SAS. As described previously, projects undergoing environmental review under CEQA would be required to determine whether there is potential habitat onsite for sensitive species. If sensitive species were found onsite, the project proponent would be required to consult with the CDFW regarding impacts to sensitive species and ensuing mitigation. Additionally, General Plan Policies 12.2.1 through 12.2.5 place specific limits on construction in riparian corridors to minimize habitat removal and indirect impacts. Development and grading is prohibiting within 50 feet of riparian corridors (see General Plan Policy 12.2.1). Therefore, the Regional Reduction Plan would comply with this conservation program.

As stated previously, individual projects implementing the Regional Reduction Plan such as renewable energy generation facilities would need to undergo environmental review under CEQA and would be required to determine whether there is potential habitat onsite for sensitive species. If sensitive species were found onsite, the project proponent would be required to consult with the CDFW regarding impacts to sensitive species and ensuing mitigation. Consequently, impacts would be ***less than significant***. No mitigation is required.

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 requirements of FESA and CESA, 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 acquisition and management of critical habitat units are accomplished on a regional level and individual projects implementing the Regional Reduction Plan would be in compliance with these regional-level habitat units, 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 environmental review under CEQA would be required to determine whether there is potential habitat on site for sensitive species. If sensitive species were found onsite, the project proponent would be required to consult with the CDFW regarding impacts to sensitive species and ensuing mitigation. In conclusion, 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 CDFW through Streambed Alteration Agreements and would require mitigation as determined by the CDFW for any consequent impacts. With 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?

Undeveloped land at the northern edge of the City could serve as local corridors for movement. However, implementation of the Regional Reduction Plan will not impair the use of undeveloped land as wildlife movement corridors. Development of renewable energy generation projects under the Regional Reduction Plan would be required to comply with the federal Migratory Bird Treaty Act (MBTA). Therefore, the Regional Reduction Plan is not anticipated to have substantial adverse impacts to migratory birds. Because the Regional Reduction Plan does has 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 the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Increased renewable energy generation could be proposed during implementation of the proposed Regional Reduction Plan and are the only types of implementing projects within the Regional Reduction Plan that have the potential to be built in and conflict with adopted HCPs. There are four regional HCPs that have areas within the City: the DSFLF critical habitat, coastal California gnatcatcher habitat, SBKR critical habitat, and the SAS Conservation Program. Those types of projects that are proposed within the habitat conservation areas would need to ascertain requirements for focused surveys for DSFLF, SBKR, coastal California gnatcatcher, or SAS from the USFWS on a case-by-case basis. Therefore, the Regional Reduction Plan will conform to these HCPs at a project-level. Because these are regional HCPs, compliance at a project-level also reduces cumulative impacts to less than significant. Therefore, the ***cumulative impact would be less than significant***.

References

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4.17.5 Cultural Resources

This section of the EIR analyzes the potential environmental effects on cultural resources in the City of San Bernardino from implementation of the Regional Reduction Plan. Data for this section were taken from the San Bernardino General Plan (2005a) and associated environmental document (2005b). 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 San Bernardino lies within an area known to contain prehistoric archaeological materials, which includes the material culture reflective of groups that preceded Euro-American contact and settlement. The prehistoric setting for this area includes several thousand years of land use and resource adaptation evidenced by food procurement sites, specialized lithic technology sites and seasonal habitation sites. Archeological remains of those villages have been discovered throughout the County and some of the sites have been recognized as Points of Historical Interest (PHIs) and as California Historical Landmarks (CHLs) (San Bernardino 2005a).

Ethnohistoric Setting

The first inhabitants of San Bernardino valley were Native Americans who may have settled along the Santa Ana River as early as 8000 B.C. Natives living in the valley when the Spanish military and missionary parties arrived were Uto-Aztecan, Takic speakers, possibly including groups known as Serrano, Luiseño, and Gabrieliño. Later, a Mountain Cahuilla group was brought to the valley by the local Spanish family to work their rancho (San Bernardino 2005b). Thus, the City of San Bernardino is situated within an area located near the ethnographically mapped boundaries of these various groups. This area includes the northwestern-most portion of documented Cahuilla territory, mapped as extending just beyond the City of Riverside. The Luiseño traditional use area is mapped as extending from the Pacific Ocean inland to Lake Elsinore and Palomar Mountain in the east, and extending from Agua Hedionda in the south to Aliso Creek in the north. The Gabrieliño tribal territory 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 area is then mapped to the northeast and east of Gabrieliño lands, encompassing much of the San Bernardino Mountains from the Cajon Pass in the west, past modern Twentynine Palms in the east (Heizer 1978). It is likely that these tribal boundaries were

fluid and allowed for trade and diffusion of ideas among the groups. Currently, San Manuel Indian Reservation lands are located on the northern boundary of the City (San Bernardino 2005b).

Historic Setting

The history of the modern City of San Bernardino 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 a few miles east of the possible original settlement of the modern City of Loma Linda. Two years later, in 1821, a branch of Mission San Gabriel was established within the present boundaries of the City of Redlands. From this branch mission, the development of agriculture commenced within the valley, as water was transported via a 10-mile ditch from Mill Creek to irrigate olive trees and vineyards (San Bernardino 2005b).

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. Antonio Maria Lugo established the Rancho San Bernardino in the 1830s on 37,000 acres of land.

The American Period began in 1848 when Mexico ceded California to the U.S. under the Treaty of Guadalupe Hidalgo. Mexican ranchos were subdivided or sold during this period, and much of the land that once constituted rancho holdings became available for settlement by immigrants to California. 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 (SBRA 2005).

In 1854 San Bernardino became incorporated as a City. This occurred 1 year after the County of San Bernardino was split from the Counties of San Diego and Los Angeles. Its population consisted of approximately 1,200 persons, and 75 percent of these inhabitants were Mormon. Over the next few years, the character of the City reflected the values of the Mormon majority; however, the Mormon presence in the City decreased when Brigham Young recalled the Mormons to Salt Lake City in 1857. At this time, unsettled and unclaimed property of approximately 8,000 acres was purchased and subdivided (SBRA 2005; San Bernardino 2005b).

By the end of the nineteenth century, railway companies extended their lines to San Bernardino. The convergence of the Santa Fe, the Union Pacific, and the Southern Pacific railroads in San Bernardino rendered the City the hub of southern California operations. In 1886, the Santa Fe Railway transcontinental line resulted in tremendous growth in the valley. Due to the influx of settlers from the east, the population doubled, from 6,150 in 1900 to 12,779 by 1910 (Beldon 1960).

Access to the railroad insured economic opportunity and financial growth, as agricultural crops and other goods could be imported and exported from burgeoning communities. This was especially important to the development of the City of San Bernardino and the surrounding region. The ability to transfer citrus by way of the railroad led to an economic and population explosion, resulting in the commercialization

of citrus production in the region. Citri-culture was integral to the development of the area, and continued to be a source of revenue into the modern era.

In 1926, U.S. Highway 66 (Route 66/CA-SBR-2910H) was commissioned, and the route was completed in 1937 (San Bernardino 2005a). The road connected the Los Angeles Area to Chicago, Illinois, and led to the establishment of a variety of roadside businesses along the entirety of the route, including motels, gas stations and restaurants. Examples of the roadside culture associated with Route 66 are still observable along the roadway, and aptly represent the automobile era in American History. Today, the importance of Route 66 has been superseded by nearby Interstate 10 I-10) and I-210 (Hammond 2003). However, portions of the road remain important thoroughfares within the City San Bernardino, such as along modern Foothill Boulevard and Cajon Boulevard.

Historical Resources in San Bernardino

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 National Register of Historic Places (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 Landmarks in the City. 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.

Historic 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. Three resources in the City of San Bernardino are listed on the NRHP (San Bernardino 2005b; OHP 2013):

- San Bernardino Post Office (Downtown Station)—listed in 1985
- San Bernardino County Court House—listed in 1998
- Atchison, Topeka, and Santa Fe Railway Passenger and Freight Depot—listed in 2001

In addition, the Arrowhead Springs Hotel property was recommended as eligible for listing on the NRHP (San Bernardino 2005b).

Historic 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. Three properties in the City

of San Bernardino (also listed on NRHP above) are on the CRHR, and the Stephens and Bobbitt Mortuary/Victory Chapel is listed on the CRHR (OHP 2013). In addition, the Arrowhead Springs Hotel property has been recommended as eligible for listing on the CRHR (San Bernardino 2005b).

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. Several PHIs and CHLs are located in the City of San Bernardino as outlined below (San Bernardino 2005b; OHP 2013).

The PHIs in the City of San Bernardino are:

- Santa Fe Station Building
- Anderson Building
- Atwood Adobe Site
- Bella Union Hotel Site
- Center of San Bernardino (1853)
- Cox-Bradley Home
- Del Rosa Swamp
- Fred T. Perris House Site
- Heritage House
- Martin Adobe Site

- Mormon Flour Mill Site
- Mormon Schools Site
- National Orange Show
- Sturges Auditorium
- California Theater
- St. Bernardine of Siena Catholic Church
- Home of Eternity Cemetery of Congregation Emanuel
- Pioneer Cemetery
- Pioneer Monument
- Rudolf Hack Residence and West Twin Creek Water Company Flume
- Home of Neighborly Service
- 25th Street Historic District

The CHLs located within the City of San Bernardino are:

- Courthouse Clock
- Site of the Mormon Stockade

In addition, one structure is a listed State Historic Structure, known as the Patton State Hospital Residence (#1 and #2) (CHS-2369-1).

Historic Landmarks and Districts in the City of San Bernardino

The San Bernardino area contains a variety of historic residential architecture, including California and Craftsman Bungalows, Spanish Colonial Revival and Victorian, among others. A Historic Resources Reconnaissance Survey Report was completed in 1991 to evaluate residential and commercial districts of potential historic district merit. The Historic Resources Reconnaissance Survey Report is contained in five volumes and is available at the San Bernardino City Hall. The purpose of the survey was to identify general concentrations of historic structures, defined as buildings constructed prior to 1941, which have maintained their architectural integrity. Concentrations of pre-1941 homes were found to exist throughout the surveyed area, and the overall quality of these historic neighborhoods was varied. Several of the areas surveyed were of potential historic district merit, containing a cohesive collection of pre-1941 buildings of similar history and architectural identity. Although not adopted, the potential historic districts identified consist of four residential and two commercial districts and range in size from two blocks to over 1 square mile. In addition to districts, San Bernardino contains individual structures located throughout the planning area which are historically significant. The 1988 City of San Bernardino General Plan EIR Technical Background Report, available at the City of San Bernardino, provides descriptions of those designated Historic Landmarks in the City, which include the previously discussed NRHP resources, PHIs, and CHLs designated prior to 1988. In addition, 31 structures are identified which have potential for cultural significance (San Bernardino 2005b).

Archaeological Resources in San Bernardino

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. Archaeological sites are often located along creek areas, ridgelines, and vistas. Areas of high archaeological sensitivity within San Bernardino are presented in Figure 4.17.5-1 (Sensitive Archaeological Areas). The archeological sensitivity figure contains areas of known resources or reasonably could contain resources and had demonstrable surface integrity as of November 1987. The City's center has been identified as an Urban Archaeological District based on it being the center of the area's history of cultural development. The Arrowhead Springs area is also known to contain numerous archaeological resources, including Native American resources (San Bernardino 2005b).

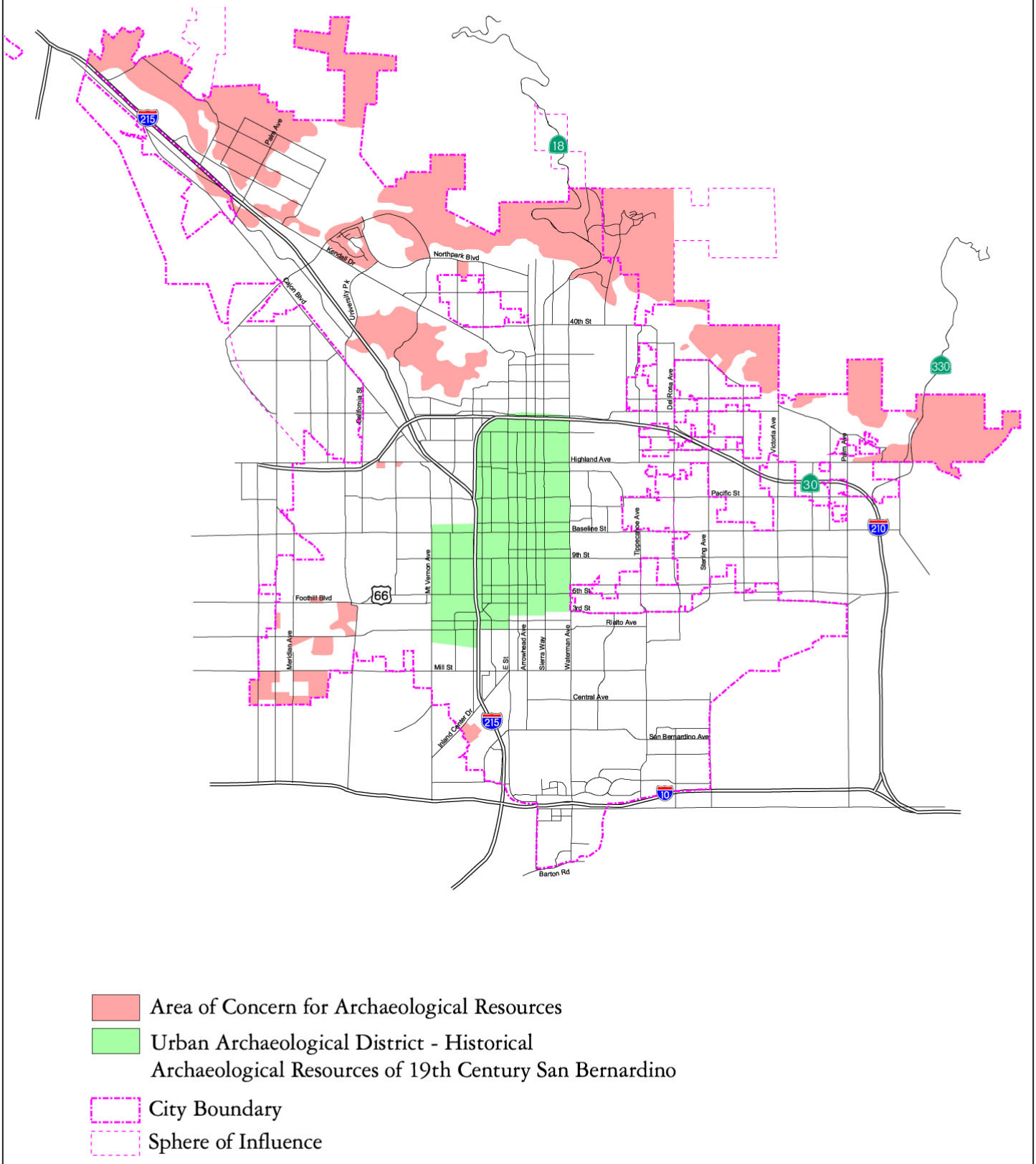
Paleontological Resources in San Bernardino

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. While the sites are important indications, it is the geologic formations that are the most important, since they may contain important, fossils. Potentially sensitive areas for the presence of paleontological resources are based on the underlying geologic formation. Fossil remains may occur throughout the City of San Bernardino, although the evenness of their distribution is not known. The potential for fossil occurrence depends on the rock type exposed at the surface in a given area.

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 Part 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:



***Source*:** San Bernardino, City of. 2005. San Bernardino General Plan Update and Associated Specific Plans Environmental Impact Report. Draft. Prepared by The Planning Center, July 25.

Figure 4.17.5-1
Sensitive Archaeological Areas

ATKINS

(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

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 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 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 San Bernardino Municipal Code

The City of San Bernardino Historical Preservation Commission was established by MC-1245, and is meant to review Mills Act applications for historic homes and to oversee preservation activities in the City for buildings, structures and places of historical and architectural significance.

Title 15, Chapter 15.37, is the Historic Building Demolition Ordinance. This chapter addresses the demolition of buildings within the City, and prohibits demolition of buildings and structures aged 50 years old or older without a valid Demolition Permit issued in accordance with the provisions of the chapter. Further, this chapter requires that buildings and structures 50 years old or older proposed for demolition are to be evaluated to determine historical significance. The level of review required is determined in accordance with thresholds and requirements based upon the Historic Resources Reconnaissance Survey completed in 1991, and can include a Historic Resource Evaluation Report, Department of Parks and Recreation 523 forms, and/or a variety of other data. Finally, this chapter provides the criteria for the determination of historical significance, which includes any of the following:

1. The building or structure has character, interest or value as a part of the heritage of the City of San Bernardino
2. The location of the building or structure is the site of a significant historic event
3. The building or structure is identified with a person(s) or group(s) who significantly contributed to the culture and development of the City of San Bernardino
4. The building or structure exemplifies a particular architectural style or way of life important to the City
5. The building or structure exemplifies the best remaining architectural type in a neighborhood
6. The building or structure is identified as the work of a person whose work has influenced the heritage of the City, the State or the United States
7. The building or structure reflects outstanding attention to architectural design, detail, materials or craftsmanship
8. The building or structure is related to landmarks or historic districts and its preservation is essential to the integrity of the landmark or historic district
9. The unique location or singular physical characteristics of the building or structure represent an established and familiar feature of a neighborhood
10. The building, structure or site has the potential to yield historical or archaeological information

Municipal Code Article II, Chapter 19.18, has been reserved for a future ordinance addressing Historic Preservation Overlay Districts, and Article II, Chapter 19.19, provides guidelines for infill and rehabilitation in the Main Street Overlay District to enhance the historic downtown area.

San Bernardino General Plan

The San Bernardino General Plan contains a variety of goals and policies related to the preservation and appreciation of the historic and archaeological resources in the City (San Bernardino 2005a). The goals and policies applicable to cultural resources[4] are as follows:

[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.

Goal 11.1 Develop a program to protect, preserve, and restore the sites, buildings and districts that have architectural, historical, archaeological, and/or cultural significance.

Policy 11.1.1 Develop a comprehensive historic preservation plan that includes:

- Adoption of a Preservation Ordinance that authorizes the City to designate resources deemed to be of significance as a City Historical landmark or district.
- Establishment of a Historic Resources Commission that will review and recommend preservation ordinances, design standards, and historical designations of resources.
- Adoption of the Secretary of Interior Standards for Historic Rehabilitation and the standards and guidelines as prescribed by the State Office of Historic Preservation as design standards for alterations to historic resources.
- Establishment of a design review process for potential development projects in or adjacent to Historic Preservation Overlay Zones. (A-1 and HAR-1, 2, 3, and 4)

Policy 11.1.2 Maintain and update the Historic Resources Reconnaissance Survey database files of historic, architectural, and cultural resources conducted in 1991, and integrate it into the City's ordinance and environmental review process. Prior to public distribution, Native American tribes should be consulted to address any issues of confidentiality. (A-1)

Policy 11.1.3 Consider, within the environmental review process, properties that may have become historically significant since completion of the survey in 1991. (LU-1)

Policy 11.1.4 Compile and maintain an inventory, based on the survey, of the Planning Area's significant historic, architectural and cultural resources. Prior to public distribution, Native American tribes should be consulted to address any issues of confidentiality.

Policy 11.1.5 Continue to adopt historic district and overlay zone ordinances as described in the Historic Resources Reconnaissance Survey Report. Consider the designation of Historic Districts and Historic Overlay Zones as described in the Historic Resources Reconnaissance Survey Report.

Policy 11.1.6 Consider the need for a comprehensive survey for Downtown as well as establishing priorities for future intensive-level surveys.

Policy 11.1.7 Require that all City-owned properties containing or adjacent to historic resources be maintained in a manner that is

aesthetically and/or functionally compatible with such resources.

Policy 11.1.8 Continue to develop design standards for commercial areas, similar to those in the Main Street Overlay District, which promotes the removal of tacked-on facades and inappropriate signage, the restoration of original facades, and designs that complement the historic pattern.

Policy 11.1.9 Require that an environmental review be conducted on all applications (e.g. grading, building, and demolition) for resources designated or potentially designated as significant in order to ensure that these sites are preserved and protected. (LU-1)

Goal 11.4 Protect and enhance our historic and cultural resources.

Policy 11.4.1 Encourage the preservation, maintenance, enhancement, and reuse of existing buildings in redevelopment and commercial areas; the retention and renovation of existing residential buildings; and the relocation of existing residential buildings when retention on-site is deemed not to be feasible.

Policy 11.4.2 Consider creating a program to relocate reusable older buildings from or into redevelopment projects as a means of historic preservation.

Goal 11.5 Protect and enhance our archaeological resources.

Policy 11.5.1 Complete an inventory of areas of archaeological sensitivity in the planning area. Prior to public distribution, Native American tribes should be consulted to address any issues of confidentiality.

Policy 11.5.2 Develop mitigation measures for projects located in archaeologically sensitive areas to protect such locations, remove artifacts, and retain them for educational display. Native American tribes should be consulted to determine the disposition of any Native American artifacts discovered.

Policy 11.5.3 Seek to educate the general public about San Bernardino's archaeological heritage through written brochures, maps, and reference materials.

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 historical resources within San Bernardino, various City planning documents were reviewed, and searches were conducted on-line for resources listed in the NRHP and CRHR (San Bernardino 2005a; San Bernardino 2005b; and 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), along creek areas, ridgelines, vistas, the City center Urban Archaeological District, the Arrowhead Springs Hotel property, and in areas designated by the City as sensitive (as presented in Figure 4.17.5-1), have the potential to damage or destroy historic age 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 CEQA Section 21083.2(g)(1)–(3). Further, archaeological resources are often of cultural or religious importance to Native American groups, particularly if the resource includes human and/or animal burials. The potential for impacts on archaeological resources as a result of the Regional Reduction Plan is considered low, as project implementation would not result in substantial construction.

Mitigation measures in the San Bernardino General Plan EIR incorporate specific measures to identify, protect, and preserve cultural resources into the City planning and environmental review processes. The San Bernardino General Plan EIR mitigation measure relevant to this impact is as follows:

GP 5.4-2 *In areas of documented or inferred archeological and/or paleontological resource presence City staff shall require applicants for development permits to provide studies to document the presence/absence of such resources. On properties where resources are identified, such studies shall provide a detailed mitigation plan, including a monitoring program and recovery and/or in situ preservation plan, based on the recommendations of a qualified cultural preservation expert.*

All projects within the City of San Bernardino subject to a development permit are required to follow this mitigation measure which includes documenting the presence or absence of archaeological resources. Then, if resources are found to be present, a detailed mitigation plan is required to address impacts to the resources. Implementation of San Bernardino General Plan mitigation measure GP 5.4-2 would reduce impacts to archaeological resources to a less-than-significant level by protecting archaeological resources through documentation and adequate mitigation. Consequently, potential impacts to archaeological resources as a result of implementation of the Regional Reduction Plan would be ***less than significant***. No additional mitigation is required.

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

Fossil remains may occur throughout the City of San Bernardino, although the evenness of their distribution is not known. The potential for impacts on paleontological resources as a result of the Regional Reduction Plan is considered low, as project implementation would not result in substantial construction. The San Bernardino General Plan Mitigation Measure 5.4-2 shown above addresses potential impacts on paleontological resources for all projects within the City of San Bernardino subject to a development permit. This measure requires documenting the presence or absence of paleontological resources. Then, if resources are found to be present, a detailed mitigation plan is required to address impacts to the resources. Implementation of the General Plan mitigation measure reduces impacts to paleontological resources to a less-than-significant level by protecting paleontological resources through documentation and adequate mitigation. Therefore, the impact would be ***less than significant***. No mitigation is required.

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

Human burials, in addition to being potential archaeological resources, have specific provisions for treatment under existing regulations. The San Bernardino General Plan Mitigation Measure 5.4-2 incorporates a measure to identify and mitigate impacts to archaeological resources, as described above. 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 Sections 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 California PRC Section 5097.98 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. Given required compliance with 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***. No mitigation is required.

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?

Impact 4.17.5-1 **The proposed project could cause a substantial adverse change in the significance of a historical resource. Implementation of mitigation measure MM4.17.5-1 would reduce this impact to *less than significant*.**

There are several historical resources in the City of San Bernardino, including the San Bernardino Courthouse and numerous resources recognized as Historic Landmarks in the City. Implementation of the Regional Reduction Plan will include energy-efficiency retrofit activities, installation of solar, and renovation of buildings to improve water efficiency, which 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, the installation of solar and water-efficiency building renovations 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, the installation of solar, and water-efficiency building renovations 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. Similarly, any ground disturbing activities occurring in previously undisturbed soils, have the potential to result in significant impacts on historical resources if an archaeological site or paleontological resource is present and is considered a historical resource pursuant to CEQA.

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, solar installation, and water-efficiency building renovations 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. Mitigation measures in the San Bernardino General Plan EIR incorporate

specific measures to identify, protect, and preserve cultural resources into the City planning and environmental review processes. The San Bernardino General Plan EIR mitigation measure relevant to historic resources is as follows:

GP 5.4-1 *In areas of documented or inferred historic resource presence, City staff shall require applicants for development permits to provide studies to document the presence/absence of historical resources. On properties where historic structures or resources are identified, such studies shall provide a detailed mitigation plan, including a monitoring program and recovery and/or in situ preservation plan, based on the recommendations of a qualified historical preservation expert.*

With application of General Plan mitigation measure GP 5.4-1 and implementation of mitigation measure MM4.17.5-1, impacts would be reduced to ***less than significant***.

MM4.17.5-1 *Prior to activities that would physically affect buildings or structures 45 years old or older or affect their historic setting, the project applicant shall retain a cultural resource professional who meets the Secretary of the Interior's Professional Qualifications Standards for Architectural History to determine if the project 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 San Bernardino, the appropriate 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. The technical report or memorandum shall be submitted to the City of San Bernardino for approval. As determined necessary by the City, environmental documentation (e.g., CEQA documentation) prepared for future development within the project site shall reference or incorporate the findings and recommendations of the technical report or memorandum. The project applicant shall be responsible for implementing methods for eliminating or reducing impacts on historical resources identified in the technical report or memorandum. Additional methods could include, but not be 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 San Bernardino Ordinances, and General Plan Mitigation Measure 5.4-2. 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 detailed mitigation plans, as appropriate, and based on the recommendations of a qualified cultural preservation expert. 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, existing City of San Bernardino Ordinances, and General Plan Mitigation Measure 5.4-2. 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 paleontological resource presence. Thereafter, properties with resources would be addressed through detailed mitigation plans, as appropriate. 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 policies as outlined in the General Plan, and the implementation of mitigation measure MM4.17.5-1, requires qualified professionals to conduct site-specific cultural resource investigations for future activities associated with the Regional Reduction Plan. Compliance with existing policies and MM4.17.5-1 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 would be less than significant***.

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4.17.6 Geology/Soils

This section of the EIR analyzes the potential environmental effects on geology/soils in the City of San Bernardino from implementation of the Regional Reduction Plan. Data for this section were taken from the San Bernardino General Plan (2005a) and associated environmental document (2005b). 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

Geologic Setting

The City of San Bernardino lies within the Bunker Hill-San Timoteo Basin. The Bunker Hill-San Timoteo Basin includes the cities of Rialto, Colton, Loma Linda, Redlands, and San Bernardino. The active San Andreas Fault borders the basin to the northeast, producing springs and changing groundwater levels by impeding the movement of groundwater. The active San Jacinto Fault zone borders the Basin on the southwest and forms a strong barrier to groundwater and raises the water table nearly to the surface just below the course of the Santa Ana River (San Bernardino, 2005).

A broad, gently sloping lowland flanks the southwest margin of the San Bernardino Mountains and underlies the City. Layers of gravel, sand, silt, and clay have accumulated in this valley region, washed down from adjacent mountains by rivers and creeks. This alluvial sediment eroded from bedrock underlies the lowland. The original hill and valley topography of the Bunker Hill-San Timoteo Basin have been gradually buried by a few million years of sediment accumulation. Shandin Hills and other smaller hills areas in the basin are remnants of the original topography.

Mesozoic and older crystalline basement terrain comprises the San Bernardino Mountains, Shandin Hills, and other hilly areas in the Basin. Younger sedimentary deposits consist of late Pleistocene alluvium outcroppings on the older alluvial fans northeast of the City, and underlying the younger Holocene alluvium of the San Bernardino Valley. Coarser-grained and more poorly sorted boulders, cobbles, gravels, sands, silts and clays that decrease in size and abundance moving towards the southwest comprise the Alluvial fans that extend downslope from the San Bernardino Mountain Canyons. Sand, sandy silt, and silt are the primary composition of the floodplain deposits along the Santa Ana River, Cajon Creek, and Lytle Creek. The alluvial fan and floodplain deposits are interlain and form a highly variable and often times laterally discontinuous layering of various sizes of alluvial materials.

Geothermal Activity

The southern portions of the City of San Bernardino and the Arrowhead Springs area are known to have geothermal activity (Figure 4.17.6-1 [Geothermal Resources]). Geothermal resources beneath the City are connected to the hydrology and tectonic activity within the Bunker Hill-San Timoteo Basin. Due to the fractures in the San Andreas Fault Zone geothermal springs come from a depth of 15,000 feet. Rainwater

and snow melt seep through these cracks deep underground and is heated by the inner earth. The heated water circulates back to the surface and appears as either hot springs or thermal vents.

Approximately 90 to 100 geothermal wells and springs currently operate within San Bernardino. These wells are concentrated in the Commerce Center, Central City, Tri-City, and former Norton Air Force Base areas. Among the hottest geothermal springs in the United States, the springs in San Bernardino range from 70°C (158°F) in the southern portion of the City to 140°C (284°F) in the Arrowhead Springs area. Currently, two wells in the southern portion of the City are used as geothermal energy sources. (San Bernardino 2005).

Seismic Hazards

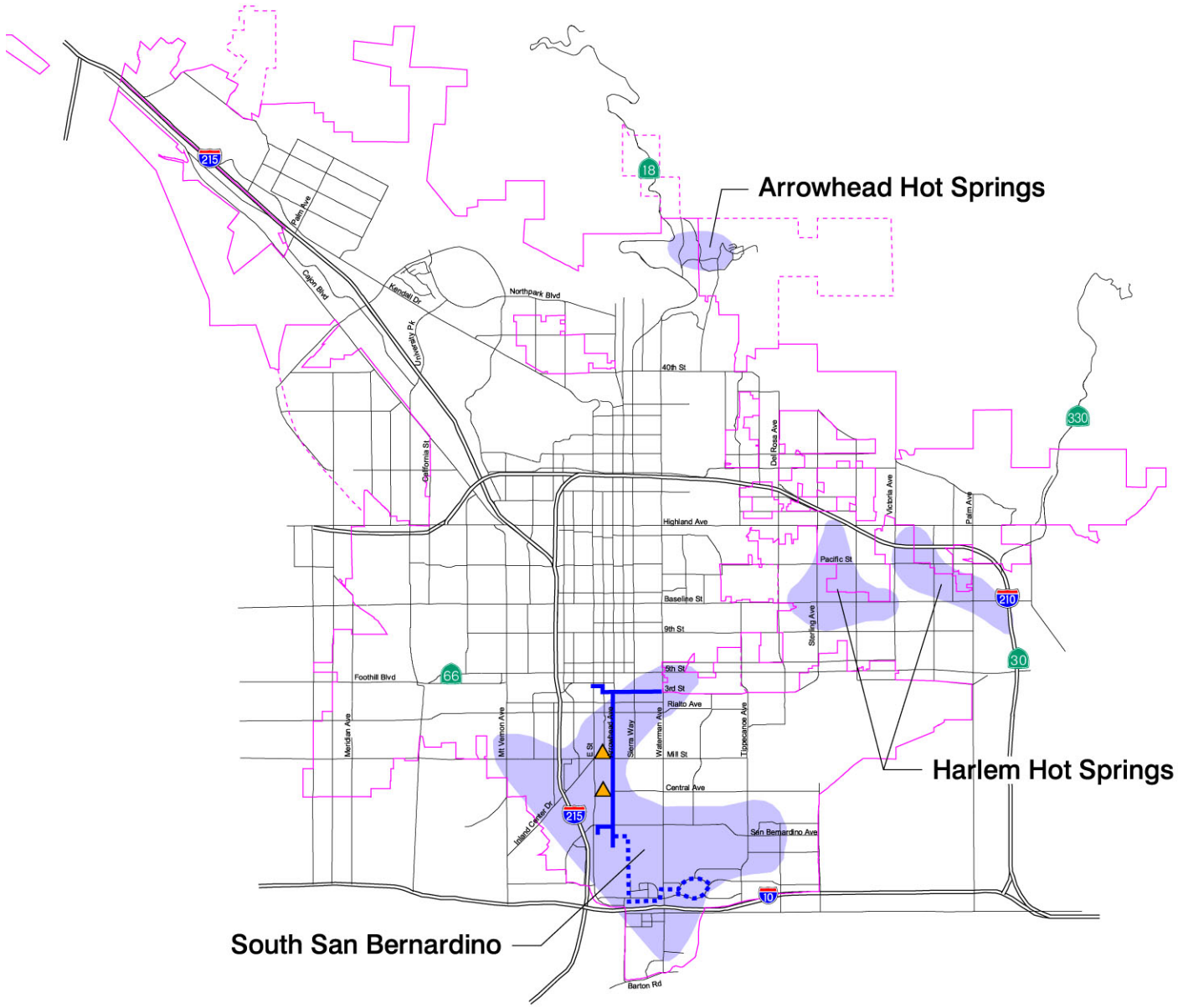
Faults

The United States is divided into zone of potential earthquake damage. The zones identified on the Universal Building Code (UBC) Seismic Zone Map are Zone 0 (no damage), Zone 1 (minor damage), Zone 2 (moderate damage), Zone 3 (major damage), and Zone 4 (major damage caused by near-by fault movements). The City of San Bernardino is located in Seismic Zone 4.

When comparing the sizes of earthquakes, the most meaningful feature is the amount of energy released. Thus scientists most often consider seismic moment, a measure of the energy released when a fault ruptures. We are more familiar, however, with scales of magnitude, which measure amplitude of ground motion. Magnitude scales are logarithmic. Each one-point increase in magnitude represents a 10-fold increase in the size of the waves as measured at a specific location, and a 32-fold increase in energy. That is, a magnitude 7 earthquake produces 100 times (10 x 10) the ground motion of a magnitude 5 earthquake. Similarly, a magnitude 7 earthquake releases approximately 1,000 times more energy (32 x 32) than a magnitude 5 earthquake. Recently, scientists have developed the moment magnitude (Mw) scale to relate energy release to magnitude.

There are fifteen significant faults that potentially can affect the City of San Bernardino. Table 4.17.6-1 (Known Maximum Earthquake Potential for Faults Affecting the City of San Bernardino) lists these faults and the maximum credible earthquake magnitude of each fault, and Figure 4.17.6-2 (Regional Fault Map) shows the regional faults. The principle active faults are described below.

- **San Andreas Fault**—The San Andreas Fault, the main boundary between the Pacific and North American tectonic plates, extends over 750 miles from near Cape Mendocino in northern California to the Salton Sea region of Southern California. The fault is divided into several segments; the closest segment that affects the City of San Bernardino begins at the Salton Sea, runs along the southern base of the San Bernardino Mountains, crosses through the Cajon Pass and continues to run northwest along the northern base of the San Gabriel Mountains. The fault segment southeast of the Cajon Pass and within the City has not experienced an earthquake in over 270 and possibly up to 600 years.



***Source*:** San Bernardino, City of. 2005. San Bernardino General Plan Update and Associated Specific Plans Environmental Impact Report. Draft. Prepared by The Planning Center, July 25.

Figure 4.17.6-1
Geothermal Resources

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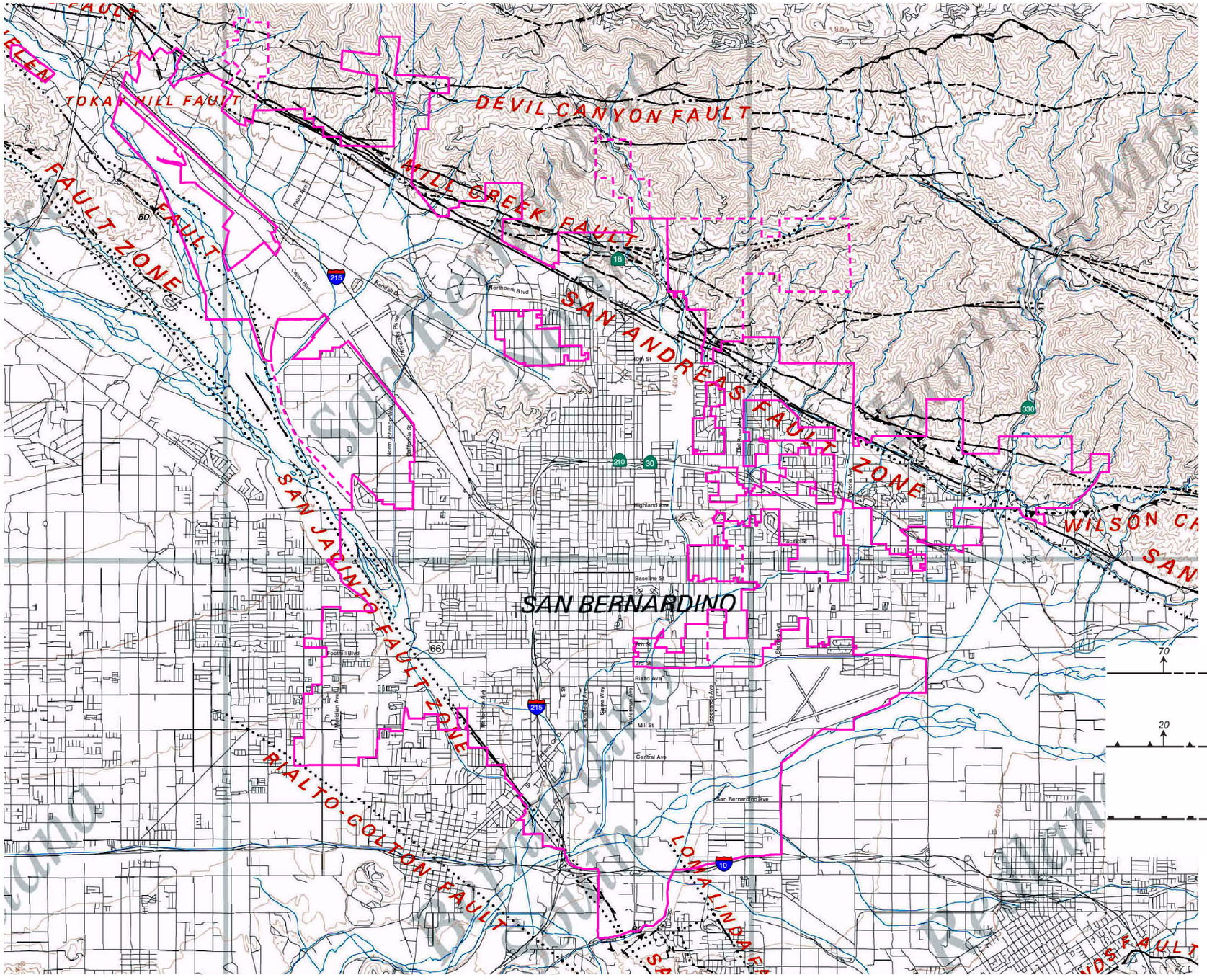

City Boundary

Sphere of Influence Boundary

70 — **Fault**—Solid where accurately located, dashed where approximately located, dotted where concealed. Includes strike slip, normal, reverse, oblique, and unspecified slip. Arrow and number indicate direction and amount of dip.

20 — **Thrust fault**—Teeth on upper plate; solid where accurately located, dashed where approximately located, dotted where concealed. Arrow and number indicate direction and amount of dip.

Rotational slip normal fault—Bars on hanging wall side; solid where accurately located, dashed where approximately located, dotted where concealed.

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***Source*:** San Bernardino, City of. 2005. San Bernardino General Plan Update and Associated Specific Plans Environmental Impact Report. Draft. Prepared by The Planning Center, July 25.

Figure 4.17.6-2
Regional Fault Map

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Table 4.17.6-1 Known Maximum Earthquake Potential for Faults Affecting the City of San Bernardino

Fault	M_{max}, *Magnitude*	*Fault*	M_{max}, *Magnitude*
San Andreas	8.5	Rialto-Colton	6.5
San Jacinto (includes Glen Helen & Loma Linda)	7.5	Helendale	7.0
Cucamonga-Sierra Madre	6.5+	Cleghorn	6.7
Whittier-Elsinore	7.5-7.0	North Frontal	7.0
San Fernando	7.0	Crafton	6.4
Hollywood-Raymond Hills	7.0	Banning	6.9
Newport-Inglewood	7.0	Red Hill	6.5
Santa Monica	7.0		

SOURCE: San Bernardino (2005).
M_{max} = maximum credible magnitude as measured on the logarithmic seismic Richter scale

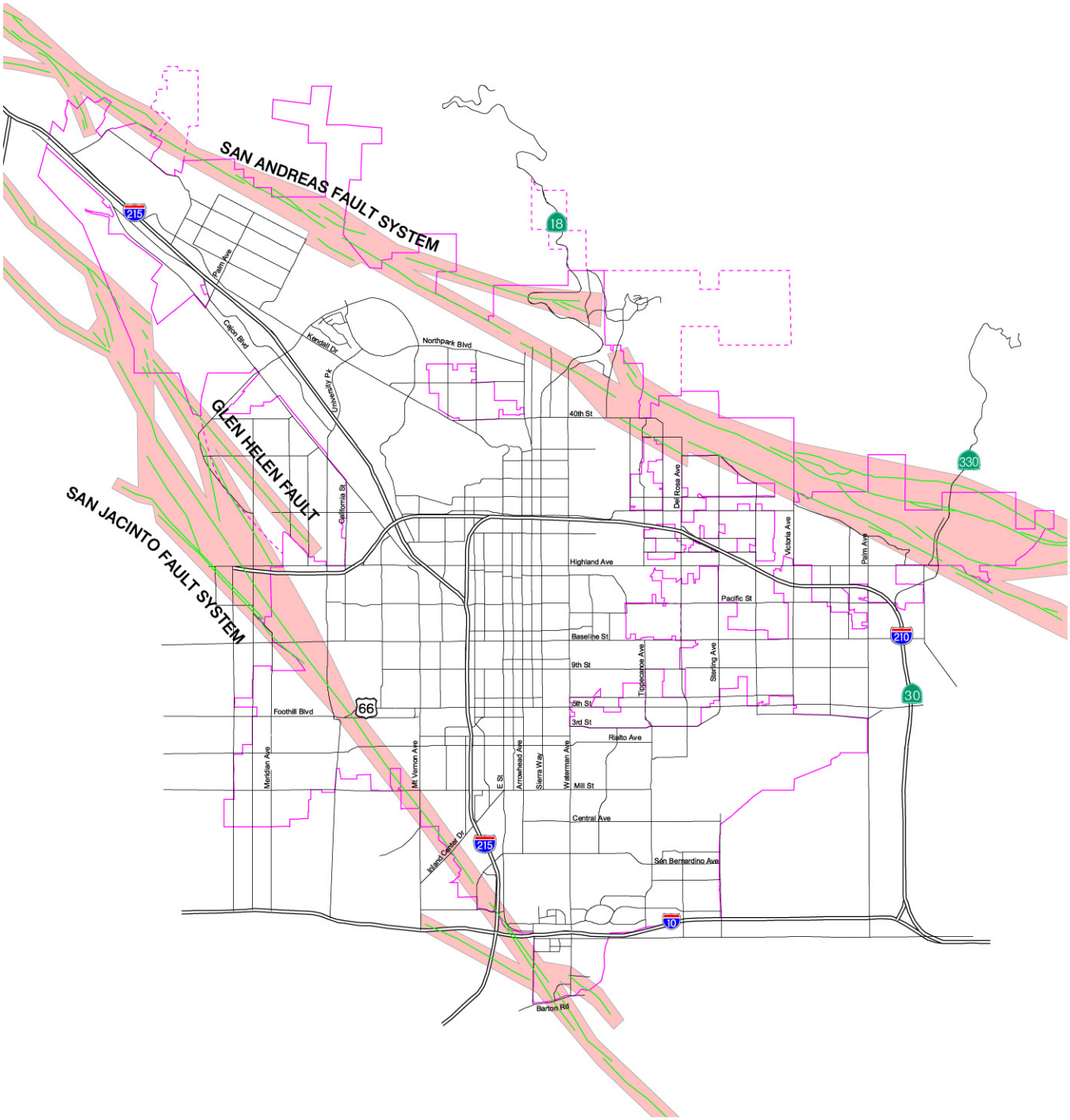
- **San Jacinto Fault Zone**—The San Jacinto Fault Zone includes the Glen Helen, San Jacinto, and Loma Linda Faults within the City of San Bernardino. These closely spaced faults that form the western margin of the San Jacinto Mountains. The fault zone extends from its junction with the San Andreas Fault in San Bernardino southeastward through the Imperial Valley into Mexico. Historically this fault has been the most prolific with at least 10 events taking place between 1895 and 1980 over the 120-mile fault.
- **Cucamonga-Sierra Madre Fault**—This fault system bounds the southern margin of the eastern San Gabriel Mountains. Located approximately 10 miles northwest of the central City area, it is part of a reverse and thrust fault zone. Although not historically known for significant earthquakes, fault scrapes in the Holocene alluvial fan deposits at the southeastern base of the San Gabriel Mountains indicate that historic ground-rupturing earthquakes have occurred in the past.
- **Whittier-Elsinore Fault**—This fault system is located approximately 25 miles west of the City and extends approximately 120 miles from Mexico northwest beyond the Santa Ana Mountains. The Whittier Fault extends northwest from the Elsinore Fault zone.
- **San Fernando Fault**—This 9-mile-long fault is located approximately 64 miles west of the City. The reverse fault is located near the back of the San Gabriel Mountains and is the source of the 1971 San Fernando earthquake that had a magnitude of 6.6.
- **Hollywood-Raymond Hills Fault**—This fault system is approximately 42 miles west of the City and extends in an east/west direction along the south side of the Santa Monica Mountains. It may be continuous with the Raymond Fault in the Glendale area.
- **Newport-Inglewood Fault**—This northwest trending fault displays a complex zone of deformation between Beverly Hills and Laguna Beach. Approximately 57 miles west of the City it has been the source of damaging earthquakes up to a magnitude of 6.3 (Long Beach in 1933).
- **Santa Monica Fault**—Extending from Santa Monica in the north east to the Santa Barbara Channel, this major east/west-trending system of reverse faults is located approximately 70 miles west of the City.

- **Rialto-Colton Fault**—Located approximately 4 miles from the City, this fault is approximately 16 miles long and trends in a northwest direction. Although no surface offset is evident for this fault, small earthquakes are known to have occurred near its subsurface trace.
- **Helendale Fault**—Trending northwest for approximately 54 miles, this fault is located approximately 38 miles from the City along the north side of the San Bernardino Mountains east of Victorville.
- **Cleghorn Fault**—This fault trends northwest for 14 miles and is located along the northwest end of the San Bernardino Mountains approximately 13 miles northwest of the City.
- **North Frontal Fault Zone**—Approximately 30 miles in length this fault is closely associated with small earthquakes recorded near the eastern end of the zone. The zone is located approximately 17 miles north of the City along the north front of the San Bernardino Mountains.
- **Crafton Fault**—Located approximately 7 miles south of the City, this fault is approximately 5 miles long.
- **Banning Fault**—This fault zone is approximately 2.5 miles wide and trends northwest to west along approximately 27 miles. Located 16 miles south-southeast of the City it is associated with numerous small earthquakes.
- **Red Hill Fault**—Extending about 9 miles, it trends northwest to nearly east/west through the Pomona area. It is located 10 miles west of the City.

Active faults are defined as faults that have had surface displacement within Holocene time (within the last 11,000 years) and/or have record of seismic activity. Potentially active faults have shown evidence of surface displacement during Quaternary time (the last 2 million years) but have not demonstrated movement within the Holocene time (CGS 2007). San Bernardino contains numerous strands of active faults. The Alquist-Priolo Earthquake Fault Zone Act requires the State to establish Earthquake Fault Zones to encompass all potentially active fault traces along the San Andreas and San Jacinto Faults. The zone boundaries extend approximately 500 feet from major active faults and up to 300 feet from well-defined minor faults. Figure 4.17.6-3 (Alquist-Priolo Earthquake Fault Zones) show the active faults that are part of the Alquist-Priolo Earthquake fault Zones and are either known active faults or are defined as having the potential for surface rupture.

Horizontal ground acceleration, which frequently results in widespread damage to structures, is estimated as a percentage of g, the acceleration of gravity. The damage that an earthquake will cause to a structure depends on the earthquake's size, location, distance, and depth; the types of rock and soil at the surface of the site; and the type of construction of the structure.

The City of San Bernardino is currently located outside a mapped area for Seismic Hazard Zones, established regulatory zones that encompass areas prone to liquefaction (failure of water-saturated soils) and earthquake-induced landslides. Geologically however, Southern California is conducive to slope failures and slope-failure deposits (landslides) that may be harmful to life and damaging to property. As shown in Figure 4.17.6-4 (Soil-Slip Susceptibility), portions of the City of San Bernardino are located within areas that have either low, moderate, or high soil-slip susceptibility that could be induced seismically.



***Source*:** San Bernardino, City of. 2005. San Bernardino General Plan Update and Associated Specific Plans Environmental Impact Report. Draft. Prepared by The Planning Center, July 25.

Figure 4.17.6-3
Alquist-Priolo Earthquake Fault Zones

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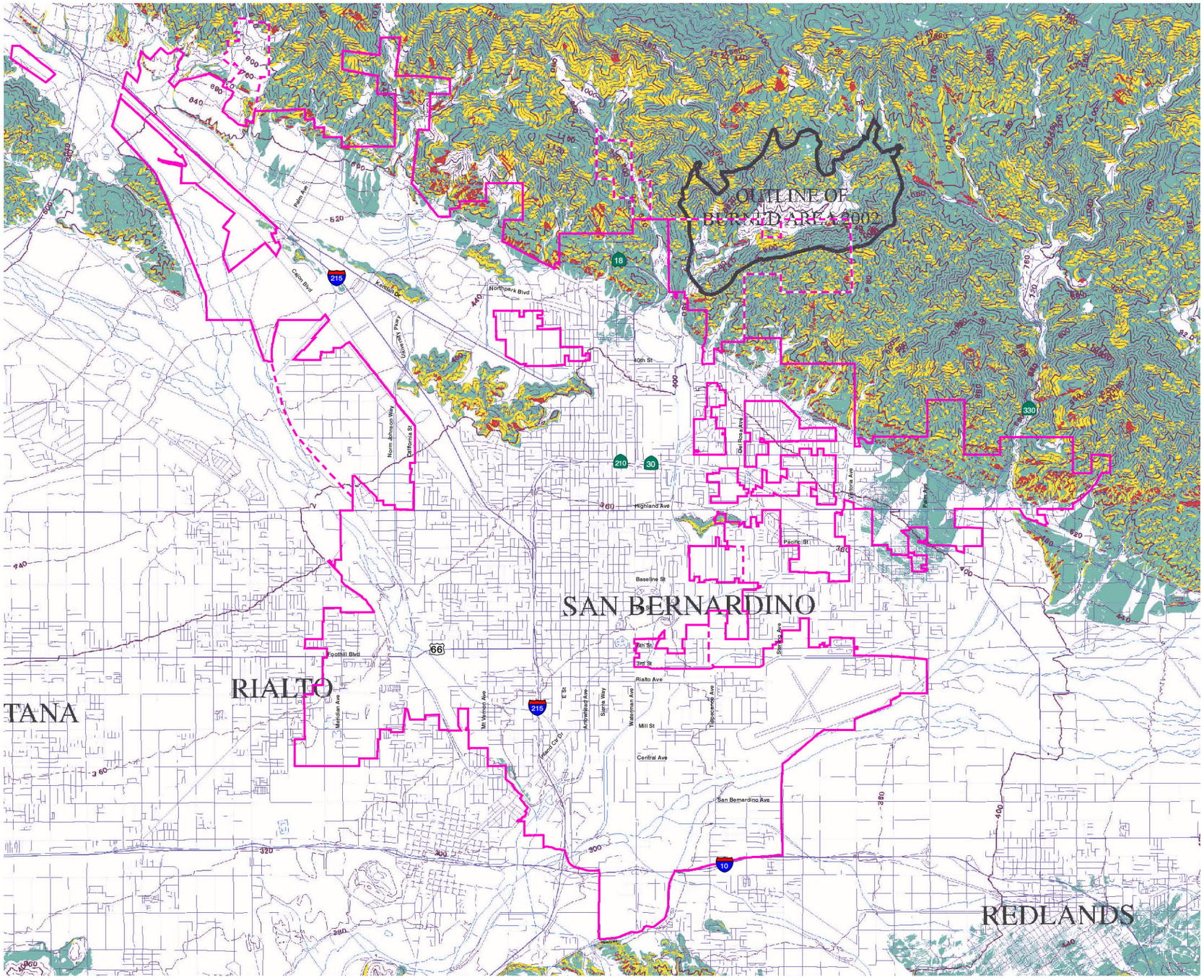

Low Susceptibility

Moderate Susceptibility

High Susceptibility

Uncolored areas have zero soil-slip susceptibility values.

City Boundary

Sphere of Influence Boundary

NORTH
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***Source*:** San Bernardino, City of. 2005. San Bernardino General Plan Update and Associated Specific Plans Environmental Impact Report. Draft. Prepared by The Planning Center, July 25.

Figure 4.17.6-4
Soil-Slip Susceptibility

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Slope stability is generally determined by factors such as slope, vegetative cover, wildfire, bedrock, soil, precipitation, and human alteration. Slopes may be temporarily stable until one of the above factors is modified through natural occurrence or human activities that un-stabilizes the slope and causes the potential for failure.

Liquefaction is a process whereby strong earthquake shaking causes sediment layers that are saturated with groundwater to lose strength and behave as a fluid. This subsurface process can lead to near-surface or surface failure that can damage structures. If surface failure does occur, it is usually expressed as lateral spreading, flow failures, ground oscillation, and/or general loss of bearing strength. Sand boils (injections of fluidized sediment) can commonly accompany these different types of failure.

In order to determine a region's susceptibility to liquefaction, three major factors must be analyzed:

- The intensity and duration of ground shaking.
- The age and textural characteristic of the alluvial sediments. Generally, the younger, less compacted sediments have a higher susceptibility to liquefaction. Textural characteristics also play a dominant role in determining liquefaction susceptibility. Sand and silty sands deposited in river channels and floodplains tend to be more susceptible to liquefaction, and floodplains tend to be more susceptible to liquefaction than coarser or finer grained alluvial materials.
- The depth to the groundwater. Groundwater saturation of sediments is required for earthquake-induced liquefaction. In general, groundwater depths shallower than 10 feet to the surface can cause the highest liquefaction susceptibility.

The City of San Bernardino is located outside mapped areas for Seismic Hazard Zones, however based on past technical studies two general zones have been identified within the City has being "high" and "moderately high to moderate" zones. High zones are concentrated north and northeast of the City along the San Andreas Fault and in the area between the San Andreas Fault and San Jacinto Faults. Figure 4.17.6-5 (Liquefaction Susceptibility) identifies these zones.

The principal threat in an earthquake is the damage that the earthquake causes to buildings. Continuing advances in engineering design and building code standards over the past decade have greatly reduced the potential for collapse in an earthquake of most of our new buildings. However, many buildings were built before current earthquake design standards were incorporated into the building code. Several specific building types are a particular concern in this regard:

- **Unreinforced Masonry Buildings**—In the late 1800s and early 1900s, unreinforced masonry was the most common type of construction for larger downtown commercial structures and for multi-story apartment and hotel buildings. These were recognized as a collapse hazard following the San Francisco earthquake of 1906, and are generally known to be the most hazardous buildings in an earthquake.
- Per **Senate Bill 547**, local jurisdictions are required to enact structural hazard reduction programs by inventorying pre-1943 unreinforced masonry buildings and developing mitigation programs to correct the structural hazards.
- **Precast Concrete Tilt-Up Buildings**—This building type was introduced after World War II and gained popularity in light industrial buildings during the late 1950s and 1960s. Extensive damage to concrete tilt-up buildings in the 1971 San Fernando earthquake revealed the need for

better anchoring of walls to the roof, floor, and foundation elements of the building and for stronger roof decks capable of resisting the stress produced by lateral forces such as wind or seismic loads. In the typical damage to these buildings, the concrete wall panels would fall outward and the roof would collapse.

- **Soft-Story Buildings**—Soft-story buildings are those in which at least one story, commonly the ground floor, has significantly less rigidity and/or strength than the rest of the structure. This can form a weak link in the structure unless special design features are incorporated to give the building adequate structural integrity. Typical examples of soft-story construction are buildings with glass curtain walls on the first floor only, or buildings placed on stilts or columns, leaving the first story open for landscaping, street-friendly building entry, parking, or other purposes. In the early 1950s to early 1970s, soft-story buildings were a popular construction style for low- and midrise concrete frame structures.
- **Nonductile Concrete Frame Buildings**—The brittleness of nonductile concrete frame buildings can result in major damage and even collapse under strong ground shaking. This type of construction, which generally lacks masonry shear walls, was common in the very early days of reinforced concrete buildings, and they continued to be built until the codes were changed to require ductility in the moment-resisting frame in 1973. There were large numbers of these buildings built for commercial and light industrial use in California's older, densely populated cities. Although many of these buildings have four to eight stories, many are shorter. This category also includes one-story parking garages with heavy concrete roof systems supported by nonductile concrete columns.

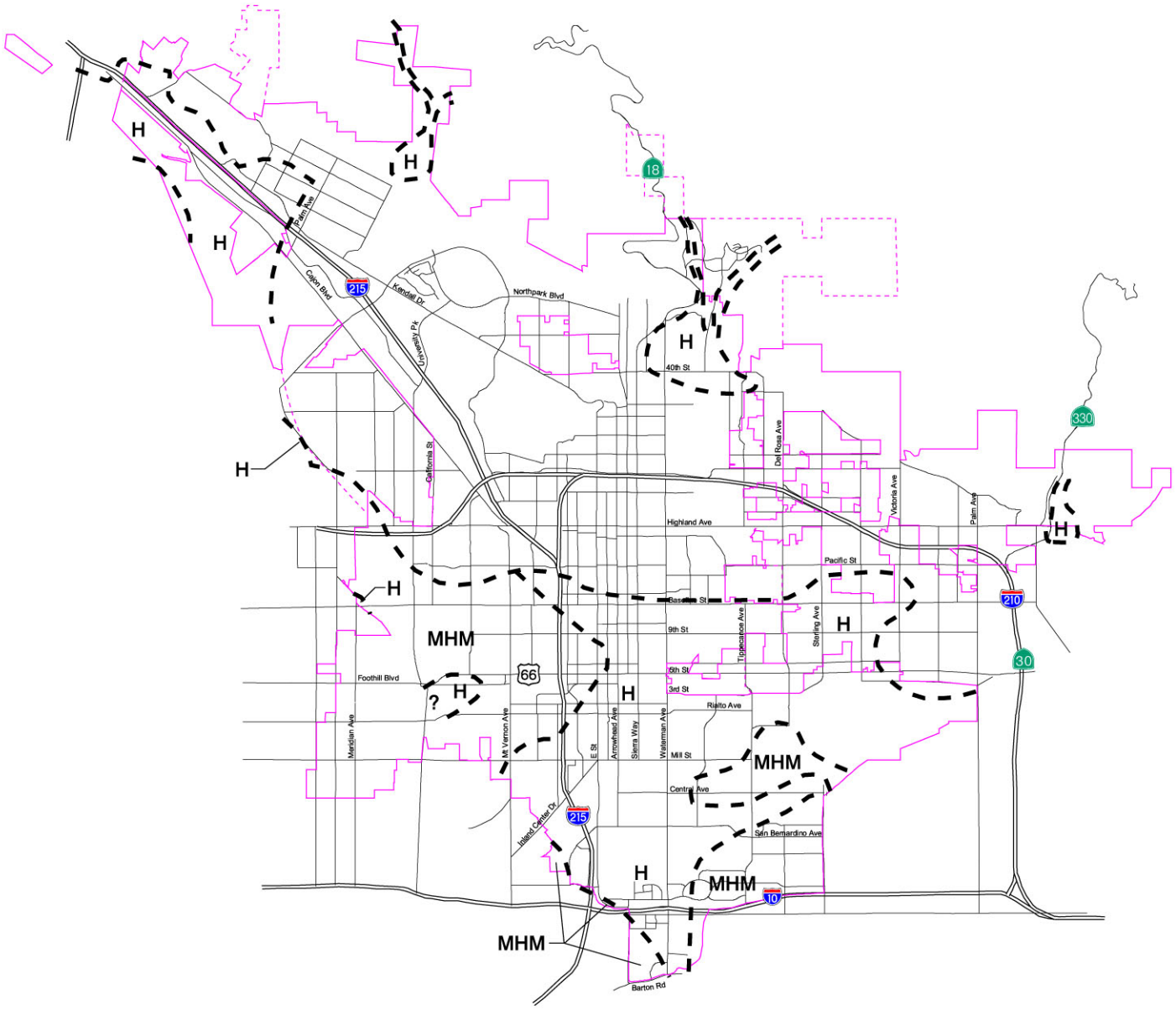
These types of buildings were commonly built for commercial and light industrial use in California's older, more densely populated cities. Many are between four to eight stories although some are lower, including one-story parking garages with heavy concrete roof systems supported by nonductile concrete columns. Construction history within the City spans the dates and uses common to these potentially hazardous building types.

Other Geologic Hazards

Ground Subsidence

Ground subsidence is the gradual settling or sinking of the ground surface with little or no horizontal movement, and most often results from human activities such as the extraction of oil, gas, or groundwater. Effects of subsidence include fissures, sinkholes, depressions, and disruption of surface drainage.

Historically within the City of San Bernardino up to one foot of subsidence may have occurred. Potential subsidence could be as great as 5 to 8 feet if the groundwater from the Bunker Hill-San Timoteo Basin is depleted. Subsidence potential in the City has been reduced significantly since 1972 when the San Bernardino Municipal Water District began to maintain groundwater levels from recharge to percolation basins. Figure 4.17.6-6 (Potential Subsidence Areas) depicts the areas within the City that may be susceptible to subsidence.



***Source*:** San Bernardino, City of. 2005. San Bernardino General Plan Update and Associated Specific Plans Environmental Impact Report. Draft. Prepared by The Planning Center, July 25.

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Figure 4.17.6-5
Liquefaction Susceptibility

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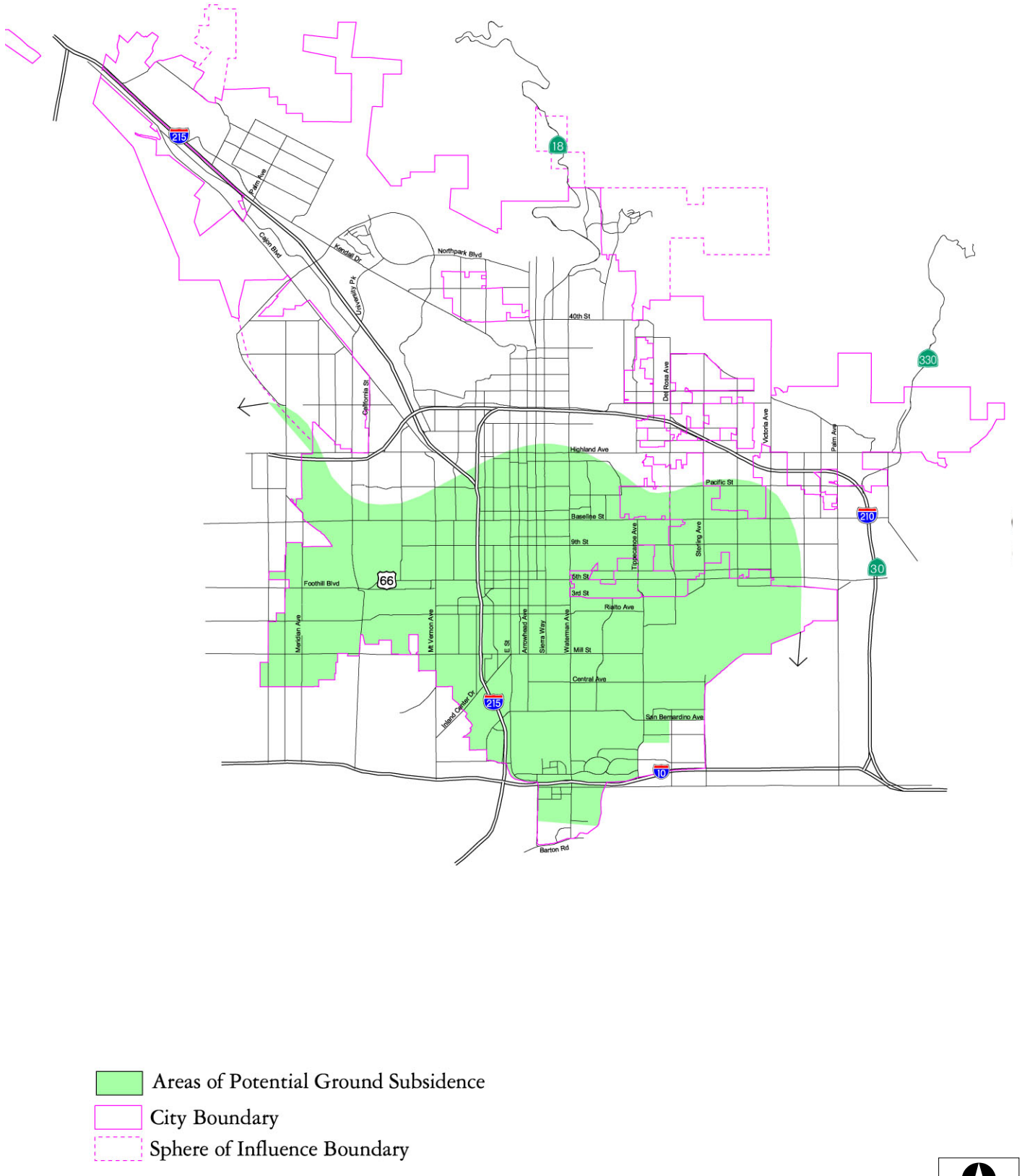

***Source*:** San Bernardino, City of. 2005. San Bernardino General Plan Update and Associated Specific Plans Environmental Impact Report. Draft. Prepared by The Planning Center, July 25.

Figure 4.17.6-6
Potential Subsidence Areas

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Compressible Soils

Compressible soils are typically unconsolidated, low-density Holocene sediments that may compress under the weight of structures and fill soil. Examples of highly compressible materials are areas such as dumping grounds for peat deposits at surface or at depth. Also, younger soils including textured silty and sandy soils are more susceptible to settlement because they contain less well compacted sediments.

Erosion

Erosion is the movement of rock and soil due to water, wind, and gravity. Soil erosion may be a slow process that continues relatively unnoticed, or it may occur quickly, causing serious loss of topsoil. The rate and magnitude of soil erosion by water is controlled by rainfall intensity and runoff, soil texture and cohesion, slope gradient and length, and vegetation cover. Twenty-two different soil series were identified in the City of San Bernardino. Of these Delhi fine sands, Tujunga loamy sands are subject to wind erosion without adequate vegetative cover. Cieneba sandy loam, Friant rock outcrop, Greenfield sandy loam, and Saugus sandy loam are also found within the City. These soils occur commonly on alluvial fans, hills, and in the base of the front of the San Bernardino Mountain. Rapid precipitation runoff, denudation of vegetative cover, and sandy soil texture lead to potential water erosion of these soils. The risk of erosion is increased through hillside grazing without proper erosion control plans.

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.

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.

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 2007 Building Code

Current law states that every local agency enforcing building regulations, such as cities and counties, must adopt the provisions of the California Building Code (CBC) within 180 days of its publication. The publication date of the CBC is established by the California Building Standards Commission and the code is also known as California Code of Regulations (CCR) Title 24, Part 2. The most recent building standard adopted by the legislature and used throughout the state is the 2007 version of the CBC, often with local, more restrictive amendments that are based on local geographic, topographic, or climatic conditions. These codes provide minimum standards to protect property and public safety by regulating the design and construction of excavations, foundations, building frames, retaining walls, and other building elements to mitigate the effects of seismic shaking and adverse soil conditions. The CBC contains provisions for earthquake safety based on factors including occupancy type, the types of soil and rock on-site, and the strength of ground.

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

San Bernardino General Plan

The San Bernardino General Plan policies that are applicable to geologic and soil resources and hazards[5] are as follows:

Policy 2.1.2 Require that new development with potentially adverse impacts on existing neighborhoods or residents such as noise, traffic, emissions, and storm water runoff, be located and designed so that quality of life and safety in existing neighborhoods are preserved.

Policy 2.1.5 Ensure compliance with maintenance and development standards through the rigorous enforcement of Code Enforcement and Safety standards.

Policy 2.2.3 Sensitively integrate regionally beneficial land uses such as transportation corridors, flood control systems, utility corridors, and recreational corridors into the community.

Policy 2.2.10 The protection of the quality of life shall take precedence during the review of new projects. Accordingly, the City shall utilize its discretion to deny or require mitigation of projects that result in impacts that outweigh benefits to the public.

Policy 2.5.1 Use code enforcement in coordination with all relevant City departments to reverse deterioration and achieve acceptable levels of development quality. These efforts should focus on structural maintenance and rehabilitation, debris and weed removal, property maintenance, and safety.

Policy 9.4.9 Develop and implement policies for adopting Sustainable Stormwater Management approaches that rely on infiltration of stormwater into soils over detention basins or channels. Sustainable Stormwater Management techniques include use of pervious pavements, garden roofs, and bioswales to treat stormwater, and reusing stormwater for non-potable water uses such as landscape irrigation and toilet/urinal flushing.

Policy 13.2.1 Coordinate and monitor the City's water conservation efforts on an annual basis and modify or expand them as necessary to ensure their effectiveness.

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:

[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.

  - > 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

The following analysis considers the potential impacts to geologic and soil resources resulting from implementation of the Regional Reduction Plan within the City.

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

The City of San Bernardino and its SOI are influenced by numerous faults and trace faults. As shown in Figure 4.17.6-3, many of these faults are located within the Alquist-Priolo Earthquake Fault Zone. These faults are considered to have been active during the Holocene time and have the potential for surface rupture. In addition to these active Alquist-Priolo Earthquake Zone Faults, other active faults also underlie the City and have the potential for surface rupture. In response to the Unreinforced Masonry Law, San Bernardino has identified structures within the City that may be hazardous in the event of a surface rupture. Due to the proximity and location of these faults, all structures within the City Planning area may be impacted by seismic related ground shaking. Structures and inhabitants of these structures during severe ground-shaking events may be exposed to substantial adverse effects.

In addition to impacts from surface rupture, various locations throughout the City are located in areas of "high" and "Moderately high to moderate" liquefaction potential from seismic activity. Structures and inhabitants of these structures may be exposed to substantial adverse effects from liquefaction including structure failure.

However, implementation of the Regional Reduction Plan does not directly expose people to seismic induced hazards such as fault ruptures, ground shaking, liquefaction, seismically induced settlement, or landslides. Implementation of the reduction measures in the Regional Reduction Plan such as energy efficiency retrofits, renewable energy generation, transit station improvements, or transit-oriented development described in reduction measure On-Road Transportation-1 (Sustainable Communities Strategy) are required to comply with seismic safety provisions of the CBC (CCR Title 24, Part 2), for seismic related impacts within Seismic Zone 4. No structures are allowed within 50 feet of an active fault trace as determined by the Alquist-Priolo Earthquake Fault Zoning Act and the Seismic Hazards Mapping Act. Such compliance would reduce hazards arising from fault ruptures, ground shaking, liquefaction, seismically induced settlement, and landslides 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 result in substantial soil erosion or the loss of topsoil?

Soil erosion and the loss of top soil can be the result of construction involving substantial grading, cut and fill activities, sparsely vegetated and/or barren slopes, and off-road vehicle use. The City is within geologic units containing soil types susceptible to both wind and water erosion. Fine sandy soils, such as Delhi fine sand and Tujunga loamy sand are susceptible to wind erosion. The Cieneba sandy loam, Friant rock outcrop, Greenfield sandy loam, and Saugus sandy loam, are susceptible to water erosion. Development within these areas may result in substantial soil erosion.

However, development within the City is required to adhere to the building standards of the most recent CBC and UBC. These regulate the design and construction of excavations, foundations, building frames, retaining walls and other building elements to mitigate the effects of seismic shaking and adverse soil conditions. In addition, construction activities on project sites used to implement the reduction measures in the Regional Reduction Plan such as energy efficiently retrofits, renewable energy generation, bicycle and/or pedestrian infrastructure, and transit infrastructure larger than 1 acre are required to prepare a Stormwater Pollution Prevention Plan that details best management practices to reduce the potential for erosion during construction activities. Consequently, impacts would be less than significant. The impact 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?

The hillside areas of San Bernardino are located in areas that are designated as having low, moderate, or high soil-slip susceptibility. Seismic activity can induce soil-slip therefore development located in these areas are susceptible to potential landslides. Also, portions of the City are identified as having the potential for liquefaction and subsidence. This can result in structural collapse if development is to occur.

Sustained overdraft of the Bunker Hill-San Timoteo Basin has the potential to increase susceptibility to impacts from subsidence as decreased groundwater levels can initiate sinking to fill in the empty space. Weight from existing and new development can aggravate the situation accelerating the natural process of subsidence. However groundwater recharge in the Basin has reduced this potential by reducing overdraft.

The finer grain alluvial deposits accumulated in the floodplains of the Santa Ana River are more susceptible to liquefaction than coarser grained materials near the San Bernardino Mountain. However groundwater level is most important determinant to liquefaction potential. Historically (1973 to 1983) groundwater levels in the old artesian area were within 10 feet or less of the surface and therefore hand a high liquefaction potential. Areas along the San Andreas, San Jacinto, and Cucamonga Faults are known to have moderate to moderately high liquefaction potentials due to the constrictive nature of groundwater moving along fault lines.

Portions of the Arrowhead Springs area are located on unstable geological units or have unstable soil conditions that may result in susceptibility to landslides, lateral spreading, liquefaction, subsidence, and collapse. However, this was analyzed and mitigated in the EIR for the 2005 City General Plan. Further, Development within the City is required to adhere to the building standards of the most recent CBC and UBC. These regulate the design and construction of excavations, foundations, building frames, retaining walls and other building elements to mitigate the effects of seismic shaking and adverse soil conditions. In addition, construction activities on project sites used to implement the reduction measures in the Regional Reduction Plan such as energy efficiently retrofits, renewable energy generation, bicycle and/or pedestrian infrastructure, and transit infrastructure larger than 1 acre are required to prepare a Stormwater Pollution Prevention Plan that details best management practices to reduce the potential for erosion during construction activities. Consequently, impacts would be less than significant. The impact 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?

Soils that shrink when dry and swell when wet are considered expansive soils and characteristically apply to soils with high percentages of clay. Movement that occurs during expansion can exert enough pressure to crack sidewalks, driveways, basement floors, pipelines, and even foundations. Soils commonly found within the City are not characterized as expansive however the potential to encounter expansive soils does exist. Therefore, the potential for risk to life or property due to structural collapse from construction on expansive soils could occur. However, in addition to adherence to the CBC and UBC, the Engineering Section in the Department of Public Works must review and approve all formal grading plans. This will ensure that site soil conditions are conducive to development.

Further, individual projects implementing the reduction measures in the Regional Reduction Plan in the southern part of the City considered for approval by the City could expose persons or structures to potentially significant hazards from expansive soils. Consequently, any potential impacts associated with expansive soils during implementation of the Regional Reduction Plan would be reduced to ***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?

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 are related to or require the need for septic tanks or alternative wastewater disposal systems. The impact would be ***less than significant***. No mitigation is required.

Cumulative Impacts

Because the Regional Reduction Plan does not impact geologic and soil resources or hazards at a Project level, implementation of the Regional Reduction Plan will not create impacts to geologic and soil resources and hazards that are cumulatively considerable. Therefore, ***cumulative impacts would be less than significant***.

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4.17.7 Greenhouse Gas Emissions

This section of the EIR analyzes the potential environmental effects on greenhouse gas (GHG) emissions in the City of San Bernardino from implementation of the Regional Reduction Plan. Data for this section were taken from the San Bernardino General Plan (2005a), associated environmental document (2005b), 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 San Bernardino emitted approximately 1.6 million metric tons of carbon dioxide equivalents (MMT CO_2e) in 2008. The emissions were calculated based on the 2012RTP traffic modeling, data from utilities, and land use. The largest portion of the City's 2008 emissions were from on-road transportation (51.05 percent), followed by emissions from building energy (electricity and natural gas use) (36.43 percent). Table 4.17.7-1 (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 4.17.7-1 2008 Net Total Emissions

Category	*Metric tons of CO_2e*
Energy	578,446
On-Road Transportation	810,577
Off-road Equipment	96,602
Water and Wastewater	33,855
Solid Waste	66,429
Agriculture	1,909
Total	***1,587,881***
Excluded Stationary Sources under Title V Permits[a]	322,801

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, non-wetland 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 San Bernardino, 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, that 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 CO_2e) or millions of metric tons of CO_2 equivalents (MMT CO_2e).

- **Global Emissions.** Worldwide emissions of GHGs in 2004 were nearly 30 billion tons of CO_2e per year (including both ongoing 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 metric tons of carbon dioxide equivalent (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/year carbon dioxide equivalents (CO_2e). 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/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 non-professional 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 California Energy Commission

(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 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, 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 2010a). 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. The Southern California Association of Governments (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 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 into transportation planning with an emphasis on transit and other non-vehicle 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 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

San Bernardino General Plan

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

Policy 2.3.1 Commercial centers, open spaces, educational facilities, and recreational facilities should be linked to residential neighborhoods.

Policy 2.3.2 Promote development that is compact, pedestrian-friendly, and served by a variety of transportation options along major corridors and in key activity areas.

Policy 2.4.1 Quality infill development shall be accorded a high priority in the commitment of City resources and available funding.

Policy 5.3.3 A well-integrated network of bike and pedestrian paths should connect residential areas to schools, parks, and shopping centers.

Policy 5.5.3 Maintain, improve and/or develop parkways with canopy street trees, providing shade, beauty and a unifying identity to residential streets.

Policy 5.5.5 Provide continuous sidewalks and links to nearby community facilities and retail centers.

Policy 6.6.1 Support the efforts of regional, state, and federal agencies to provide additional local and express bus service in the City.

Policy 6.6.2 Create a partnership with Omnitrans to identify public transportation infrastructure needs that improve mobility.

Policy 6.6.7 Encourage measures that will reduce the number of vehicle-miles traveled during peak periods, including the following examples of these types of measures:

- Incentives for car-pooling and vanpooling.
- Preferential parking for car-pools and vanpools.
- An adequate, safe, and interconnected system of pedestrian and bicycle paths.
- Conveniently located bus stops with shelters that are connected to pedestrian/bicycle paths.

Policy 6.6.8 Promote the use of car-pools and vanpools by providing safe, convenient park-and-ride facilities.

Policy 6.6.9 Work with Omnitrans to create transit corridors, such as the one currently being explored on E Street linking CSUSB to Hospitality Lane, to increase transit ridership, reduce traffic congestion, and improve air quality.

Policy 6.6.10 Consider the provision of incentives, such as reduced parking standards and density/intensity bonuses, to those projects near transit stops that include transit-friendly uses such as child care, convenience retail, and housing.

[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.

Policy 9.5.3 Continue to reduce the amount of solid waste that must be disposed of in area landfills, to conserve energy resources, and be consistent with the County Solid Waste Management Plan and State law.

Policy 9.5.4 Continue to support implementation of regional recycling programs through participation in the County Solid Waste Advisory Committee, the County Solid Waste Management Plan, and appropriate State programs.

Policy 9.5.5 Develop and participate in local recycling programs.

Policy 9.5.6 Develop and implement a program of public education regarding the benefits of recycling.

Policy 9.6.5 Encourage and promote the use of energy-efficient (U.S. Department of Energy "Energy Star" or equivalent) lighting fixtures, light bulbs, and compact fluorescent bulbs in residences, commercial, and public buildings, as well as in traffic signals and signs where feasible.

Policy 12.6.1 Promote a pattern of land uses which locates residential uses in close proximity to employment and commercial services and provides, to the fullest extent possible, local job opportunities and commercial service to minimize vehicular travel and associated air emissions.

Policy 12.6.2 Disperse urban service centers (libraries, post offices, social services, etc.) throughout the City to minimize vehicle miles traveled and the concomitant dispersion of air pollutants.

Policy 12.6.3 Install streetscape improvements and other amenities to encourage pedestrian activity in key City areas and reduce vehicular travel and associated air emissions.

Policy 12.6.5 Require qualifying development to implement or participate in transportation demand management programs, which provide incentives for car pooling, van pools, and the use of public transit and employ other trip reduction techniques (consistent with the Circulation Element and South Coast Air Quality Management Plan).

Policy 12.6.7 Promote the use of public transit and alternative travel modes to reduce air emissions.

Policy 13.1.1 Reduce the City's ongoing electricity use by 10 percent and set an example for residents and businesses to follow.

Policy 13.1.3 Consider enrollment in the Community Energy Efficiency Program (CEEP), which provides incentives for builders who attain energy savings 30 percent above the National Model Energy Code, the Energy Star Program, which is sponsored by the United States Department of Energy and the Environmental Protection Agency and encourages superior energy efficiency by residents and businesses, or the State's Energy Efficiency and Demand Reduction Program, which offer rebates and incentives to agencies and developers who reduce energy consumption and use energy efficient fixtures and energy-saving design elements.

Policy 13.1.4 Require energy audits of existing public structures and encourage audits of private structures, identifying levels of existing energy use and potential conservation measures.

Policy 13.1.5 Encourage energy-efficient retrofitting of existing buildings throughout the City.

Policy 13.1.6 Consider program that awards incentives to projects that install energy conservation measures, including technical assistance and possible low-interest loans.

Policy 13.1.8 Educate the public regarding the need for energy conservation, environmental stewardship, and sustainability techniques and about systems and standards that are currently available for achieving greater energy and resource efficiency, such as the U.S. Green Building Council's "Leadership in Energy and Environmental Design" (LEED) standards for buildings.

Policy 13.1.9 Encourage increased use of passive and active solar and wind design in existing and new development (e.g., orienting buildings to maximize exposure to cooling effects of prevailing winds, daylighting design, natural ventilation, space planning, thermal massing and locating landscaping and landscape structures to shade buildings).

Downtown Strategic Area Strategies

Strategy 10-1 Promote downtown revitalization by seeking and facilitating mixed-use projects (e.g. combinations of residential, commercial, and office uses).

Strategy 10-3 Allow the ground floor of new non-residential and residential structures to incorporate "pedestrian-active" retail uses (restaurants, florists, gift shops, bookstores, clothing and shoe repair, etc.)

Strategy 10-7 Provide generous pedestrian amenities such as wide sidewalks, ground-level retail uses, parkways, vintage streetlights, sitting areas, and street furniture.

Strategy 10-13 Encourage mixed use development and pedestrian friendly uses/development adjacent to transit stops.

These policies are also listed in the San Bernardino chapter of the Regional Reduction Plan and list the policies that apply to each reduction measure chosen by the City of San Bernardino in the Regional Reduction Plan.

In late spring/early summer of 2009 the California Attorney General's Office made verbal comments voicing concerns about the need to show GHG emissions resulting from buildout of the City, the need for a reduction target, and quantification that City administered GHG reduction measures could achieve the reduction target.

To meet the Attorney General's recommendations, the City has taken a two-pronged approach. The City is participating in this Regional Reduction Plan. In addition, the City is preparing a Sustainability Master Plan consistent to, but independent from the Regional Reduction Plan that includes measures by which both municipal and community-wide GHG emissions can be reduced.

Additional details of the City's portion of the Regional Reduction Plan are provided in Section 4.17.0 (Introduction to the Analysis) of this EIR and in the San Bernardino chapter of the Regional Reduction Plan.

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 San Bernardino for the following scenarios: 2008, 2020 business-as-usual, 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.

The 2020 business-as-usual (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 San Bernardino's emissions to levels at or below the reduction target. The City of San Bernardino selected a goal to reduce community GHG emissions to 15 percent below its 2008 GHG emissions level by 2020. 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 emissions and emissions reduction calculations performed for the Regional Reduction Plan followed guidance provided by the California Air Pollution Control Officers Association (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, the Southern California Association of Governments (SCAG), and local land use information. These sources were multiplied by GHG emissions factors from a variety of sources, including EMFAC2011, URBEMIS2007, 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 San Bernardino totaled 322,801 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 San Bernardino 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 building energy retrofits and 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 energy-efficiency retrofits and renewable energy projects that are part of the reduction measures in the Regional Reduction Plan that would result in an overall reduction in GHG emissions.

The Regional Reduction Plan would implement additional reduction strategies that build from existing General Plan policies. Table 4.17.7-2 (GHG Emission Inventories and Reductions in the City of San Bernardino) quantitatively shows the reductions of GHG emissions in 2020 that result would result from implementation of the Regional Reduction Plan in the City 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 4.17.0 of this EIR. Regional Reduction Plan Chapter 4 has additional details of these reduction measures.

Table 4.17.7-2 GHG Emission Inventories and Reductions in the City of San Bernardino

Category	*Metric tons of CO_2e*				
Emission Source	2008	2020 BAU	Plan Reductions	2020 with Plan	% Reduction
Energy	578,446	649,824	170,938	478,886	26.3%
On-Road Transportation	810,577	891,216	25,578	640,638	28.1%
Off-road Equipment	96,602	100,337	18,455	81,882	18.4%
Solid Waste	66,492	72,386	48,520	23,866	67.0%
Agriculture	1,909	973	0	973	0.0%
Wastewater Treatment	8,490	9,407	176	9,231	1.9%
Water Conveyance	25,365	45,858	2,939	42.919	6.4%
GHG Performance Standard for New Development[a]	-	-	20,049	-	-
Total	***1,587,881***	***1,770,000***	***511,655***	***1,258,345***	***28.9%***
Reduction Target	**-**	**-**	**420,302**	**1,349,698**	**23.7%**
Does the Plan Meet the Reduction Target?	-	-	Yes	Yes	Yes
Reductions Beyond Target	**-**	**-**	***91,353***	**-**	**-**
Excluded Stationary Sources under Title V Permits[b]	322,801	301,927	-	-	-

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).

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 San Bernardino.

The proposed project will result in a reduction of GHG emissions. Therefore, this impact would be ***less than significant***. Mo mitigation is required.

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 4.17.7-2 summarizes the 2008 GHG emissions for the City. The emissions in 2008 totaled 1.6 MMT CO_2e. The largest source of emissions was transportation, followed by energy use.

The 2020 BAU emissions inventory for the City was estimated in the Regional Reduction Plan using San Bernardino 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 4.17.7-2

summarizes the 2020 BAU emissions inventory. The emissions are an estimated at 1.8 MMT CO_2e, an increase of 182,119 MT CO_2e (or 11.47 percent) from the 2008 baseline. Similar to the 2008 inventory, the largest source of emissions is predicted to be transportation followed by emissions associated with energy use. The difference between the BAU-forecasted emissions and the established reduction target for the year 2020 is 420,302 MT CO_2e. This is the amount the City must reduce in order to reach their target. Implementation of the Regional Reduction Plan reduces 511,655 MT CO_2e of emissions in 2020 which exceeds the reduction goal by approximately 91,353 MT CO_2e. This is a reduction of approximately 28.9 percent in 2020. Therefore the Regional Reduction Plan exceeds its own GHG reduction planning goals.

AB 32 is implemented through the Scoping Plan which is the statewide plan for the reduction of GHG emissions. The Regional Reduction Plan builds upon the reduction measures administered by the State to complement the efforts of the statewide Scoping Plan. For example, the Regional Reduction Plan Reduction Measure Energy-1 (Energy Efficiency for Existing Buildings) implements the energy efficiency retrofits contemplated in the Scoping Plan. Measures Energy-4, -5, -6, -7, and -8 (solar installation for new and existing housing, commercial, and industrial buildings), 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.

The AB 32 Scoping Plan shows that statewide emissions would be reduced by approximately 29 percent below 2020 BAU. The 29 percent reduction was determined using a baseline of 2005 emissions. Using the ARB's latest inventory data for greenhouse gas emissions for 2008, in order to satisfy AB 32 and reach 1990 emission levels, state emissions would need to be 9 to 10 percent below 2008 levels and 20 to 22 percent below 2020 levels depending on if carbon sinks were included (California ARB 2010b). The San Bernardino chapter of the Regional Reduction Plan demonstrates that the City exceeds that level of reduction. All of the reduction measures in the San Bernardino 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 4.17.0 of this EIR and are described in further detail in Chapter 4 of the Regional Reduction Plan.

SB 375 requires SCAG to provide a Sustainable Communities Strategy (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 San Bernardino include On Road Transportation-1—Sustainable Communities Strategy. This reduction measure provides the land use changes within the City of San Bernardino needed to fulfill the City's 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.
- **Entity Responsible for Implementation:** The City of San Bernardino and SCAG are responsible for implementing this measure. The City provides land use density and development patterns consistent with the SCS such as increased density and mixed use development near transit stations that provides transit oriented development. SCAG leads and SANBAG plays a supporting role in enabling transportation improvements, such as extension of the Metrolink line to Redlands and Bus Rapid Transit improvements in San Bernardino County.

The following details each components of On-Road Transportation-1 (Sustainable Communities Strategy) in the Regional Reduction Plan:

- **On-Road-1.1: Improve Transit Travel Time and Connectivity (Regional)**—To the extent feasible, reduce transit passenger travel time through reduced headways and increased speed. In addition, improve intermodal connectivity among transit systems. These goals could be pursued in connection with, and in addition to, adoption of SANBAG's LRTP.
- **On-Road-1.2: Other Transit Improvements (Regional)**—SANBAG and San Bernardino will work with local and regional transit agencies to secure the following services.
  - > Additional Bus Rapid Transit routes, and other transit choices such as shuttles and rail, beyond what is outlined in the SANBAG LRTP.
  - > Convenient feeder service from multimodal transit center to downtown employment centers.
  - > Regionwide bus/transit passes.
  - > Park-and-ride lots.
  - > New opportunities to finance further transit service for the elderly, handicapped, and recreational purposes.
  - > Shuttle service to transport facilities (e.g., park-and-ride lots).
  - > Idling limits for transit fleets.
- **On-Road-1.3: Public Transit Funding (Regional)**—SANBAG and the City of San Bernardino will collaborate with a broad range of agencies and organizations to improve and expand funding for public transit infrastructure and operations.

- **On-Road-1.4: Adopt Land Use Patterns to Favor Transit-Oriented Development**—The San Bernardino General Plan provides the changes in land use patterns to further prioritize transit-oriented development along existing and planned transit facilities. This strategy could build on one of the alternatives considered in the LRTP alternative, which redistributes population and employment growth to transit corridors, and promotes transit-oriented development at station areas.
- **On-Road-1.5: Nonmotorized Zones (Local)**—The City of San Bernardino is providing urban nonmotorized zones in downtown areas where feasible and considering establishing a goal for conversion of downtown roadway miles to transit, linear parks, or other nonmotorized zones (CAPCOA 2010) and provide for the following services:
  - > Monitor traffic and congestion to determine roadways that should be targeted for improvements.
  - > Evaluate potential efficiency gains from further signal synchronization. Synchronize traffic signals throughout the City and with adjoining cities while allowing free flow of mass transit systems. Require continuous maintenance of the synchronization system
  - > Allow for more-efficient bus operation, including possible signal preemption, and expand signal-timing programs where air quality benefits can be demonstrated.
- **On-Road-1.6: Traffic Calming (Local)**—The City of San Bernardino will provide traffic calming measures to encourage people to walk or bike instead of using a vehicle.
- **On-Road-1.7: Traffic Signal Synchronization (Local)**—The City of San Bernardino is improving travel speed by enhanced signal synchronization.
- **On-Road-1.10: Employer Provided Fringe Benefits (Local)**—The City of San Bernardino is encouraging the use of telecommuting and alternative work schedules for employees and other employer benefits to reduce VMT, including a Guaranteed Ride Home Program.3
- **On-Road-1.11: Pedestrian Bicycle Lanes (Local/Regional)**—The City of San Bernardino has created bicycle lanes directed to the location of schools and major employment districts.
- **On-Road-1.12: Pedestrian and Bicycle Network Improvements (Local/Regional)**—The City of San Bernardino is improving the existing pedestrian and bicycle network as follows:
  - > Encourage the development of bicycle stations, attended parking, and other attended bicycle parking support facilities at intermodal hubs.
  - > Establish a network of multiuse trails to facilitate safe and direct off-street bicycle and pedestrian travel. Provide bike racks along these trails at secure, lighted locations.
  - > Evaluate and consider free bicycles for public use and/or charge a nominal fee for their use.
  - > Amend or implement a development code to include standards for provision of safe pedestrian and bicyclist accommodations, including "Complete Streets" policies that foster equal access by all users, including pedestrians and bicyclists. Include standards in the design of roadways. As appropriate, require new development and redevelopment projects to address bicycle and pedestrian access internally and to other areas through easements; safe access to public transportation and construction of paths that connect with other nonmotorized routes; and safe road crossings at major intersections for school children and seniors.

> Apply for regional, state, and federal grants for bicycle and pedestrian infrastructure projects. Consider using state gas tax subventions, sales tax funds, other funding sources, and development exactions/impact fees to provide bicycle and pedestrian facilities.

> Prohibit projects that impede bicycle and walking access, e.g., large parking areas that cannot be crossed by nonmotorized vehicles, and new residential communities that block through-access on existing or potential bicycle and pedestrian routes.

> Develop and implement a bicycle safety education program to teach drivers and bike riders the laws, riding protocols, routes, safety tips, and emergency maneuvers to increase confidence, safety, and frequency of use for new and existing bike riders.

- **On-Road-1.13: Alternative Fuel Infrastructure (Local/Regional)**—SANBAG and the City of San Bernardino promote the necessary facilities and infrastructure to encourage the use of privately owned low- or zero-emission vehicles such as electric vehicle charging facilities and conveniently locate alternative fueling stations. Convert public transit, street sweeping, and refuse fleets to alternative fuels and provide supporting infrastructure. Examine the use of smaller, more fuel-efficient taxicabs and offering incentives to taxicab owners to use gas-electric hybrid vehicles.

- **On-Road-1.14: School Programs and Outreach (Local)**—The City of San Bernardino collaborates with local public schools districts to expand school bus services and routes. Encourage ridesharing programs in private schools to match parents by geographical location for student transport including the following.

  > Continue to provide public education and information about options for reducing motor vehicle related GHG emissions. Include information on trip reduction; trip linking; public transit; biking and walking; vehicle performance and efficiency (e.g., keeping tires inflated); low- or zero-emission vehicles; and car and ride sharing.

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

- **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 (CAPCOA 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 The State of California has set specific targets for reducing greenhouse gas emissions from the burning of fossil fuels in both power plants and vehicles by adopting various regulations. In addition, state energy efficiency and renewable requirements provide another level of reductions. In order to provide credit to San Bernardino for regulatory actions already taken or planned by the 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 San Bernardino will coordinate with Omnitrans as appropriate.

The following discussion summarizes the San Bernardino General Plan policies that correlate with these two reduction measures implementing the SCS within the City of San Bernardino:

On-Road Transportation-1 (Sustainable Communities Strategy)

Policy 2.3.1 Commercial centers, open spaces, educational facilities, and recreational facilities should be linked to residential neighborhoods.

Policy 2.3.2 Promote development that is compact, pedestrian-friendly, and served by a variety of transportation options along major corridors and in key activity areas.

Policy 2.4.1 Quality infill development shall be accorded a high priority in the commitment of City resources and available funding.

Policy 5.3.3 A well-integrated network of bike and pedestrian paths should connect residential areas to schools, parks, and shopping centers.

Policy 5.5.3 Maintain, improve and/or develop parkways with canopy street trees, providing shade, beauty and a unifying identity to residential streets.

Policy 5.5.5 Provide continuous sidewalks and links to nearby community facilities and retail centers.

Policy 6.6.2 Create a partnership with Omnitrans to identify public transportation infrastructure needs that improve mobility.

Policy 6.6.7 Encourage measures that will reduce the number of vehicle-miles traveled during peak periods, including the following examples of these types of measures:

- Incentives for car-pooling and vanpooling.
- Preferential parking for car-pools and vanpools.
- An adequate, safe, and interconnected system of pedestrian and bicycle paths.
- Conveniently located bus stops with shelters that are connected to pedestrian/bicycle paths.

Policy 6.6.8 Promote the use of car-pools and vanpools by providing safe, convenient park-and-ride facilities.

Policy 6.6.9 Work with Omnitrans to create transit corridors, such as the one currently being explored on E Street linking CSUSB to Hospitality Lane, to increase transit ridership, reduce traffic congestion, and improve air quality.

Policy 12.6.1 Promote a pattern of land uses which locates residential uses in close proximity to employment and commercial services and provides, to the fullest extent possible, local job opportunities and commercial service to minimize vehicular travel and associated air emissions.

Policy 12.6.2 Disperse urban service centers (libraries, post offices, social services, etc.) throughout the City to minimize vehicle miles traveled and the concomitant dispersion of air pollutants.

Policy 12.6.3 Install streetscape improvements and other amenities to encourage pedestrian activity in key City areas and reduce vehicular travel and associated air emissions.

Policy 12.6.5 Require qualifying development to implement or participate in transportation demand management programs, which provide incentives for car pooling, van pools, and the use of public transit and employ other trip reduction techniques (consistent with the Circulation Element and South Coast Air Quality Management Plan).

Policy 12.6.7 Promote the use of public transit and alternative travel modes to reduce air emissions.

Downtown Strategic Area Strategies

Strategy 10-1 Promote downtown revitalization by seeking and facilitating mixed-use projects (e.g. combinations of residential, commercial, and office uses).

Strategy 10-3 Allow the ground floor of new non-residential and residential structures to incorporate "pedestrian-active" retail uses (restaurants, florists, gift shops, bookstores, clothing and shoe repair, etc.)

Strategy 10-7 Provide generous pedestrian amenities such as wide sidewalks, ground-level retail uses, parkways, vintage streetlights, sitting areas, and street furniture.

Strategy 10-13 Encourage mixed use development and pedestrian friendly uses/development adjacent to transit stops.

On-Road Transportation-2 (Smart Bus Technologies)

Policy 6.6.1 Support the efforts of regional, state, and federal agencies to provide additional local and express bus service in the City.

Policy 6.6.7 Encourage measures that will reduce the number of vehicle-miles traveled during peak periods, including the following examples of these types of measures:

- Incentives for car-pooling and vanpooling.
- Preferential parking for car-pools and vanpools.
- An adequate, safe, and interconnected system of pedestrian and bicycle paths.
- Conveniently located bus stops with shelters that are connected to pedestrian/bicycle paths.

The Regional Reduction Plan provides the GHG reductions contemplated by SB 375 by implementing SCAG's SCS strategy in San Bernardino. Therefore, this impact is ***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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4.17.8 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 San Bernardino from implementation of the Regional Reduction Plan. Geologic and flood hazards are addressed separately in Section 4.17.6 (Geology/Soils) and Section 4.17.9 (Hydrology/Water Quality). Data for this section were taken from the San Bernardino General Plan (2005a) and associated environmental document (2005b). 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 and Hazardous Waste

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.

Regulatory Framework

There are many federal, state, and local programs that regulate the use, storage, and transportation of hazardous materials and hazardous waste, and they are constantly changing. 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

Hazardous Materials and Hazardous Waste

United States Environmental Protection Agency (USEPA)

The USEPA is the primary federal agency that regulates hazardous materials and waste. In general, the USEPA works to develop and enforce regulations that implement environmental laws enacted by Congress. The agency 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. USEPA programs promote handling hazardous wastes safely, cleaning up contaminated land, and reducing trash. Under the authority of the RCRA and in cooperation

with state and tribal partners, the Waste Management Division manages a hazardous waste program, an underground storage tank program, and a solid waste program that includes development of waste reduction strategies such as recycling.

Resource Conservation and Recovery Act (RCRA)

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 includes the treatment, storage, or disposal of hazardous waste. Treatment is any process that changes the physical, chemical, or biological character of the waste to reduce its potential as an environmental threat. Treatment can include neutralizing the waste, recovering energy or material resources from the waste, rendering the waste less hazardous, or making the waste safer to transport, dispose of, or store.

The RCRA gave the USEPA the authority to control hazardous waste from "cradle to grave," that is, from generation to transportation, treatment, storage, and disposal. The RCRA also set forth a framework for the management of nonhazardous wastes. The 1986 amendments to RCRA enabled the USEPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. It should be noted that RCRA focuses only on active and future facilities and does not address abandoned or historical sites. The federal Hazardous and Solid Waste Amendments are the 1984 amendments to RCRA that required phasing out land disposal of hazardous waste. Some of the other mandates of this strict law include increased enforcement authority for the USEPA, more stringent hazardous waste management standards, and a comprehensive underground storage tank program.

Comprehensive Environmental Response, Compensation, and Liability Act

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. This federal law created a tax on the chemical and petroleum industries that went to a trust fund for cleaning up abandoned or uncontrolled hazardous waste sites. CERCLA also enabled the revision of the National Contingency Plan, which provided the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants. The National Contingency Plan also established the National Priority List (NPL) of sites, which are known as Superfund sites. CERCLA was amended by the Superfund Amendments and Reauthorization Act on October 17, 1986.

Superfund Amendments and Reauthorization Act

SARA reauthorized CERCLA to continue cleanup activities around the country. Several site-specific amendments, clarifications, and technical requirements were added to the legislation, including additional enforcement authorities. SARA Title III also authorized the Emergency Planning and Community Right-to-Know Act.

Emergency Planning and Community Right-to-Know Act

EPCRA was enacted by Congress as the national legislation on community safety. This law was designated to help local communities protect public health, safety, and the environment from chemical hazards. The primary purpose of EPCRA is to inform communities and citizens of chemical hazards in their areas by requiring businesses to report the locations and quantities of chemicals stored on-site to state and local agencies. These reports help communities prepare to respond to chemical spills and similar emergencies. EPCRA Section 3131 requires manufacturers to report releases to the environment (air, soil, and water) of more than 600 designated toxic chemicals; report off-site transfers of waste for treatment or disposal at separate facilities; pollution prevention measures and activities; and participate in chemical recycling. These annual reports are submitted to the USEPA and state agencies. The USEPA maintains and publishes a database that contains information on toxic chemical releases and other waste management activities by certain industry groups and federal facilities. This online, publicly available, national digital database is called the Toxics Release Inventory (TRI), and was expanded by the Pollution Prevention Act of 1990.

To implement EPCRA, Congress required each state to appoint a State Emergency Response Commission (SERC) to coordinate planning and implementation activities associated with hazardous materials. The SERCs were required to divide their states into Emergency Planning Districts and to name a Local Emergency Planning Committee (LEPC) for each district. In California, the SERC oversees six LEPCs throughout the state. The Governor's Office of Emergency Services (OES) coordinates and provides staff support for the SERC and LEPCs. Broad representation by fire fighters, health officials, government and media representatives, community groups, industrial facilities, and emergency managers ensures that all necessary elements of the planning process are represented.

Toxic Substances Control Act

The Toxic Substances Control Act of 1976 was enacted by Congress to give the USEPA the ability to track the 75,000 industrial chemicals currently produced or imported into the United States. The USEPA repeatedly screens these chemicals and can require reporting or testing of that may pose an environmental or human health hazard. It can ban the manufacture and import of those chemicals that pose an unreasonable risk. Also, the USEPA has mechanisms in place to track the thousands of new chemicals that industry develops each year with either unknown or dangerous characteristics. It then can control these chemicals as necessary to protect human health and the environment. The act supplements other federal statutes, including the Clean Air Act and the TRI under EPCRA.

Airport Hazards

Federal Aviation Administration (FAA)

The basic responsibilities of the Federal Aviation Administration (FAA), under the US Department of Transportation, are the regulation of civil aviation to promote safety, airspace and air traffic management, and the regulation of commercial space transportation. CFR contains standards for aircraft noise emission levels.

Fire Hazards

Federal Emergency Management Agency (FEMA)

The Federal Emergency Management Agency (FEMA) coordinates the federal government's role in preparing for, preventing, mitigating the effects of, responding to, and recovering from all domestic disasters, whether natural or man-made, including fire and acts of terror. The U.S. Fire Administration, a department within FEMA, is the lead Federal agency for fire data collection, public fire education, fire research and Fire Service training.

State

Hazardous Materials and Hazardous Waste

California Department of Toxic Substances Control

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 to protect people from exposure to hazardous wastes. The department 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). Permitting, inspection, compliance, and corrective action programs ensure that people who manage hazardous waste follow state and federal requirements and other laws that affect hazardous waste specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning. San Bernardino County, including the City of San Bernardino, is in DTSC's Southern California region.

DTSC cleans up or oversees approximately 220 hazardous substance release sites at any given time and completes an average of 125 cleanups each year. An additional 250 sites are listed on DTSC's EnviroStor database of properties that may be contaminated. DTSC also maintains a Site Mitigation and Brownfields Reuse Program Database.

Under the DTSC, the Statewide Compliance Division (SCD) administers the technical implementation of the state's Unified Program, a consolidation of six environmental programs at the local level. This program was established under the amendments to the California Health and Safety Code made by Senate Bill 1082 in 1994. The six programs that make up the Unified Program are:

- Hazardous Materials Business Plan/Emergency Response Plan
- Hazardous Waste/Tiered Permitting
- Underground Storage Tanks
- Aboveground Storage Tanks Spill Prevention Control and Countermeasures
- California Accidental Release Prevention Program (CalARP)
- Uniform Fire Code Hazardous Materials Management Plan

The SCD also conducts triennial reviews of Unified Program agencies to ensure their programs are consistent statewide, conform to standards, and deliver quality environmental protection at the local level. SCD also carries out the inspections, enforcement, and complaint response at the state's hazardous waste generators, facilities, and transporters and oversees the hazardous waste generator and on-site waste treatment surveillance and enforcement program carried out by local Unified Programs.

Hazardous Material Spill/Release Notification Guidance

All significant spills, releases, or threatened releases of hazardous materials must be immediately reported. Federal and state emergency notification is required for all significant releases of hazardous materials. Requirements for immediate notification of all significant spills or threatened releases cover owners, operators, persons in charge, and employers. Notification is required regarding significant releases from facilities, vehicles, vessels, pipelines, and railroads. Many state statutes require emergency notification of a hazardous chemical release:

- Health and Safety Codes Sections 25270.7, 25270.8, and 25507
- Vehicle Code Section 23112.5
- Public Utilities Code Section 7673, (PUC General Orders #22-B, 161)
- Government Code Sections 51018, 8670.25.5(a)
- Water Code Sections 13271, 13272
- California Labor Code Section 6409.1(b)

In addition, all releases that result in injuries or workers harmfully exposed must be immediately reported to California Occupational Safety and Health Administration (California Labor Code Section 6409.1(b)). For additional reporting requirements, also refer to the Safe Drinking Water and Toxic Enforcement Act of 1986, better known as Proposition 65, and California Labor Code Section 9030.

Airport Hazards

California Department of Transportation

California Department of Transportation, Division of Aeronautics, is responsible for airport safety in California. The State Aeronautics Act, Public Utilities Code (PUC) Sections 21001 et seq., is the foundation for the Department's aviation policies. The Aeronautics Division issues permits for and annually inspects hospital heliports and public-use airports; makes recommendations regarding proposed school sites within two miles of an airport runway; and authorizes helicopter landing sites at or near schools. Aviation system planning provides for the integration of aviation into transportation system planning on a regional, statewide, and national basis. The Division of Aeronautics administers noise regulation and land use planning laws that foster compatible land use around airports and encourages environmental mitigation measures to lessen aircraft noise, air pollution, and other impacts caused by aviation. The Division of Aeronautics publishes the California Airport Land Use Commission (ALUC) Planning Handbook. The California ALUC Planning Handbook provides planning guidance to ALUCs and counties and cities with jurisdiction over airport area land uses. The purpose of the handbook is to support the State Aeronautics Act. The handbook allows jurisdictions flexibility in determining air safety zones that represent areas of assumed accident potential.

Fire Hazards

California Department of Forestry and Fire Protection

The California Department of Forestry and Fire Protection (CALFIRE) is dedicated to the fire protection and stewardship of over 31 million acres of California's wildlands. The Office of the State Fire Marshal (OSFM) supports the CDF mission to protect life and property through fire prevention engineering programs, law and code enforcement, and education. The OSFM provides for fire prevention by enforcing fire-related laws in state- owned or -operated buildings, investigating arson fires in California, licensing those who inspect and service fire protection systems, approving fireworks as safe and sane for use in California, regulating the use of chemical flame retardants, evaluating building materials against fire safety standards, regulating hazardous liquid pipelines, and tracking incident statistics for local and state government emergency response agencies.

California Uniform Fire Code

CCR Title 24, Part 9, is based on the 2000 Uniform Fire Code and includes amendments from the State of California fully integrated into the code. The California Fire Code contains fire safety-related building standards that are referenced in other parts of CCR Title 24.

California Fire Plan

The California Fire Plan is the state's road map for reducing the risk of wildfire through planning and prevention to reduce firefighting costs and property losses, increase firefighter safety, and to contribute to ecosystem health. The California Fire Plan is a cooperative effort between the State Board of Forestry and Fire Protection and CALFIRE.

Regional

Hazardous Materials and Hazardous Waste

Certified Unified Program Agency (CUPA) is a regional or local agency that has been certified by Cal/EPA to implement the local Unified Program. The CUPA can be a county, city, or joint powers authority. A participating agency is a local agency that has been designated by the local CUPA to administer one or more Unified Programs within their jurisdiction on behalf of the CUPA. A designated agency is a local agency that has not been certified by Cal/EPA to become a CUPA but is the responsible local agency that would implement the six Unified Programs until they are certified.

The Unified Program is related to the state SERCs and LEPCs that were established under both federal (EPCRA) and state authority relative to the Hazardous Materials Business Plan/Emergency Response Plan. While the CUPA structure does not specifically incorporate the SERC and LEPCs, both SERC and CUPA have found it beneficial to establish strong communication and coordination on hazardous materials issues. The CUPA board now has a representative on the SERC, and members of LEPCs are also CUPA board members. Common issues include ensuring that hazardous materials, waste, and tank programs maintain strong coordination and communication for maximum consistency in program implementation. Shared data, joint resources, common forms, provision of emergency information, and regulatory review are other interests that are coordinated by the CUPA Board and SERC/LEPCs.

San Bernardino County is a member of the Southern California Hazardous Waste Management Authority, and works on regional level to solve hazardous waste problems. The San Bernardino County Fire Department, Hazardous Materials Division (HMD) is designated by the state as the CUPA for the County of San Bernardino. The fire department focuses on the management of specific environmental programs at the local government level to address the disposal, handling, processing, storage, and treatment of local hazardous materials and waste products. The CUPAs are also responsible for implementing the leak prevention element of the Underground Storage Tank (UST) Program.

UST Program: Releases of petroleum and other products from USTs are the leading source of groundwater contamination in the United States. The RCRA Subtitle I established regulations governing the storage of petroleum products and hazardous substances in USTs and the prevention and cleanup of leaks. In USEPA Region 9 (California, Arizona, Hawaii, Nevada, Pacific Islands, and over 140 tribal nations) the UST program operates primarily through state agency programs with USEPA oversight.

In California, the State Water Resources Control Board (SWRCB), under the umbrella of Cal/EPA, provides assistance to local agencies enforcing UST requirements. The purpose of the UST program is to protect public health and safety and the environment from releases of petroleum and other hazardous substances. The program consists of four elements: leak prevention, cleanup, enforcement, and tank tester licensing. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for groundwater cleanup programs, including groundwater analytical data, the surveyed locations of monitoring wells, and other data. The SWRCB's Geotracker system currently has information submitted by responsible parties for over 10,000 leaking UST (LUST) sites statewide and has been extended to include all SWRCB groundwater cleanup programs including the LUST, non-LUST (Spill, Leaks, Investigation, and Cleanup), Department of Defense, and landfill programs.

The San Bernardino County Fire Department HMD is charged with the responsibility of conducting compliance inspections of regulated facilities in San Bernardino County. Regulated facilities are those that handle hazardous materials, generate or treat hazardous waste, and/or operate an underground storage tank. All new installations of underground storage tanks require an inspection, along with the removal, under strict chain-of-custody protocol, of the old tanks.

County of San Bernardino Hazardous Waste Management Plan

Assembly Bill 2948 (Chapter 1504, Statutes of 1986), commonly known as the Tanner Bill, authorized counties to prepare Hazardous Waste Management Plans (HWMP) in response to the need for safe management of hazardous wastes. The County of San Bernardino HWMP was adopted by the County of San Bernardino Board of Supervisors and approved by the California Department of Health Services in February 1990. The County HWMP serves as the primary planning document for the management of hazardous waste in San Bernardino County. It identifies the types and amounts of wastes generated in the county; establishes programs for managing these wastes; identifies an application review process for the siting of specified hazardous waste facilities; identifies mechanisms for reducing the amount of waste generated in the county; and identifies goals, policies, and actions for achieving effective hazardous waste management. Hazardous materials and waste are managed by the San Bernardino County Fire Department HMD. As further required by the state, all cities in San Bernardino County must also adopt a City HWMP.

Hazardous Materials Disclosure Programs

All businesses that handle more than a specified amount of hazardous materials or extremely hazardous materials, termed a reporting quantity, are required to submit a Hazardous Materials Business Plan to its local CUPA.

According to the San Bernardino County Fire Department HMD guidelines, the preparation, submittal, and implementation of a business plan is required by any business that handles a hazardous material or a mixture containing a hazardous material in quantities equal to, or greater than, those outlined below:

- Any business that uses, generates, processes, produces, treats, stores, emits, or discharges a hazardous material in quantities at or exceeding 55 gallons, 500 pounds, or 200 cubic feet (compressed gas) at any one time in the course of a year
- All hazardous waste generators, regardless of quantity generated; any business that handles, stores, or uses Category I or II pesticides, as defined by the federal Insecticide, Fungicide, and Rodenticide Act, regardless of amount
- Any business that handles DOT Hazard Class 1 (explosives, found in 49 CFR), regardless of amount
- Any business that handles extremely hazardous substances in quantities exceeding the threshold planning quantity; extremely hazardous substances are designated pursuant to the EPCRA Section 302, and are listed in 40 CFR Part 355
- Any business subject to the EPCRA, also known as SARA Title III; generally EPCRA includes facilities that handle hazardous substances above 10,000 pounds or extremely hazardous substances above threshold planning quantities; there are some exceptions, including retail gas stations with up to 75,000 gallons of gasoline or 100,000 gallons of diesel fuel in USTs that meet the 1998 upgrade requirements
- Any business that handles radioactive material that is listed in Appendix B of Chapter 1 of 10 CFR.

Businesses are required to update their business plan with the San Bernardino County Fire Department HMD annually. The entire plan must be reviewed and recertified every three years. In addition, the plan must be revised within 30 days of change of owner, business address, business name, emergency contact information, inventory, or other site conditions that may significantly impact emergency response.

Hazardous Materials Incident Response

Under Title III of SARA, the LEPC is responsible for developing an emergency plan for preparing for and responding to chemical emergencies in that community. This emergency plan must include:

- An identification of local facilities and transportation routes where hazardous material are present
- The procedures for immediate response in case of an accident (this must include a community-wide evacuation plan)
- A plan for notifying the community that an incident has occurred
- The names of response coordinators at local facilities

- A plan for conducting exercises to test the plan

The plan is reviewed by the SERC and publicized throughout the community. The LEPC is required to review, test, and update the plan each year. The San Bernardino County Fire Department HMD is responsible for coordinating hazardous material coordination and inspection in the City.

Airport Hazards

San Bernardino County

San Bernardino County opted for an alternative to the ALUC and delegated responsibility to prepare an Airport Land Use Compatibility Plan for each airport jurisdiction. Other public agencies also provide policy guidance or promulgate standards that address regional transportation and safety issues related to airport land use compatibility planning. Land use compatibility assessments are part of both the Los Angeles/Ontario International Airport (LAONT) and Chino Airport Master Land Use Plans.

San Bernardino County Airport Authority

Inland leaders have lobbied for local control of the airport for years. To that end the San Bernardino County Airport Authority was formed in August 2012. The initial role of the Airport Authority is to transfer the LAONT airport authority from LAWA to the San Bernardino County Airport Authority and enable local control of LAONT operations should that occur.

San Bernardino International Airport Authority

The San Bernardino International Airport (SBIA) authority was formed in 1992 and is established as a regional Joint Powers Authority with the Inland Valley Development Agency. These agencies are the master developers for the 2,100 acre property that was formally the Norton Air Force Base. Currently the San Bernardino International Airport and Trade Center, this facility provides domestic, international charter services, cargo/freight, and aeronautical services. In addition the facility has a 10,000-foot runway, 24-hour armed security, and contains 80 commercial and industrial business, two aircraft maintenance facilities and an 18-hole golf course.

Fire Hazards

San Bernardino County Office of Emergency Services (OES)

The OES is also a division of the San Bernardino County Fire Department and is responsible for broad disaster planning and emergency services coordination throughout the county, including the City of San Bernardino. OES looks broadly at emergency responses to wildfires, earthquakes, or other disasters affecting the region. The goal of the OES is to improve public and private sector readiness, and to mitigate local impacts resulting from natural or man-made emergencies through disaster preparedness planning and appropriate response efforts with city departments and local and state agencies. While OES does not directly manage field operations, it manages an Incident Command Post to ensure coordination of disaster response and recovery efforts through its day-to-day program management and during an incident/disaster. The division also manages and operates the Emergency Operations Center (EOC), which is the primary coordination point for disasters and major emergencies. In the event of a disaster or an incident requiring complex coordination, preselected and trained responders report to the San

Bernardino County Operational Area EOC. The 100-plus responders have been trained to perform specific functions designated under the Standardized Emergency Management System to coordinate emergency management of disasters. These responders are available 24 hours a day 7 days a week. OES conducts annual exercises in the EOC to test the readiness of various types of disasters and large-scale emergencies.

The OES is also responsible for the countywide Emergency Management Plan (EMP), which is currently under revision. The plan identifies hazards and response, roles and responsibilities, and other key activities of government during a disaster. The office also maintains copies of the EMPs for the 24 cities/towns in the operational area. The OES assists county unincorporated communities and residents by assigning an OES Officer to assist in meeting their local planning goals and needs. These mostly isolated areas of the county may have the need for special considerations in a disaster.

Local

Hazardous Materials and Hazardous Waste

City of San Bernardino Municipal Code

City of San Bernardino Municipal Code contains applicable regulations pertaining to hazards and hazardous materials and waste in the City. Sections 8.01 (Environmental Health Code), 8.24 (Refuse and Solid Waste), 8.30 (Public Nuisances), 8.80 (Storm Water Drainage system), 12.03 (Right-of-Way Permits), 13.24 (Water Supply System), 13.32 (Wastewater Facilities), 15.08 (Liquefaction), and 17.05 (Hazardous Waste Management Plan) regulate the storage, generation, transfer, treatment, handling, and transportation of hazardous waste for facilities in the City. All land uses within the City are required to conform to the site development standards.

San Bernardino General Plan

San Bernardino General Plan policies that are applicable to hazardous materials[9] are as follows:

Policy 2.8.1 Ensure that all structures comply with seismic safety provisions and building codes.

Policy 2.8.4 Control the development of industrial and other uses that use, store, produce, or transport toxics, air emissions, and other pollutants.

Policy 6.5.1 Provide designated truck routes for use by commercial/industrial trucking that minimize impacts on local traffic and neighborhoods.

Policy 6.7.4 Identify existing and future high volume at-grade railroad crossings and pursue available sources of funding (e.g., California Public Utilities Commission) to implement grade separations where appropriate.

Policy 10.1.1 Employ effective emergency preparedness and emergency response strategies to minimize the impacts from hazardous materials emergencies, such as spills or contamination.

[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 10.1.2 Ensure the protection of surface and groundwater quality, land resources, air quality, and environmentally sensitive areas through safe transportation of waste through the City and comprehensive planning of hazardous materials, wastes, and sites.

Policy 10.1.3 Execute long-range planning programs to protect resources and the public from the potential impacts that could be created by the use, storage, transport, and disposal of hazardous waste and materials.

Policy 10.1.4 Continue to support the role that the Fire and the Police Departments play in the on-site identification of hazardous wastes and emergency response to hazardous waste accidents in cooperation with the County Department of Environmental Health Services.

Policy 10.2.1 Require the proper handling, treatment, movement, and disposal of hazardous materials and hazardous waste.

Policy 10.2.2 Encourage businesses to utilize practices and technologies that will reduce the generation of hazardous wastes at the source.

Policy 10.2.3 Implement federal, state, and local regulations for the disposal, handling, and storage of hazardous materials.

Policy 10.2.4 Work with the Department of Environmental Health Services to promote waste minimization, recycling, and use of best available technology in City businesses.

Policy 10.2.5 Participate in the process of selecting routes that are the most acceptable for the safe transportation of hazardous waste material within the City limits. Streets with high concentrations of people, such as the downtown, or with sensitive facilities, such as schools and parks, should be avoided to the maximum extent possible.

Policy 10.3.1 Conduct educational programs to educate the public about the proper handling and disposal of household hazardous wastes.

Policy 10.3.2 Enforce the proper disposal of Household Hazardous Wastes.

Policy 10.4.1 Promote integrated inter-agency review and participation in water resource evaluation and mitigation programs.

Policy 10.4.2 Protect surface water and groundwater from contamination.

Policy 10.4.3 Eliminate or remediate old sources of water contamination generated by hazardous materials and uses.

Policy 10.4.4 Develop programs and incentives for prevention of groundwater contamination and clean up of known contaminated sites.

Policy 10.12.1 Maintain a functional City emergency response plan that addresses all hazards.

Policy 10.12.2 Foster and participate in ongoing emergency preparedness and response training programs.

Policy 10.12.3 Enhance emergency preparedness through the implementation of community education and self-help programs.

Policy 10.12.4 Prevent serious damage and injuries through effective hazard mitigation.

Policy 10.12.5 Maintain mutual aid agreements with neighboring cities and the County of San Bernardino and develop partnerships to respond to disaster with other emergency relief organizations.

Policy 10.13.4 Encourage public awareness of emergency response planning and emergency evacuation routes.

Airport Hazards

City of San Bernardino Municipal Code

City of San Bernardino Municipal Code contains applicable regulations pertaining to airports in the City. Section 19.12 (Airport Overlay District, Airport District), designates the boundaries of the Airport Overlay Districts and the height limitations as identified.

San Bernardino General Plan

San Bernardino General Plan policies that are applicable to airport hazards[10] are as follows:

Policy 2.9.1 Require that all new development be consistent with the adopted Comprehensive Land Use Plan for the San Bernardino International Airport and ensure that no structures or activities encroach upon or adversely affect the use of navigable airspace.

Policy 2.9.2 Refer any adoption or amendment of this General Plan, specific plan, zoning ordinance, or building regulation within the planning boundary of the adopted Comprehensive Airport Master Plan for the SBIA to the airport authority as provided by the Airport Land Use Law.

Policy 2.9.3 Limit the type of development, population density, maximum site coverage, and height of structures as specified in the applicable safety zones in the Comprehensive Land Use Plan for the SBIA.

Policy 2.9.5 Ensure that the height of structures does not impact navigable airspace, as defined in the Comprehensive Land Use Plan for the SBIA.

Policy 2.9.6 As required by State Law for real estate transactions within the Airport Influence Area require notification/disclosure statements to alert potential buyers and tenants of the presence of and potential impacts from the San Bernardino International Airport.

Policy 6.8.1 Work with the San Bernardino International Airport Authority in the preparation of the Airport Master Plan and Comprehensive Land Use Plan to ensure the City's interests are foremost in the improvement of the airport.

Fire Hazards

City of San Bernardino Municipal Code

City of San Bernardino Municipal Code contains applicable regulations pertaining to fire hazards in Sections 8.18 (Accumulation of combustible and noncombustible materials), 8.27 (Nuisances), 8.30

[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.

(Public Nuisances), 8.36 (Abandoned Vehicles), 8.63 (Explosives and Fires), 15.10 (Foothill Fire Zone Building Standards), 15.16 (Uniform Fire Code), 17.06 (Water Wise Landscape Program), and 19.15 (Foothill Fire zones Overlay District).

San Bernardino General Plan

San Bernardino General Plan policies that are applicable to fire hazards[11] are as follows:

Policy 2.8.2 Ensure that design and development standards appropriately address the hazards posed by wildfires and wind, with particular focus on the varying degrees of these threats in the foothills, valleys, ridges, and the southern and western flanks of the San Bernardino Mountains.

Policy 7.2.1 Assure that adequate facilities and fire service personnel are maintained by periodically evaluating population growth, response time, and fire hazards in the City.

Policy 7.2.2 Assess the effects of increases in development density and related traffic congestion on the provision of adequate facilities and services ensuring that new development will maintain fire protection services of acceptable levels.

Policy 7.2.3 Establish a program whereby new development projects are assessed a pro rata fee to pay for additional fire service protection to that development.

Policy 7.2.4 Coordinate inter-agency fire service protection agreements with County U.S. Forest Service, and other fire protection agencies.

Policy 7.2.5 Maintain an "ISO" fire rating of at least class 3.

Policy 10.11.1 Continue to conduct long-range fire safety planning efforts to minimize urban and wildland fires, including enforcement of stringent building, fire, subdivision and other Municipal Code standards, improved infrastructure, and mutual aid agreements with other public agencies and the private sector.

Policy 10.11.2 Work with the U.S. Forest Service and private landowners to ensure that buildings are constructed, sites are developed, and vegetation and natural areas are managed to minimize wildfire risks in the foothill areas of the City.

Policy 10.11.3 Require that development in the High Fire Hazard Area, as designated on the Fire Hazards Areas Map be subject to the provisions of the Hillside Management Overlay District (HMOD) and the Foothill Fire Zones Overlay.

Policy 10.11.4 Study the potential acquisition of private lands for establishment of greenbelt buffers adjacent to existing development, where such buffers cannot be created by new subdivision.

Policy 10.12.1 Maintain a functional City emergency response plan that addresses all hazards.

Policy 10.12.2 Foster and participate in ongoing emergency preparedness and response training programs.

[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.

Policy 10.12.3 Enhance emergency preparedness through the implementation of community education and self-help programs.

Policy 10.12.4 Prevent serious damage and injuries through effective hazard mitigation.

Policy 10.12.5 Maintain mutual aid agreements with neighboring cities and the County of San Bernardino and develop partnerships to respond to disaster with other emergency relief organizations.

Policy 10.13.4 Encourage public awareness of emergency response planning and emergency evacuation routes.

The San Bernardino Fire Department together with police, library, public works, community services, and finance departments, provide assistance in the development of departmental emergency standard operating procedures and staff training. In addition, community agencies, such as school districts, hospitals, Red Cross, and other volunteer organizations rely on fire department programs for services and assistance.

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 transport of hazardous materials within the City is limited to areas along interstates and rail lines where commercial and industrial uses are concentrated, and may also occur near small commercial pockets throughout the City. Transportation of hazardous materials and waste is directed towards arterial streets as these streets typically have better conditions than local streets, and minimize the exposure of residential uses from impacts that could occur from an accident containing hazardous materials within local neighborhoods.

The City contains small generators of hazardous waste. Several sites within the City may be or are contaminated due to accidental release of hazardous materials, and leaking underground fuel tanks. Further, with the regional faults associated with the City (San Andreas, San Jacinto among others), land uses that handle hazardous materials or generate hazardous waste near these faults could be susceptible to earthquakes and result in an accidental release of waste or hazardous materials.

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. The GHG reductions do not involve the transport or use of hazardous materials. Waste diversion programs focus on recyclable materials and are regulated by current federal and state regulations, City ordinances, and the San Bernardino General Plan. These policies 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?

As stated above, 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. These activities do not release hazardous materials or create foreseeable upsets or accidents that would present a significant hazard to the public or the environment. Therefore, impact would be ***less than significant***. No mitigation is required.

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?

The GHG reductions in the Regional Reduction Plan do not involve hazardous emissions. Waste diversion programs focus on recyclable materials and are regulated by current federal and state regulations, City ordinances, and the San Bernardino General Plan. These policies would regulate the handling of hazardous substances to reduce potential releases. 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 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 San Bernardino International Airport and Trade Center (Formerly the Norton Air Force Base) has been designated as a Superfund Site. Soil and groundwater contamination has been significantly reduced due to corrective actions taken at the site. Development at this location is governed by the SBIA. Additionally, the Newmark Groundwater contamination site is also located within the City of San Bernardino. Groundwater contaminants include chlorinated solvents, PCE, and TCE have affected more than 25 percent of the municipal water supply. The San Bernardino Municipal Water Department operates a treatment system to ensure the safety of the public water supply. Seven other sites have been identified in the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) with hazardous waste contamination but none have been placed on the NPL. While many of these sites do not have remediation plans, existing federal and state regulations prevent the reuse of these sites without standards for cleanup being implemented.

The Regional Reduction Plan does not propose siting reduction measures at particular locations. Siting of renewable energy generation systems would be 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 San Bernardino International Airport and Trade Center is located in the southeastern portion of the City. Due to the history of airport use, much of the surrounding land uses are industrial or commercial with some scattered residential uses to the southwest. The San Bernardino General Plan maintains industrial uses around the property which will prevent additional residential development that could be impacted by airport operations. The General plan also addresses compatibility with the noise and safety zones for land use, density, and height.

As discussed previously, the Regional Reduction Plan does not propose siting reduction measures at particular locations. However, the City will review of proposed projects such as renewable energy generation during implementation of the Regional Reduction Plan to ensure 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?

As discussed above, development around the San Bernardino International Airport and Trade Center is governed by the General Plan. The Regional Reduction Plan does not propose land uses in particular areas however, implementation of reduction measures such as renewable generation facilities would be reviewed by the City to ensure that placement of these types of facilities near private airstrips or heliports would not create a safety hazard. The impact would be ***less than significant***. No mitigation is required.

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

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 response or evacuation plans. Improvements to transit, bicycle, and pedestrian infrastructure along roadways that would serve emergency response and evacuation within the City would be reviewed by the Community Development and Public Works Departments 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 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?

To help protect the City and its residents from fire hazards, San Bernardino has building and fire codes that must be followed. The fire chief may also use his/her authority to instate certain building, planning, or landscaping requirements. The City of San Bernardino abuts the San Bernardino Mountains to the north which is susceptible to wildfires due to terrain and native vegetation. The characteristics of the mountains and the high winds in the area indicate that large, uncontrollable fires on a recurring basis are inevitable. Major fires have endangered portions of the City on numerous occasions and in some instances have spread into the City causing extensive damage. As a result the entire northern portion of the City is located in an extreme and moderate fire hazard zone. Increased risk from wildfire in the foothills is caused by encroachment of new development into the hillside areas. Fire related concerns for this development include density, spacing of structures, brush clearance, building materials, access by fire equipment, adequacy of evacuation routes, property maintenance, and water availability. The Foothill Fire Zone Overlay District, as defined in the Municipal Code and the General Plan, place restrictions on new development within these areas to ensure safety in these areas.

Facilities and infrastructure built as a result of the Regional Reduction Plan implementation within the City would be reviewed for adherence to the building and fire codes along with the Foothill Fire Zone

Overlay District restrictions as applicable. Therefore, the impact would be ***less than significant***. No mitigation is required.

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 are less than significant***.

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4.17.9 Hydrology/Water Quality

This section of the EIR analyzes the potential environmental effects on hydrology/water quality, including flood hazards, in the City of San Bernardino from implementation of the Regional Reduction Plan. Data for this section were taken from the San Bernardino General Plan (2005a) and associated environmental document (2005b). 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

Regional Drainage

The City of San Bernardino is located within the Santa Ana River Basin, Region 8 of the Regional Water Quality Control Board. This region extends from Newport Bay along the coast to the San Gabriel and San Bernardino Mountains. Geographically the smallest region with approximately 2,800 square miles, it contains one of the largest populations. The Santa Ana River Basin contains 460 miles of streams, 21,090 acres of lakes, and 24 miles of coastline. The Santa Ana River is the main surface drainage course in the region, and the largest river in the basin. It is approximately 75 miles long. The river originates in the San Bernardino Mountains, travels southwest, and terminates at the Pacific Ocean near the Huntington Beach/Newport Beach city boundary. Water flow in the river is regulated by the Prado Dam, the Seven Oaks Dam, and other flood-control facilities along the river and its tributaries.

The Santa Ana River's main stream is divided into six reaches. The City is nearest to Reach 5 of the Santa Ana River, which extends from the Seven Oaks dam to the San Jacinto Fault which marks the downstream edge of the Bunker Hill Groundwater Basin. The Santa Ana River has several tributaries in the vicinity of San Bernardino including Lytle Creek, East Twin Creek, East Warm Creek and San Timoteo Creek. The San Jacinto Fault (Bunker Hill Dike) forces groundwater to the surface. Presently, perennial flows in the area of San Bernardino begin at the confluence with East Warm Creek, a short distance upstream. San Timoteo Creek joins the river in this area and its flows are predominantly reclaimed wastewater from Yucaipa and other upstream dischargers.

East Warm Creek carries small amounts of water from various non-point sources as well as some rising water. The river passes under several major highways and railroads in this area, and parts of the river bottom are lined with concrete. West Warm Creek also joins the river in this area.

Local Drainage Systems

San Bernardino's planning area encompasses 71 square miles, much of which is paved and impervious to stormwater. Within the City, storm drains and flood control include natural and man-made channels, storm drains, street waterways, natural drainage courses, dams, basins, and levees. These facilities are administered by City of San Bernardino, San Bernardino County Flood Control District, Army Corps of

Engineers, and San Bernardino International Airport and Trade Center. The Public Services Department is responsible for the design, operation and maintenance of storm drain and flood control facilities.

For planning purposes, the San Bernardino County Flood Control District divides the City into subareas based on the District's Comprehensive Storm Drain Plans Nos. 3, 4, 6, and 7. The development of the City's storm drain system is based on the County District Plans. With the exception of street flow at intersection points, all 10-year frequency storm waters within the City of San Bernardino are required to be contained in the underground drain system. Curbed gutter portions of streets will carry storm flow in excess of the 10-year frequency storm flow but less than or equal to the 25-year storm flow. 100-year storm flows may be carried in the street right-of-way or conveyed via a combination of storm drains sized to convey a 25-year storm in the curbed part of the street with the balance of the flow conveyed in the street section. Flows carried within the street right-of-way may cause localized flooding during storms, possibly making some roads impassable during the storm event.

The Arrowhead Springs portion of San Bernardino is located within the West Twin Creek (Waterman Canyon) and East Twin Creek watersheds. Three primary water courses flow through the Arrowhead Springs property, East Twin Creek out of Coldwater Canyon, Strawberry Creek, and West Twin Creek, which flows through Waterman Canyon. East Twin Creek and West Twin Creek converge south of the property and flows south toward 40th Street through the County of San Bernardino Flood Control District percolation basins. Drainage then continues in a southerly direction through the City along improved drainage channels, ultimately discharging into the Santa Ana River.

The developed area of the Arrowhead Springs property has a limited stormwater collection system that consists of a combination of either curbed roads and/or gutters that direct stormwater to an underground piping system and discharges to Lake Vonette, East Twin or West Twin Creek, or an unnamed tributary sometimes referred to as Hot Springs Creek. Smaller roadways (local streets) direct run-off into landscaped areas.

Groundwater

Much of the San Bernardino Region is underlain by extensive groundwater basins. The Upper Santa Ana Valley Groundwater Basin, specifically the Bunker Hill Subbasin, underlie the City. The Bunker Hill Basin consists of the alluvial materials that underlie the San Bernardino Valley. Bounded by the San Gabriel Mountains, San Bernardino Mountains, Crafton Hills, and by several faults, the main tributary streams within the Basin are the Santa Ana River, Mill Creek and Lytle Creek.

Rain and snow melt that filters down through the San Bernardino Mountains to recharge the Basin. More than 60 percent of the total groundwater recharge is from the main tributary streams. Cajon Creek, San Timoteo Creek, and most of the southward flowing creeks out of the San Bernardino Mountains are lesser contributors to Basin recharge. Total groundwater storage of the Basin is 5,976,000 acre-feet, while as of 1998 the total amount of water in the Basin was 5,890,300 acre-feet (San Bernardino 2005a).

Holocene and Pleistocene age alluvial deposits of sand, gravel, and boulders interspersed with deposits of silt and clay comprise the water-bearing material within the Basin that has been divided into upper and lower aquifers. Poorly permeable clay layer separates the upper and lower aquifers in the Central part of the Basin. This creates confined conditions in the lower aquifer under about 25 square miles of the valley

and has a maximum thickness of approximately 650 feet. The upper aquifer has a maximum thickness of approximately 350 feet.

San Bernardino gets one hundred percent of its water from the Bunker Hill Basin. San Bernardino Municipal Water Department owns a total of 60 wells in the Basin and 100 percent of the City's water comes from the Bunker Hill Basin. As discussed in Section 4.17.8 (Hazards/Hazardous Materials), portions of the Bunker Hill Basin have been contaminated by certain chemical constituents

Additional discussion of water supply is located in Section 4.17.17 (Utilities/Service Systems).

Flood Hazards

Like most of Southern California, the City is subject to unpredictable seasonal rainfall. Although most years winter rains are light, every few years the region is subjected to periods of intense and sustained precipitation that result in flooding. Natural occurring floods become hazardous when humans encroach onto floodplains increasing impervious surfaces, building structures in areas meant to convey flood waters and otherwise modifying the landscape. While typically confined to storm channels, debris basins and between levees, a few isolated areas of the City are identified as low lying areas within the 100-year flood plain as illustrated in Figure 4.17.9-1 (100-Year Flood Plain).

Flooding within San Bernardino is not only due to storms. Underground utility vaults and basements may experience flooding due to the City's high groundwater table. The areas between the Santa Ana River and downtown San Bernardino are most susceptible to non-storm related flooding.

Inundation

Flooding occurring when dams fail as a result of an earthquake is referred to as seismically induced inundation. Empowered by the statutes of the California State Water Code, the California Division of Dam Safety monitors the structural safety of dams greater than 25 feet in height or with more than 50 acre-feet of storage capacity.

The Seven Oaks Dam is located in the upper Santa Ana Canyon 8 miles northeast of the City of Redlands on the Santa Ana River. This dam was constructed by the United States Army Corps of Engineers (USCOE) for flood control. 550 feet in height and 2,600 feet wide, the Seven Oaks dam is of earth and rock filled construction. The dam is designed to protect the region from a 350-year flood and withstand an earthquake of 8-plus magnitude. During flood conditions, it creates a lake 500 feet deep extending 3 miles back into the canyon. The inundation zone in the unlikely event of the Seven Oaks Dam failing is the southeastern portion of the City as shown on Figure 4.17.9-2 (Seven Oaks Dam Inundation).

Structural damage to aboveground water storage reservoirs due to strong ground shaking may also result in seismically induced inundation.

Seiches

A free or standing-wave oscillation of the surface of the water in an enclosed or semi-enclosed basin that continues, pendulum-fashion, for a time after cessation of the originating force is called a seiche. A

seiche in water basins, such as a lake, bay, harbor, pond, reservoir, swimming pool, and other body of water can be initiated by local changes in atmospheric pressure, aided by winds, tidal currents, and earthquakes. This type of hazard is dependent upon specific earthquake parameters (e.g., frequency of the seismic waves, distance and direction from the epicenter), and site-specific design of the affected bodies of water and therefore are difficult to predict. Homes near man-made lakes may be vulnerable to this hazard, as well as steel water tanks from water sloshing within. While resulting in minor impacts, seiching can occur in swimming pools.

Mudflows and Debris Flows

Mudflows and debris flows are a combination of a great volume of sediment and rapidly moving water that surges down slope with great force. A mudflow is fine-grained earth mixed with water where a debris flow occurs when more than half of the solids are larger than sand grains (i.e. rocks, stones, boulders). They are similar to flash floods and can occur suddenly without time for adequate warning. Most streams in the San Bernardino area have the potential to carry large amounts of debris, or debris flow. Mudflows may also occur near hills and mountains. Developments at the base of the mountains and downstream from canyons have the potential to convey mudflows.

Regulatory Framework

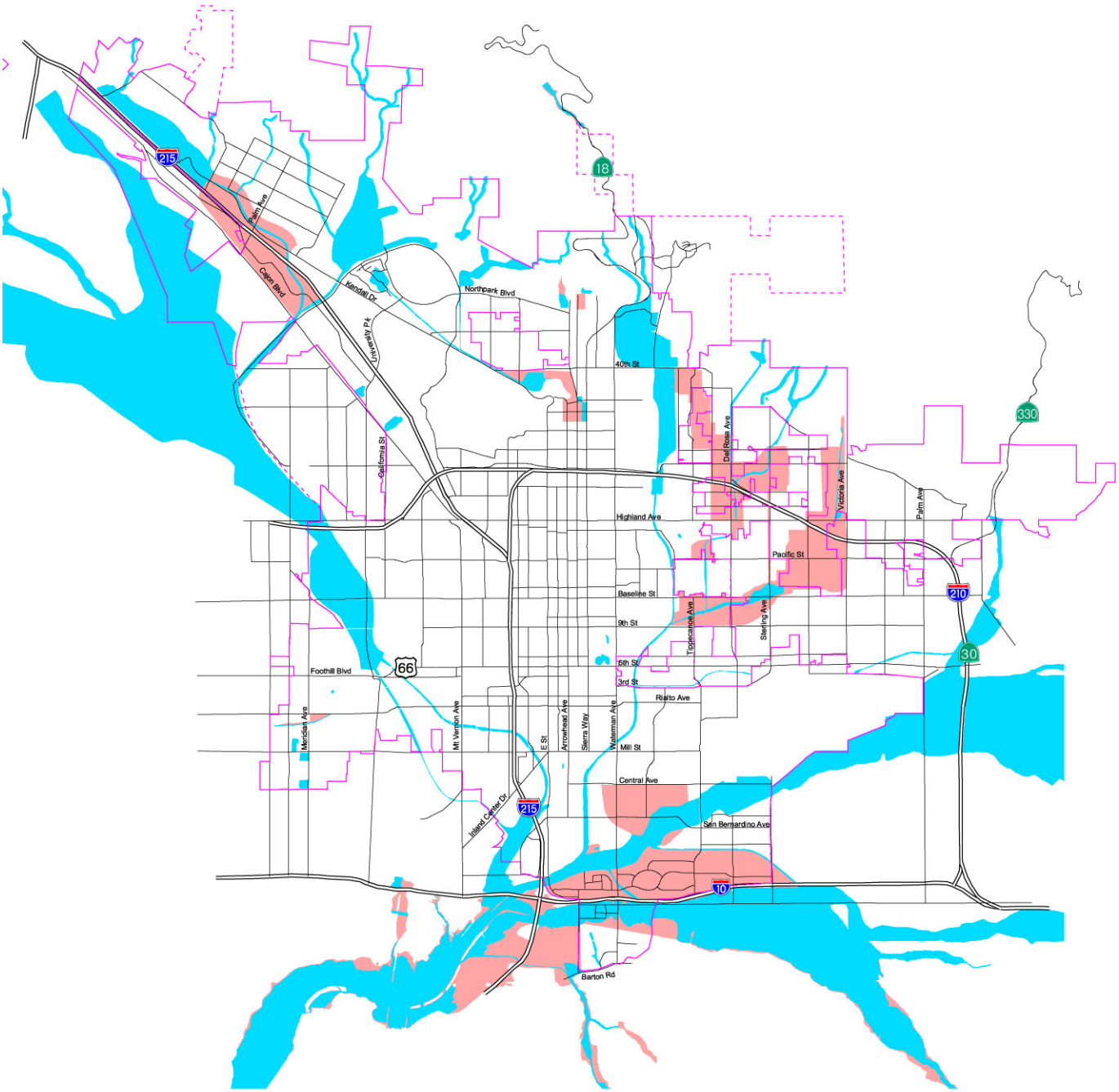
Federal

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

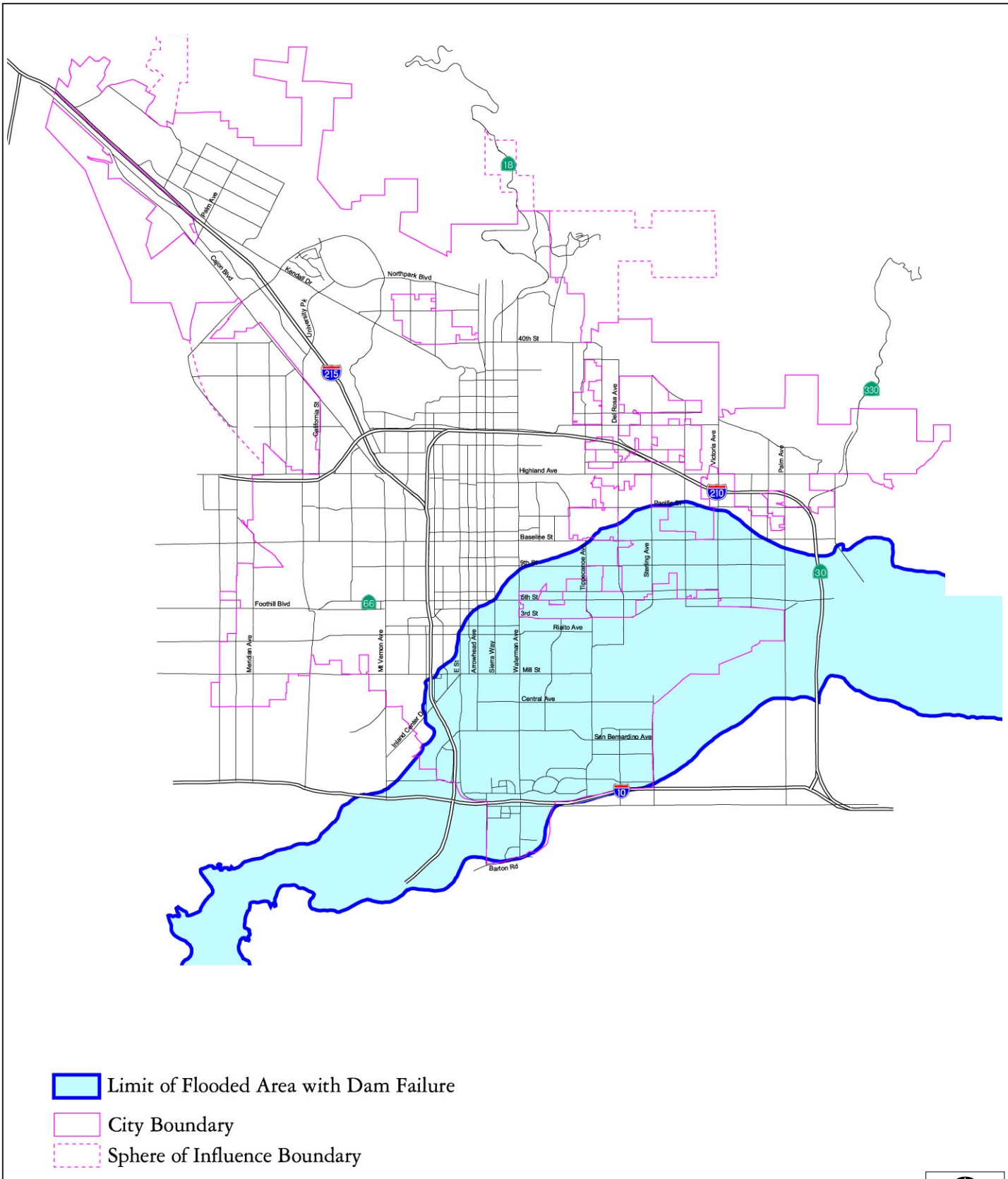
The federal Water Pollution Control Act (also known as the Clean Water Act [CWA]) is the principal statute governing water quality. The CWA establishes the basic structure for regulating discharges of pollutants into the waters of the United States and gives the USEPA the authority to implement pollution 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.



***Source*:** San Bernardino, City of. 2005. San Bernardino General Plan Update and Associated Specific Plans Environmental Impact Report. Draft. Prepared by The Planning Center, July 25.

Figure 4.17.9-1
100-Year Flood Plain

ATKINS



***Source*:** San Bernardino, City of. 2005. San Bernardino General Plan Update and Associated Specific Plans Environmental Impact Report. Draft. Prepared by The Planning Center, July 25.

Figure 4.17.9-2
Seven Oaks Dam Inundation

ATKINS

Safe Drinking Water Act

The Federal Safe Drinking Water Act (SDWA) provides regulations on drinking water quality in San Bernardino. 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 25 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 (USEPA 2002).

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 1 acre. The Santa Ana Regional Water Quality Control board has issued an individual MS4 permit for San Bernardino County for which the City is listed as a participating co-permittee. The City of San Bernardino Public Works Department is the local enforcing agency of the MS4 NPDES permit.

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 (NIFP) 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 San Bernardino has participated as a regular member of the NFIP since July 16, 1979 and the most current FIRM maps are dated January 17, 1997. The National Flood Insurance Program has created standards and policies to ensure flood protection. Since the City is a participating member, flood insurance is available to all property owners in the City. 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 US 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 San Bernardino 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 a 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 San Bernardino Municipal Code

The City of San Bernardino's Flood Plain Overlay District is included as City Municipal Code Chapter 19.16 (Flood Plain Overlay District). The purpose of this district is to protect public health, safety, and general welfare, and to minimize hazards due to flooding in specific areas as identified by the latest adopted Flood Insurance Rate Maps.

San Bernardino General Plan

The San Bernardino General Plan policies that are applicable to hydrology, water quality and flood hazards[12] are as follows:

Policy 2.6.3 Capitalize on the recreational and environmental resources offered by the Santa Ana River and Cajon Wash by requiring the dedication and development of pedestrian and greenbelt linkages.

Policy 2.7.2 Work with the San Bernardino Valley Municipal Water District to create additional water storage capacity and take advantage of the abundant water supplies.

Policy 9.3.1 Provide for the construction of upgraded and expanded water supply, transmission, distribution, storage, and treatment facilities to support existing and new development.

Policy 9.4.1 Ensure that adequate storm drain and flood control facilities are provided in a timely manner to protect life and property from flood hazards.

Policy 9.4.2 Upgrade and expand storm drain and flood control facilities to eliminate deficiencies and protect existing and new development.

Policy 9.4.4 Require that adequate storm drain and flood control facilities be in place prior to the issuance of certificates of occupancy. Where construction of master planned facilities is not feasible, the Mayor and Common Council may permit the

[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.

construction of interim facilities sufficient to protect present and short-term future needs.

Policy 9.4.5 Implement flood control improvements that maintain the integrity of significant riparian and other environmental habitats.

Policy 9.4.6 Minimize the disturbance of natural water bodies and natural drainage systems.

Policy 9.4.7 Develop San Bernardino's flood control system for multipurpose uses, whenever practical and financially feasible.

Policy 9.4.8 Minimize the amount of impervious surfaces in conjunction with new development.

Policy 9.4.9 Develop and implement policies for adopting Sustainable Stormwater Management approaches that rely on infiltration of stormwater into soils over detention basins or channels. Sustainable Stormwater Management techniques include use of pervious pavements, garden roofs, and bioswales to treat stormwater, and reusing stormwater for non-potable water uses such as landscape irrigation and toilet/urinal flushing.

Policy 9.4.10 Ensure compliance with the Federal Clean Water Act requirements for National Pollutant Discharge Elimination System (NPDES) permits, including requiring the development of Water Quality Management Plans, Erosion and Sediment Control Plans, and Storm Water Pollution Prevention Plans for all qualifying public and private development and significant redevelopment in the City.

Policy 9.4.11 Implement an urban runoff reduction program consistent with regional and federal requirements, which includes requiring and encouraging the following examples of Best Management Practices (BMPs) in all developments:

- Increase permeable areas, install filtration controls (including grass lined swales and gravel beds), and divert flow to these permeable areas to allow more percolation of runoff into the ground;
- Use natural drainage, detention ponds, or infiltration pits to collect and filter runoff;
- Prevent rainfall from entering material and waste storage areas and pollution-laden surfaces; and
- Require new development and significant redevelopment to utilize site preparation, grading, and other BMPs that provide erosion and sediment control to prevent construction-related contaminants from leaving the site and polluting waterways.

Policy 10.4.1 Promote integrated inter-agency review and participation in water resource evaluation and mitigation programs.

Policy 10.4.2 Protect surface water and groundwater from contamination.

Policy 10.4.3 Eliminate or remediate old sources of water contamination generated by hazardous materials and uses.

Policy 10.4.4 Develop programs and incentives for prevention of groundwater contamination and clean up of known contaminated sites.

Policy 10.5.1 Ensure compliance with the Federal Clean Water Act requirements for National Pollutant Discharge Elimination System (NPDES) permits, including developing and requiring the development of Water Quality Management Plans for all new development and significant redevelopment in the City.

Policy 10.5.2 Continue to implement an urban runoff reduction program consistent with regional and federal requirements, which includes requiring and encouraging the following:

- Increase permeable areas to allow more percolation of runoff into the ground;
- Use natural drainage, detention ponds or infiltration pits to collect runoff;
- Divert and catch runoff using swales, berms, green strip filters, gravel beds and French drains;
- Install rain gutters and orient them towards permeable surfaces;
- Construct property grades to divert flow to permeable areas;
- Use subsurface areas for storm runoff either for reuse or to enable release of runoff at predetermined times or rates to minimize peak discharge into storm drains;
- Use porous materials, wherever possible, for construction of driveways, walkways and parking lots; and
- Divert runoff away from material and waste storage areas and pollution-laden surfaces such as parking lot.

Policy 10.5.3 Cooperate with surrounding jurisdictions and the County to provide adequate storm drainage facilities.

Policy 10.5.4 Require new development and significant redevelopment to utilize site preparation, grading and foundation designs that provide erosion control to prevent sedimentation and contamination of waterways.

Policy 10.5.5 Ensure compliance with the requirements for Storm Water Pollution Prevention Plans or Water Quality Management Plans for all new development or construction activities.

Policy 10.5.6 Coordinate with appropriate federal, state, and local resource agencies on development projects and construction activities affecting waterways and drainages.

Policy 10.6.1 Maintain flood control systems and restrict development to minimize hazards due to flooding.

Policy 10.6.2 Use natural watercourses as the City's primary flood control channels whenever feasible.

Policy 10.6.3 Keep natural drainage courses free of obstructions.

Policy 10.6.4 Evaluate all development proposals located in areas that are subject to flooding to minimize the exposure of life and property to potential flood risks.

Policy 10.6.5 Prohibit land use development and/or the construction of any structure intended for human occupancy within the 100-year flood plain as mapped by the Federal

Emergency Management Agency (FEMA) unless adequate mitigation is provided against flood hazards.

Policy 10.6.6 Encourage new development to utilize and enhance existing natural streams, as feasible.

Policy 10.6.7 Utilize flood control methods that are consistent with Regional Water Quality Control Board Policies and Best Management Practices (BMPs).

Policy 10.6.8 Review development proposals for projects within the City's Sphere of Influence and encourage the County to disapprove any project that cannot be protected with an adequate storm drain system.

Policy 10.6.9 Ensure major drains in developed areas have a pipeline capacity to comply with the Flood Control District's Comprehensive Storm Drain Plans for development of the City's storm drain system.

Policy 10.6.10 Design local drains in foothill areas to convey 25-year storm flows where downstream systems are lacking and street systems are not present.

Policy 10.6.11 Design major drains in foothill to convey 100-year flows within a pipe or channel areas where downstream systems are lacking and street systems are not present.

Policy 10.6.12 Develop a process to study flooding issues and create appropriate regulations. This could include the creation of "alluvial districts," local quasi-government entities designed to inform homeowners of flood risks as well as advise the floodplain land use decisions of the City.

Policy 13.2.1 Coordinate and monitor the City's water conservation efforts on an annual basis and modify or expand them as necessary to ensure their effectiveness.

Policy 13.2.2 Require that development not degrade surface or groundwater, especially in watersheds, or areas with high groundwater tables or highly permeable soils.

Policy 13.2.3 Consider the establishment of incentives, funding programs, or a rebate program for projects that implement water conservation measures, such as replacing aging, leaking, and/or inefficient plumbing with more efficient, water-saving plumbing.

Policy 13.2.4 Require the use of reclaimed water for landscape irrigation and other non-contact uses for industrial projects, golf courses, and freeways.

Policy 13.2.5 Mitigate degradation of the groundwater basins that may have already occurred by existing commercial, industrial, and other uses.

Policy 13.2.7 Require that new development incorporate improvements to channel storm runoff to public storm drainage systems and prevent discharge of pollutants into the groundwater basins and waterways.

Policy 13.2.8 Require that development in the City's watersheds incorporate adequate landscape and groundcover to prevent slope erosion and significant sedimentation of canyon drainages.

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. Most of the City has been urbanized therefore implementation of the Regional Reduction Plan would not be expected to significantly increase run-off in these areas as the Regional

Reduction Plan would not result in a substantial increase in impervious surfaces. The City's SOI however, has areas that are vacant and undeveloped that would contribute to urban runoff and/or stormwater runoff to the local drainage systems with the increase in impervious surfaces. The increase in impervious surfaces interrupts the natural cycle of gradual percolation and routes large volumes of runoff through the impervious surfaces to drainage systems. This can result in streambank scouring and downstream flooding which are both potential problems within the City.

Although implementation of the Regional Reduction Plan may result in runoff during construction of individual energy-generating facilities, 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 a Stormwater Pollution Prevention Plan (SWPPP) under NPDES No. CAS000002. In addition the City requires the obtainment of a grading permit for all developments that would require grading. In turn, all work requiring a grading permit would be required to have an approved Erosion Control Plan. Compliance with SWRCB's General Construction Activity Stormwater Permit regulations requiring a 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 as provided for in San Bernardino General Plan, which are within areas already developed with impervious surfaces. The Proposed Project would not to 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. All new development, including facilities constructed pursuant to implementation of the Regional Reduction Plan, would be subject to the provisions of City Municipal Code, chapter 19.16 which recognizes that the flood hazard areas of the City are subject to periodic inundation that can adversely affect the public health, safety and general welfare. The purpose of the Flood Overlay District is to protect public health, safety, and general welfare, and to minimize hazards due to flooding in specific areas as identified by the latest adopted Flood Insurance Rate Maps. 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. San Bernardino General Plan Policies 9.4.1, 9.4.2, 9.4.4, 9.4.5, 0.4.8, 10.5.2, 10.5.3, 10.6.1, and 10.6.2 will further reduce the risk from flooding throughout the City. Compliance with 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 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 in the Municipal Code and General Plan 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?

Under the Regional Reduction Plan potential development is limited to retrofits, improvements of existing infrastructure, and additions/changes to future planned developments. Because activities under the Regional Reduction Plan do not involve ground disturbance or changes in runoff, the nature of

potential development as a result of implementation of the Regional Reduction Plan would not be of a nature that would 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?

As discussed previously, renewable energy generation facilities could be constructed in a 100-year flood hazard area as a result of Regional Reduction Plan implementation. The City's Municipal Code includes 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. San Bernardino General Plan Policies 9.4.1, 9.4.2, 9.4.4, 9.4.5, 0.4.8, 10.5.2, 10.5.3, 10.6.1, and 10.6.2 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 especially in the southern portion of the City which may be inundated with a failure of the Seven Oaks Dam. However, while the dam could release a significant amount of water, the dam has been constructed to withstand an earthquake with a magnitude of 8 and any one point would be able to sustain a displacement of 4 feet without causing structural damage. 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 that is designed to minimize public and private losses due to flood conditions by ensuring proper design of structures to prevent against flood damages. San Bernardino General Plan Policies 9.4.1, 9.4.2, 9.4.4, 9.4.5, 0.4.8, 10.5.2, 10.5.3, 10.6.1, and 10.6.2 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 be subject to inundation by seiche, tsunami, or mudflow?

A seiche, a small tidal wave that occurs in a lake or other enclosed body of water, may be generated by ground motion during an earthquake and overflow lakes, reservoirs, or lagoons. A tsunami is a high ocean wave generated by earthquakes or volcanic eruptions in the ocean floor. As no lakes, reservoirs, or lagoons exist in San Bernardino or the SOI, and the City is located inland so neither of these potential hazards exist within the City.

The Santa Ana River and its tributaries have the potential to collect and carry large amounts of debris, or debris flow that have the potential to block structures designed to collect and convey runoff. This re-routes the floodwaters into adjacent areas. Due to development at the base of the mountains, mudflows are a potential hazard for the City. However, development under the Regional Reduction Plan would be required to adhere to the Hillside Management Overlay Zone and meet the requirements of the Santa Ana Region Area-Wide Urban Strom Water Run-off permit (NPDES) which would limit the potential for mudflow.

Facilities and infrastructure built as a result of the Regional Reduction Plan implementation within the City are reviewed for adherence to the San Bernardino General Plan policies, along with the Hillside Management Overlay Zone and NPDES permits. 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 are less than significant***.

References

California Department of Water Resources (CDWR). 2004. *California's Groundwater Bulletin 118*. February.

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4.17.10 Land Use/Planning

This section of the EIR analyzes the potential environmental effects on land use/planning in the City of San Bernardino from implementation of the Regional Reduction Plan. Data for this section were taken from the San Bernardino General Plan (2005a), associated environmental document (2005b), and the California Department of Finance Interim Population Projections for California and Its Counties (2012). 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 San Bernardino is in the southwestern portion of San Bernardino County, approximately 60 miles east of the City of Los Angeles. Located in the upper Santa Ana River valley, the City of San Bernardino is surrounded by the San Bernardino National Forest to the north, the Cities of Highland to the east, Redlands to the southeast, Loma Linda to the south, Colton to the southwest, and Rialto to the west. The southwestern portion of the Santa Ana River Valley is bounded by the San Bernardino Mountains on the northeast and east, Blue Mountain and Box Springs Mountain to the south adjacent to the Cities of Loma Linda and Redlands, the San Gabriel Mountains to the northwest; and the Jurupa Hills to the southwest.

The City comprises approximately 71 square miles (45,231 acres), which includes 368 acres of the Arrowhead Springs Specific Plan and 6,829 acres of unincorporated lands. The City is generally bounded by the I-10 Freeway on the south, Cajon Creek Wash and the San Bernardino Mountains to the north; see Figure 4.17-1 (City Boundaries and Sphere of Influence) in the Section 4.17.0 (Introduction to the Analysis) City Boundaries and Sphere of Influence.

Existing Land Use

The economy in San Bernardino is anchored by its service as a trucking, aviation, and railroad hub within the Inland Empire. Historically the City of San Bernardino has incorporated a variety of uses including tourism, transportation industries, agricultural, military, industrial, commercial, and residential land uses. Today the City has been mostly urbanized with single-family residential, open space, flood control, and educational uses dominating the northern portions of the City and industrial uses comprising the majority of the northwestern and southeastern areas. The center of the City is dominated by a mixture of older (with some newer infill) single- and multi-family residential units, commercial uses, and the civic center, which consists of government facilities for local, County and state agencies. The City has a total population of 209,924 residents as of 2008 (California Department of Finance 2012) and is spread out predominantly over the northern and central potions of the City.

Land Use for the City is organized as a three-tiered hierarchy. Each successive level contains progressively more detailed information and land use guidance. The first level, Foundation Component Plan, contains the most basic information. It describes the fundamental pattern of land use in a generalized format to provide a basic understanding of land use structures and not specifics for each

property. The nine overarching land use categories within this plan are: Single Family Residential, Multi-Family Residential, Commercial Office, Commercial General, Commercial Regional, Commercial Heavy, Industrial, Public Facilities/Quasi Public, and Open Space. The Foundation Component Plan is included as Figure 4.17.10-1 (Foundation Component Plan).

The second level is the General Plan Land Use map. This describes the distribution of land at a parcel specific level and further delineates the basic Foundation Component Plan by subdividing the land use designations into 33 components. The 33 components are included in Figure 4.17.10-2 (General Plan Land Use Map). The third level is the Strategic Area Map. The Strategic Area Map describes the City in terms of districts where individual policy guidance is tailored to issues specific to that district. As the Regional Reduction Plan is applicable to all areas of the City, the Strategic Areas are not addressed any further.

Specific Plans

Specific plans provide focused guidance and regulation for particular areas. They generally include a land use plan, circulation plan, infrastructure plan, development standards, design guidelines, phasing plan, financing plan, and implementation plan. Specific Plans provide either detailed policy guidance or zoning level regulation.

San Bernardino has nine approved specific plans governing land use development in designated areas throughout the City. Approved Specific Plans within the City include Arrowhead Springs Specific Plan, CALMAT (aka Cajon Creek Specific Plan), Highland Hills Specific Plan, Paradise Hills Specific Plan, Paseo Las Placitas Specific Plan, San Bernardino International Trade Center Specific Plan, Spring Trails Specific Plan, University District Specific Plan, and University Business Park Specific Plan.

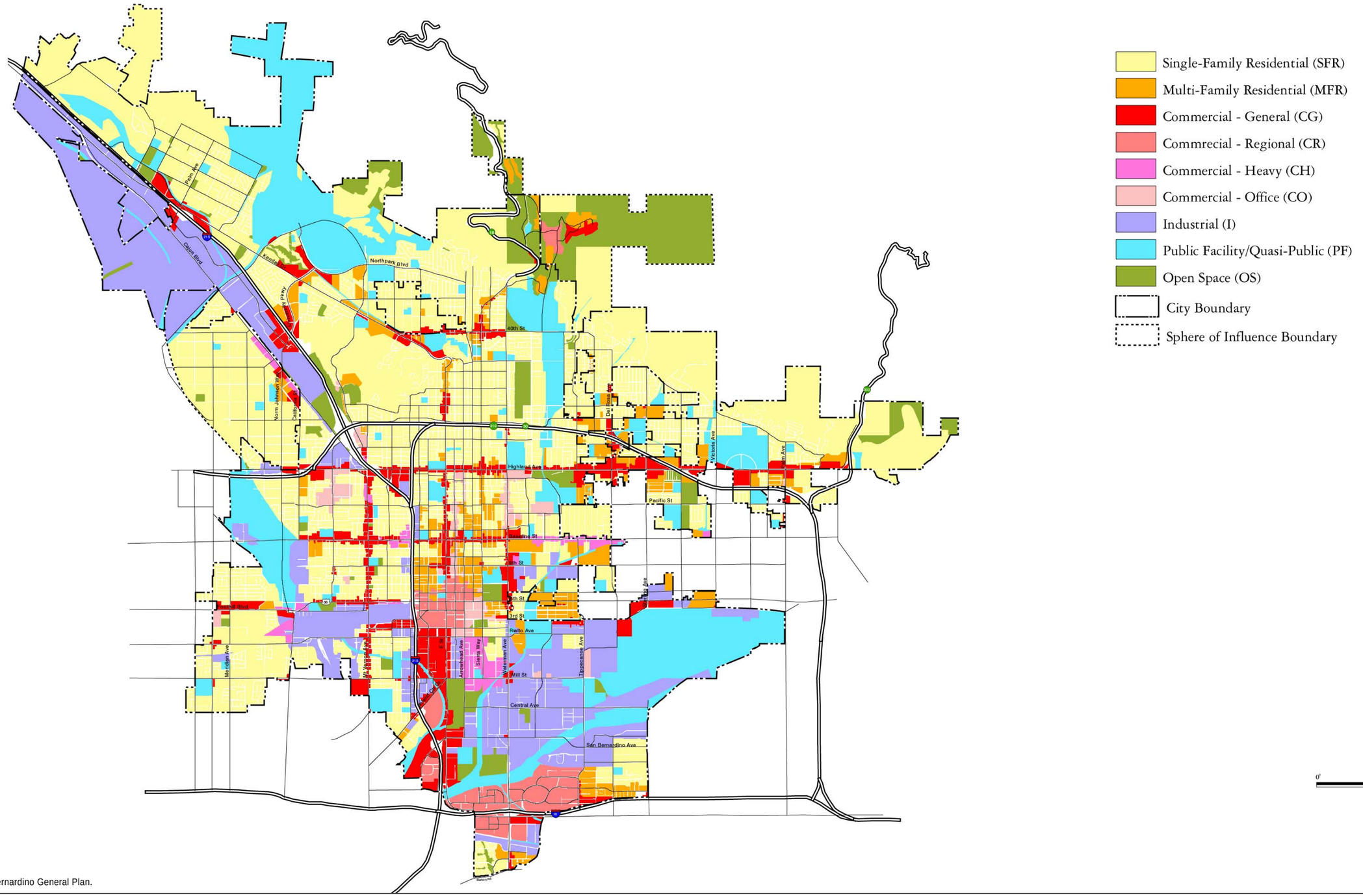
Redevelopment Areas

Cities have the power to turn deteriorating, blighted areas into productivity community assets through redevelopment programs. The City has a diverse, comprehensive redevelopment program for ten project areas. These areas include: Central City Projects, Central City North, Central City West, State College, Southeast Industrial Park, Northwest, Tri City, South Valle, Uptown, and Mt. Vernon Corridor.

San Bernardino International Airport

The San Bernardino International Airport and Trade Center (SBIA) is located in the southeastern edge of the City. It is one of the greatest economic growth opportunities for the City. The SBIA includes two distinct components: (1) the airport portions (and related facilities) of the former Norton Air Force Base and (2) the Trade Center, which encompasses the non-airport-related portions of the former Norton Air Force Base.

The City has no direct authority over the SBIA. However, several documents related to the SBIA have relevance to San Bernardino. These plans include: the San Bernardino International Trade Center Specific Plan details land use, infrastructure, circulation, and design plans for the non-aviation portions of the Airport; the Airport Master Plan details the concept for the long term development of the Airport



***Source*:** City of San Bernardino General Plan.

Figure 4.17.10-1
Foundation Component Plan

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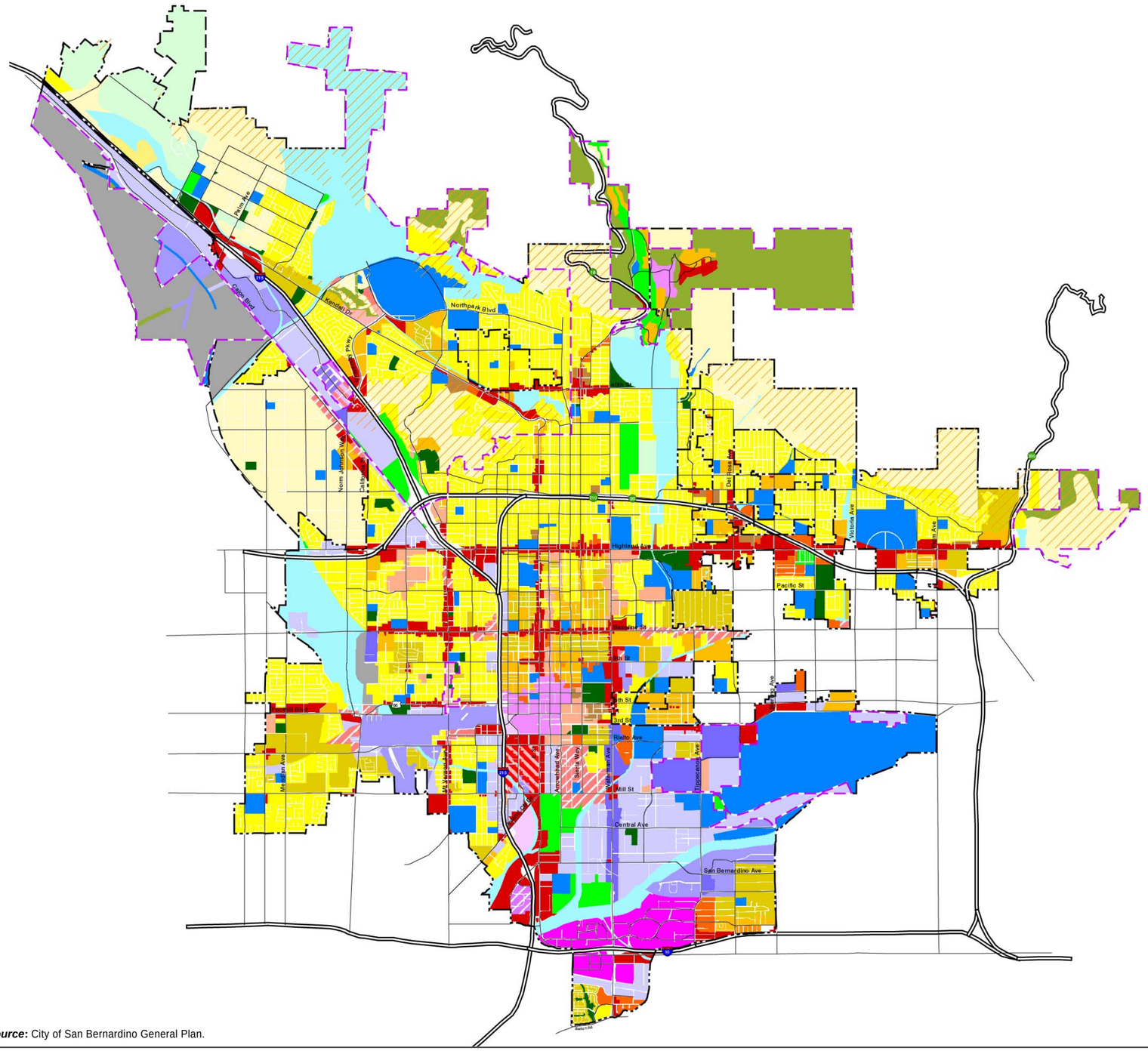

RESIDENTIAL

- RE (1 du/ac)
- RL (3.1 du/ac)
- RL-3.5 (3.5 du/ac)
- RS (4.5 du/ac)
- RU (9 du/ac)
- RM (14 du/ac)
- RMH-20 (20 du/ac)
- RMH (24 du/ac)
- RH (36 du/ac)

COMMERCIAL

- CO
- CG-1
- CG-2
- CG-3
- CCS-1
- UBP-2
- UBP-3
- CR-1
- CR-2
- CR-3
- CR-4
- CH

INDUSTRIAL

- OIP
- IL
- IH
- IE
- UBP-1
- CCS-2

PUBLIC/QUASI-PUBLIC

- PFC (Includes CCS-3)
- PF
- RR

OPEN SPACE

- PP
- OS
- PCR

OVERLAYS

- City Boundary
- Specific Plan Boundaries
- RSH
- Hillside Management Overlay & Foothill Fire Zone Overlay A & B

0' 7,000'

NORTH
SCALE IN FEET

***Source*:** City of San Bernardino General Plan.

Figure 4.17.10-2
General Plan Land Use Map

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and displays the concept graphically and in technical reports; and the Comprehensive Land Use Plan (CLUP), which is intended to provide for the orderly and safe development of both the Airport and surrounding community and minimize noise and safety conflicts. In accordance with Federal Aviation Administration regulations, restrictions may apply to some types of development proposed within the airport's identified safety and noise zones.

Regulatory Framework

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 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 non-professional 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 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 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 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 San Bernardino 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.

Local

City of San Bernardino Development Code

The City's Development Code is the primary tool for implementing the General Plan. It provides development standards, identifies allowed uses, specifies other regulations, and detailed guidance for development based on and consistent with land use policies established in the General Plan. The proposed project does not involve an update to the Development Code.

San Bernardino General Plan

The San Bernardino General Plan provides a framework for the City's physical, economic, social, and environmental development and addressing all geographic areas in the City and includes all the required elements of a general plan. California law requires that other local government programs be consistent with the general plan. The City's zoning and subdivision regulations, capital improvement programs, specific plans, development agreements, housing programs, redevelopment programs, and economic development activities further the achievement of general plan goals. The San Bernardino General Plan provides guidance on how City programs and activities should be changed or strengthened to best implement the policies. Relevant San Bernardino General Plan policies are summarized in Section 4.17, Table 4.17-2 (San Bernardino General Plan Policies).

Habitat Conservation Plans

Habitat Conservation Plans (HCP) are federally recognized plans implemented by the U.S. Fish and Wildlife Service (USFWS) to protect federally or state-listed endangered and threatened species under the Endangered Species Act. The purpose of an HCP is to allow for economic development while still protecting the habitat of endangered species. Careful planning and detailed analysis allows collaboration between the landowner and the USFWS to develop a conservation plan.

San Bernardino Kangaroo Rat Critical Habitat

The SBKR (*Dipodomys merriammiparvus*) was emergency listed as federally endangered in January 1998, when its population had been reduced by approximately 95 percent due to habitat loss, urban development, degradation, water conservation activities, and fragmentation owing to sand and gravel mining operations. The species is typically found on alluvial fans, in floodplains, along washes, in adjacent upland areas, and in areas with historic braided channels. Final designation of critical habitat for the SBKR was issued in April 2002. A total of approximately of 33,295 acres in San Bernardino and Riverside Counties have been designated as critical habitat for the species. Portions of the City are located within two of four critical habitat units. Critical habitat is shown in Figure 4.17.4-2 (Designated Habitat for Sensitive Wildlife) in Section 4.17.4 (Biological Resources). The City overlays the westernmost extent of Critical Habitat Unit 1 (Santa Ana River and San Timoteo Canyon), which roughly covers the areas encompassing City Creek, Plunge Creek, and the Santa Ana River wash. It contains tributaries, flood plain terraces, and active hydrological channels. Unit 2 (Lytle and Cajon Creeks) roughly

covers habitat along and between Lytle and Cajon Creeks from the point that the creeks emanate from canyons within San Bernardino National Forest to flood control channels downstream. The northwestern-most portions of the City are located within Unit 2.

Coastal California Gnatcatcher Critical Habitat

The coastal California gnatcatcher is a federally listed threatened, state Species of Special Concern that typically occurs in or near sage scrub habitat. The species was listed as threatened in 1993. Final designation of critical habitat for the gnatcatcher was issued in October 2000. A total of approximately of 513,560 acres in Los Angeles, Orange, San Diego, San Bernardino, and Riverside Counties are designated as critical habitat for the species. Portions of the City are located within Critical Habitat Unit 11, which roughly covers approximately 58,000 acres along the foothills of the San Gabriel and San Bernardino Mountains and within the Jurupa Hills on the border of San Bernardino and Riverside counties. Critical habitat is shown in Figure 4.17.4-2 in Section 4.17.4. Undeveloped areas from the northwestern-most portion of the City to the northeastern-most portion are located within California gnatcatcher critical habitat.

Santa Ana Sucker Critical Habitat and Santa Ana Sucker Conservation Program

Critical habitat for the Santa Ana sucker (SAS) was designated January 4, 2005, by USFWS. Approximately 23,719 acres of aquatic and riparian habitats essential to the species conservation was identified. Two areas in Los Angeles County totaling 8,305 acres were designated as critical habitat units. The remaining acreage comprises "essential habitat" for the SAS within the Santa Ana River in Orange, Riverside, and San Bernardino Counties. However this area has been excluded in the revised final designation of critical habitat because USFWS concluded that the habitat is protected within existing programs including the SAS Conservation Program.

The purpose of the SAS Conservation Program is to promote the conservation of the sucker, while providing the necessary authorization, to allow for the incidental take of a limited number of suckers that is anticipated to occur when the participating agencies (regional and local water and flood control districts) implement their Covered Activities. Covered Activities include operation, maintenance, repair, and reconstruction of existing projects and facilities (e.g., rebuilding existing levees for water conservation, constructed wetlands, and flood control) and the continuation of existing programs for flood control, water conservation, water treatment and discharge, protection of transportation routes, and wildlife conservation. The City of San Bernardino Municipal Water Department which operates the Rapid Extraction and Infiltration (RIX) Facility is one of seven participants in the program.

Draft Recovery Plan for the Delhi Sands Flower-Loving Fly

The Draft Recovery Plan for the Delhi sands flower-loving fly (DSFLF) was prepared in 1997. While no critical habitat has been designated for DSFLF, a Recovery Plan has been developed by the USFWS that details specific tasks needed to successfully recover the species. The plan defines three Recovery Units, areas that USFWS would like to preserve for the continued survival and ecological recovery of the DSFLF, such that protection under the FESA is no longer necessary. The south westernmost portion of the City falls within the DSFLF Colton Recovery Unit, which is roughly bounded by Pennsylvania Road to the east; Baseline Road to the north; Cedar Avenue in Rialto to the west; and the Santa Ana River to

the south. All but two of the known populations of DSFLF are located in this Recovery Unit. Areas within the City of San Bernardino containing Delhi sands (potential habitat for the DSFLF) are limited to the southwest boundary of the City, as shown in Figure 4.17.4-2 in Section 4.17.4.

Cajon Creek Conservation Banks

Within the Lytle Creek and Cajon Creek wash system in the City of San Bernardino, the sand and gravel company Vulcan (formerly CalMat) has established a 1,378-acre conservation site and mitigation land bank within the Riversidean alluvial fan sage scrub habitat. The conservation bank is located north of the Devil Creek Diversion Channel, south of I-215, in the Cajon wash running parallel to and near Cajon Boulevard (see Figure 4.17.4-2 in Section 4.17.4). The Cajon Creek Conservation Bank was established to conserve populations of 24 species associated with alluvial fan scrub habitat, including the Santa Ana River woollystar, SBKR, and coastal California gnatcatcher.

Another 153 acres of Riversidean alluvial fan sage scrub habitat have been set aside by CEMEX (formerly Sunwest) and a 150-acre Santa Ana River Woolly-Star Preserve at the southern tip of the San Bernardino County Sheriff's Training Facility have been set aside as conservation lands within the Lytle Creek/Cajon Creek wash area. In addition, the County of San Bernardino will be establishing a conservation area/mitigation bank in Riversidean alluvial fan sage scrub habitat in the Cajon Wash on the east side of the Glen Helen Regional Park. Lands within and around these conservation lands and mitigation banks are available to offset impacts to sensitive biological resources.

Upper Santa Ana River Wash Land Management and Habitat Conservation Plan

Landowners, land managers, regulatory agencies and interested stakeholders have been meeting over the past several years to develop a consensus-based land use strategy for the Santa Ana River alluvial fan, which supports most of the remaining stands of Santa Ana River woolly-star (*Eriastrum densifolium* spp. *sanctorum*), slender-horned spineflower (*Dodecahema leptoceras*), and other rare plant and animal species. The plan was adopted in November 2008. The aim of this effort is to develop a reserve design and conservation plan that protects the most important habitat areas while consolidating sand and gravel extraction and water spreading activities. The proposed Upper Santa Ana River Wash Land Management and HCP for the upper Santa Ana Wash involves an area of approximately 4,365 acres located in the upper Santa Ana River Wash area. The planning area begins at the mouth of the Santa Ana canyon at Greenspot Road, 1 mile downstream from the Seven Oaks Dam, and extends west westward for approximately 6 miles to Alabama Street. It contains the existing Woolly Star Preservation Area (WSPA) preserved by the USACE and three flood control districts; and the BLM's Santa Ana River Area of Critical Concern/Research Natural Area. The proposed conservation area is just outside of and adjacent to the current City of San Bernardino limits just southeast of the San Bernardino International 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, Habitat Conservation Plans, SCAG's Regional Comprehensive Plan and Guide (RTP and Compass Growth Visioning), The San Bernardino General Plan, City Zoning Code, and specific plans adopted by the City.

Effects Not Found to Be Significant

Threshold	Would the project physically divide an established community?

The pattern of land uses within the City of San Bernardino transitions from predominantly industrial near the Santa Ana River and the San Bernardino International Airport and Trade Center to predominantly residential toward the mountains. The center of the City is a substantial commercial and industrial area.

The Land Use Element of the San Bernardino County General Plan and Development Code has specific policies for compatibility that would reduce the amount of conflict between contradicting land uses (see Land Use Policies 2.1.1, 2.2.1, and 5.5.1, listed below). Any facilities developed under the Regional Reduction Plan would need to comply with the General Plan and Development Codes and therefore would not include any physical barriers that could divide an established community. There would be ***no impact***. Mitigation is not required.

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, and the City Development Code.

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 San Bernardino community GHG emissions to a level that is consistent with the AB 32 Scoping Plan.
- 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 their goal through a combination of state (~85 percent) and local (~15 percent) efforts. The Pavley vehicle standards, the state's low carbon fuel standard, the RPS, and other state measures will reduce GHG emissions in San Bernardino's on-road and building energy sectors in 2020. An additional reduction of 76,172 MT CO_2e will be achieved primarily through the following local measures, in order of importance: Methane Capture at Large Dairies (Agriculture-1); Solar Energy for Warehouse Space (Energy-6); and Implement SBX 7-7 (Water-4). San Bernardino's Plan has the greatest impacts on GHG emissions in the solid waste management, building energy, and on-road transportation sectors.

The bars in Figure 4.17-2 (Emissions Reduction Profile for San Bernardino) in Section 4.17.0 show the City's 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 its projected emissions level in 2020). 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 (~85 percent) of the total reductions needed to achieve the 2020 target.

Figure 4.17-3 (Emissions by Sector for San Bernardino) in Section 4.17.0 presents emissions by sector, for both the 2020 BAU and the 2020 reduction or Regional Reduction Plan scenarios. The largest emissions contributions are in the on-road transportation, building energy, and off-road equipment emissions sectors.

Table 4.17-3 (Emission Reduction by Sector for San Bernardino) in Section 4.17.0 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 San Bernardino 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 4.17-4 (Emission Reductions by Control and by Sector for San Bernardino) in Section 4.17.0 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 GHG Performance Standards for New Development.

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.

The Regional Reduction Plan reduction measures Energy-1 and Energy-4 through Energy-8 include more efficient use of energy and renewable energy within buildings, often called green building technology. Green buildings can significantly reduce local environmental impacts, regional air pollutant emissions, and global greenhouse gas emissions. Green building standards involve everything from energy efficiency and use of renewable resources to reduced waste generation and water usage. For example, water-related energy use consumes 19 percent of the state's electricity, and the residential sector accounts for 48 percent of both the electricity and natural gas consumption associated with urban water use. Thus, energy-efficiency and green building practices can result in a substantial reduction in the use of energy and associated greenhouse gas emissions.

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 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 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 San Bernardino General Plan promote sustainability. The goals of the MSHCP are to conserve biological resources in land use planning, which can be achieved, in part, by locating development outside of sensitive biological areas.

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 San Bernardino General Plan, and does not provide for development in sensitive biological areas, consistent with the policies of these plans.

While a separate document, the Regional Reduction Plan will be utilized as a companion document to the San Bernardino 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 San Bernardino 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 policies in the San Bernardino General Plan are written 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.

Implementation of the Regional Reduction Plan may result in retrofit and energy-generating projects throughout the City that would be subject to the guidelines and policies of the applicable Specific Plan(s). The specific plans within the City promote mixed uses and pedestrian-oriented and accessible development. The Regional Reduction Plan does not propose any specific development. Any energy-efficiency retrofits or energy-generating facilities that would be constructed in the specific plan areas would require consistency with the applicable specific plans. Thus, there would be no inconsistency with implementation of the Regional Reduction Plan.

In addition, because the proposed Regional Reduction Plan furthers the goals of the identified land use plans, including the San Bernardino 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 ensure compliance with AB 32, which is a beneficial impact of the project.

Threshold	Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?

City ordinances ensure compliance with the provisions of the habitat conservation plans. Implementation of the Regional Reduction Plan would be required to be consistent with these ordinances. This impact would be ***less than significant***. No mitigation is required. Further discussion as to impacts to habitat conservation is provided in detail in Section 4.17.4.

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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4.17.11 Mineral Resources

This section of the EIR analyzes the potential environmental effects on mineral resources in the City of San Bernardino from implementation of the Regional Reduction Plan. Data for this section were taken from the San Bernardino General Plan (2005a) and associated environmental document (2005b). 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

A mineral is an element or chemical compound that is normally crystalline and that has been formed by geological processes. Minable minerals are deposits of ore or mineral having a value materially in excess of the cost of developing, mining, and processing the mineral and reclaiming the project area.

The California Geological Survey Mineral Resources Project provides information about California's nonfuel mineral resources. The Mineral Resources Project classifies lands throughout the state that contain regionally significant mineral resources, as mandated by the Surface Mining and Reclamation Act of 1975 (SMARA). Nonfuel mineral resources include metals such as gold, silver, iron, and copper; industrial materials such as boron compounds, rare-earth elements, clays, limestone, gypsum, salt, and dimension stone; and construction aggregate such as sand, gravel, and crushed stone. Development generally results in a demand for minerals, especially construction aggregate. Urban preemption of prime deposits and conflicts between mining and other uses throughout California led to passage of the SMARA, which requires all cities and counties to incorporate into their general plans the mapped designations approved by the state Mining and Geology Board.

The classification process involves the determination of Production-Consumption (P-C) Region boundaries, based on identification of active aggregate operations (production) and the market area served (consumption). The P-C regional boundaries are modified to include only those portions of the region that are urbanized or urbanizing and are classified for their aggregate content. An aggregate appraisal further evaluates the presence or absence of significant sand, gravel, or stone deposits that are suitable sources of aggregate. The classification of these mineral resources is determined jointly by the state and the local governments. It is based on geologic factors and requires that the State Geologist classify the mineral resources area as one of the four Mineral Resource Zones (MRZs), Scientific Resource Zones (SZ), or Identified Resource Areas (IRAs), described below:

- **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.

- **SZ Areas**—Containing unique or rare occurrences of rocks, minerals, or fossils that are of outstanding scientific significance.
- **IRA Areas**—Areas identified by the county or the State Division of Mines and Geology, where adequate production and information indicates that significant minerals are present.

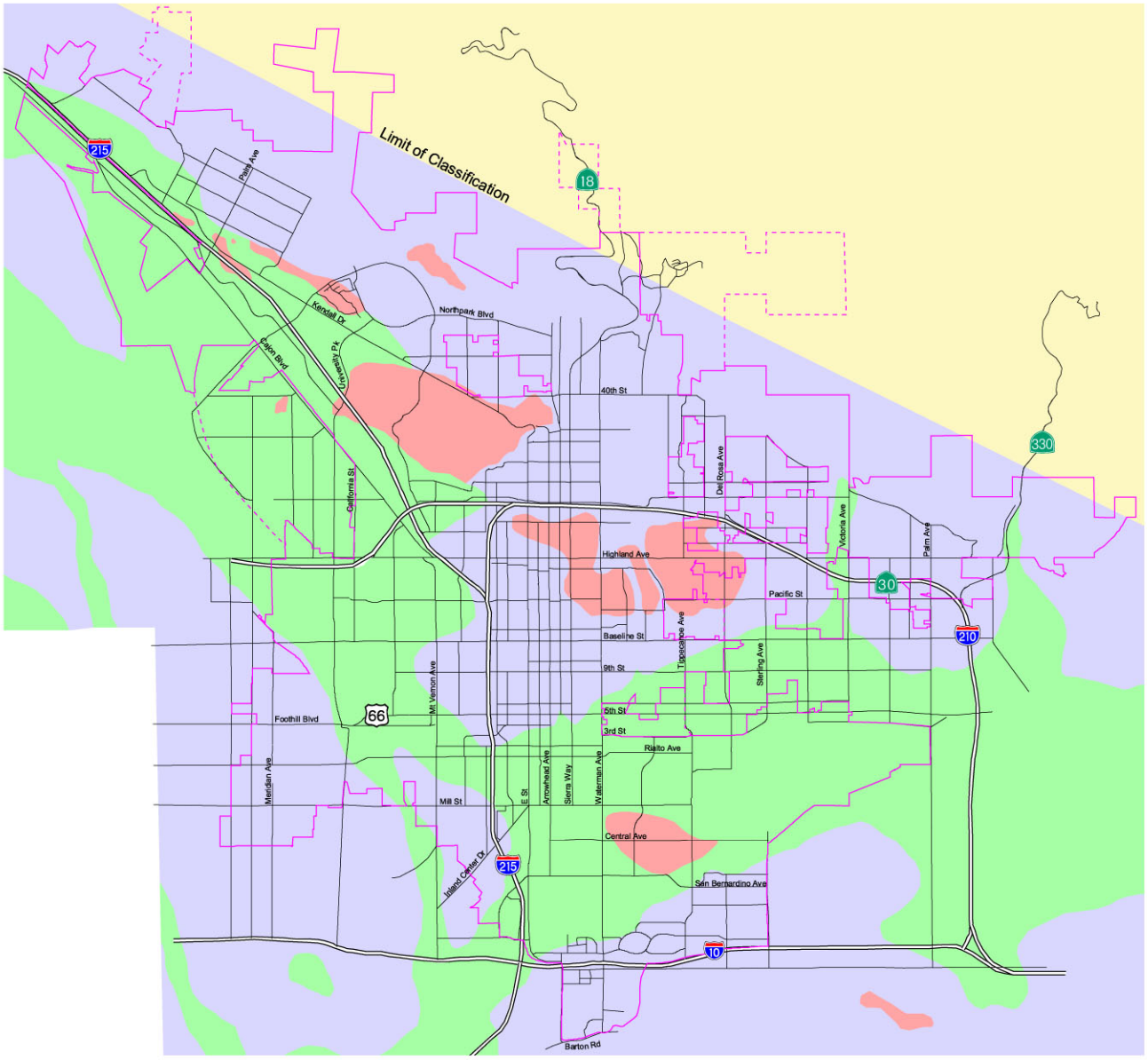
As part of the classification process, an analysis of site-specific conditions is utilized to calculate the total volume of aggregates within individually identified Resource Sectors, those MRZ-2 areas identified as having regional or statewide significance. Anticipated aggregate demand in the P-C Regions for the next 50 years is then estimated and compared to the total volume of aggregate reserves identified in the P-C Region.

A broad, gently sloping lowland flanks the southwest margin of the San Bernardino Mountains and underlies San Bernardino. Layers of gravel, sand, silt and clay have accumulated in this valley region, washed down from adjacent mountains by rivers and creeks. This alluvial sediment eroded from bedrock underlies the lowland. The original hill and valley topography of the Bunker Hill-San Timoteo Basin have been gradually buried by a few million years of sediment accumulation. Shandin Hills and other smaller hills areas in the basin are remnants of the original topography.

Mesozoic and older crystalline basement terrain comprises the San Bernardino Mountains, Shandin Hills, and other hilly areas in the Basin. Younger sedimentary deposits consist of late Pleistocene alluvium outcroppings on the older alluvial fans northeast of the City, and underlying the younger Holocene alluvium of the San Bernardino Valley. Coarser-grained and more poorly sorted boulders, cobbles, gravels, sands, silts and clays that decrease in size and abundance moving towards the southwest comprise the Alluvial fans that extend downslope from the San Bernardino Mountain Canyons. Sand, sandy silt, and silt are the primary composition of the floodplain deposits along the Santa Ana River, Cajon Creek, and Lytle Creek. The alluvial fan and floodplain deposits are interlain and form a highly variable and often times laterally discontinuous layering of various sizes of alluvial materials.

These alluvial fans and flood plains have been classified by the California Department of Conservation, Division of Mines and Geology. The majority of the aggregate found within the City and its SOI is located in the sand and gravel deposits of the Cajon Wash, Lytle Creek, Warm Creek, City Creek, and the Santa Ana River. The MRZs for the City and it SOI are depicted on Figure 4.17.11-1 (Mineral Resource Zones).

The western and southern borders of the City are predominantly classified as MRZ-2 indicating the existence of construction aggregate deposits that meet certain State criteria for value and marketability based solely on geologic factors. The remainder of the City is identified as MRZ-1, MRZ-3 or MRZ-4. Because land is classified based only on geologic factors, areas that are already developed and therefore rendered unsuitable for mineral production may be classified in an MRZ-2 zone. Additional State studies in San Bernardino include "existing land use" as a classification criterion. This helps identify aggregate resources which remain potentially available for production. Figure 4.17.11-2 (Regionally Significant Construction Aggregate Sectors) depicts the areas of the City where construction aggregate is potentially available for production.



MRZ-1 No Significant Mineral Deposits are Likely to be Present

MRZ-2 Significant Mineral Deposits are Likely, Development Should be Controlled

MRZ-3 Significant Mineral Deposits Cannot be Determined from Available Data

MRZ-4 Insufficient Data to Assign any other MRZ Designation

City Boundary

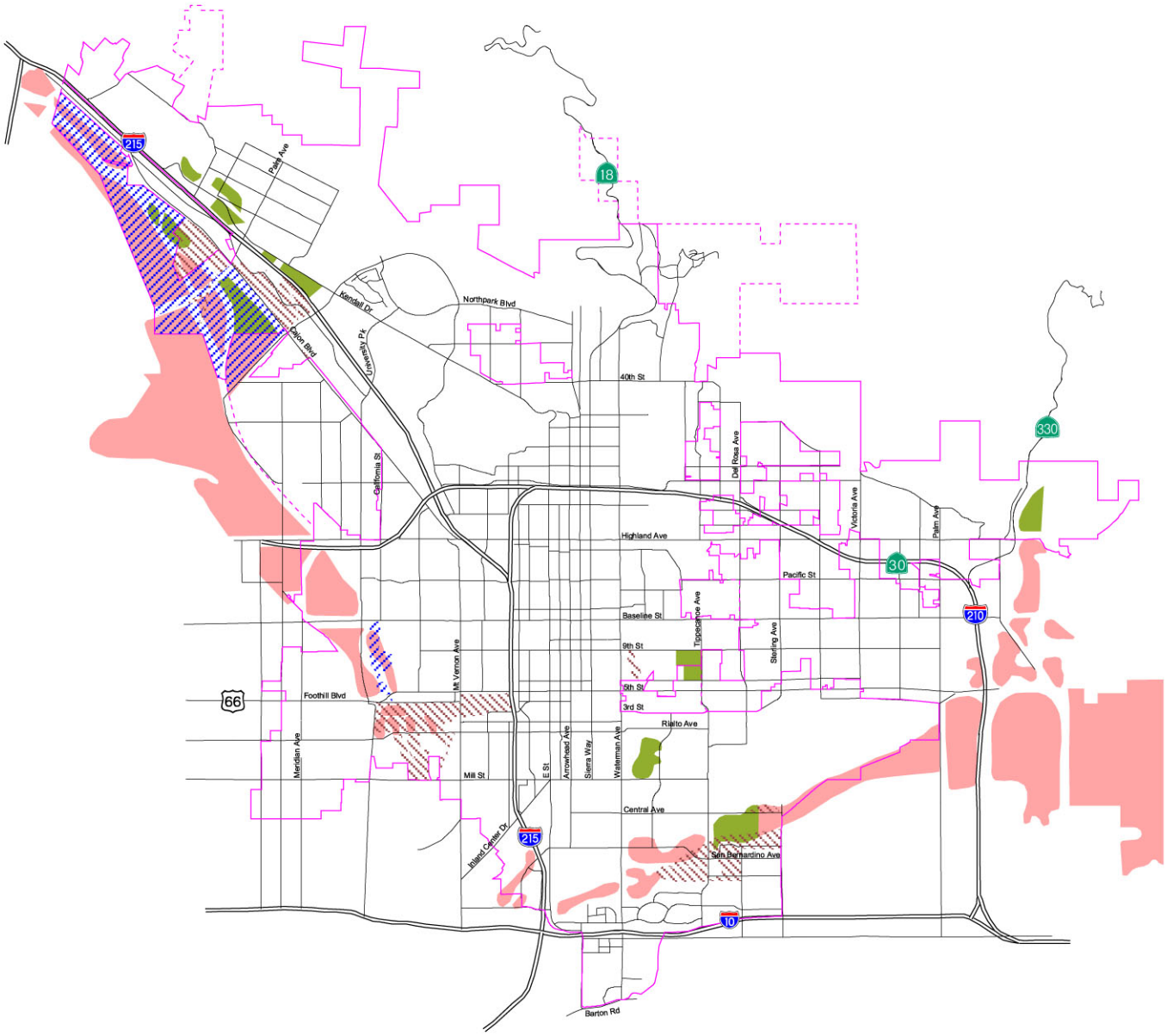
Sphere of Influence Boundary

***Source*:** San Bernardino, City of. 2005. San Bernardino General Plan Update and Associated Specific Plans Environmental Impact Report. Draft. Prepared by The Planning Center, July 25.

NORTH
NOT TO SCALE

Figure 4.17.11-1
Mineral Resource Zones

ATKINS



Construction Aggregate Sectors (Sand and Gravel)

Construction Aggregate Sectors Listed for Deletion in 1985

Existing Industrial Extraction (IE) Use Zone

Existing Industrial Heavy (IH) Use Zone

City Boundary

Sphere or Influence Boundary

***Source*:** San Bernardino, City of. 2005. San Bernardino General Plan Update and Associated Specific Plans Environmental Impact Report. Draft. Prepared by The Planning Center, July 25.

NORTH
NOT TO SCALE

Figure 4.17.11-2

Regionally Significant Construction Aggregate Sectors

ATKINS

A city is required to identify the location of resource sectors and incorporate polices for their management. If proposed land use is incompatible with mineral extraction in or near the resource, the City must disclose why the mineral resource is not being protected and request its deletion as a potential resource. In 1985, the City of San Bernardino requested deletion of 12 of their 31 Resource Sectors.

Regulatory Framework

The following describes the regulatory framework of mineral resources and gives context in evaluating the impacts to mineral resources.

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 the 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.

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), who enforce 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, Chapter 9, Division 2 of the PRC, 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.

Regional

There are no regional regulations pertaining to mineral resources.

Local

San Bernardino General Plan

The San Bernardino General Plan policies that are applicable to mineral resources[13] are as follows:

Policy 12.4.2 Impose conditions and enforce mitigation measures on mining operations to reduce dust, noise, and safety hazards associated with removal of construction aggregate and minimize impacts on adjacent properties and environmental resources.

Policy 12.4.5 Require that the operation and reclamation of surface mines be consistent with the State Surface Mining and Reclamation Act (SMARA) and the Development Code.

Policy 12.4.7 Restrict incompatible land uses within the impact area of existing or potential surface mining areas.

[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.

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

Project Impacts and Mitigation Measures

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 City of San Bernardino determined that several sectors identified as MRZ-2 (and identified on Figure 4.17.11-2) could not be protected due to incompatible land use and such sectors were opposed by the City. The reasons these sectors are opposed by the City include; rapid growth rate (in excess of 25 percent), identification of rare and endangered plant species, traffic and safety concerns, proximity to highly urbanized areas, inadequate freeway access, and incompatibility with surrounding land uses (lack of a adequate buffer zone).

Not including the opposed areas, the aggregate sectors identified on Figure 4.17.11-2 all fall within Public Flood Control or Industrial land use designations where mineral extraction is an allowed use and thus does not represent a loss in availability of a known mineral resource.

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 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?

The locally important mineral resource recovery sites delineated in San Bernardino General Plan are shown on Figure 4.17.11-2 and labeled as Existing Industrial Extraction or Existing Industrial Heavy use

zones. As stated above, any energy efficiency retrofits or renewable energy generation as a result of implementing the Regional Reduction Plan in these MRZ-2 designated areas would require City review to ensure that mining operations are not affected. Therefore, this impact would be ***less than significant***. No mitigation is required.

Cumulative Impacts

Because the Regional Reduction Plan does not significantly impact mineral resources at a project level, implementation of the Regional Reduction Plan will not create impacts to mineral resources that are cumulatively considerable. Therefore, ***cumulative impacts would be less than significant***.

References

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4.17.12 Noise

This section of the EIR analyzes the potential environmental effects on noise in the City of San Bernardino from implementation of the Regional Reduction Plan. Data for this section were taken from the San Bernardino General Plan (2005a) and associated environmental document (2005b). 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 4.17.12-1 (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 San Bernardino General Plan Noise Element and Noise Control Ordinance, 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.

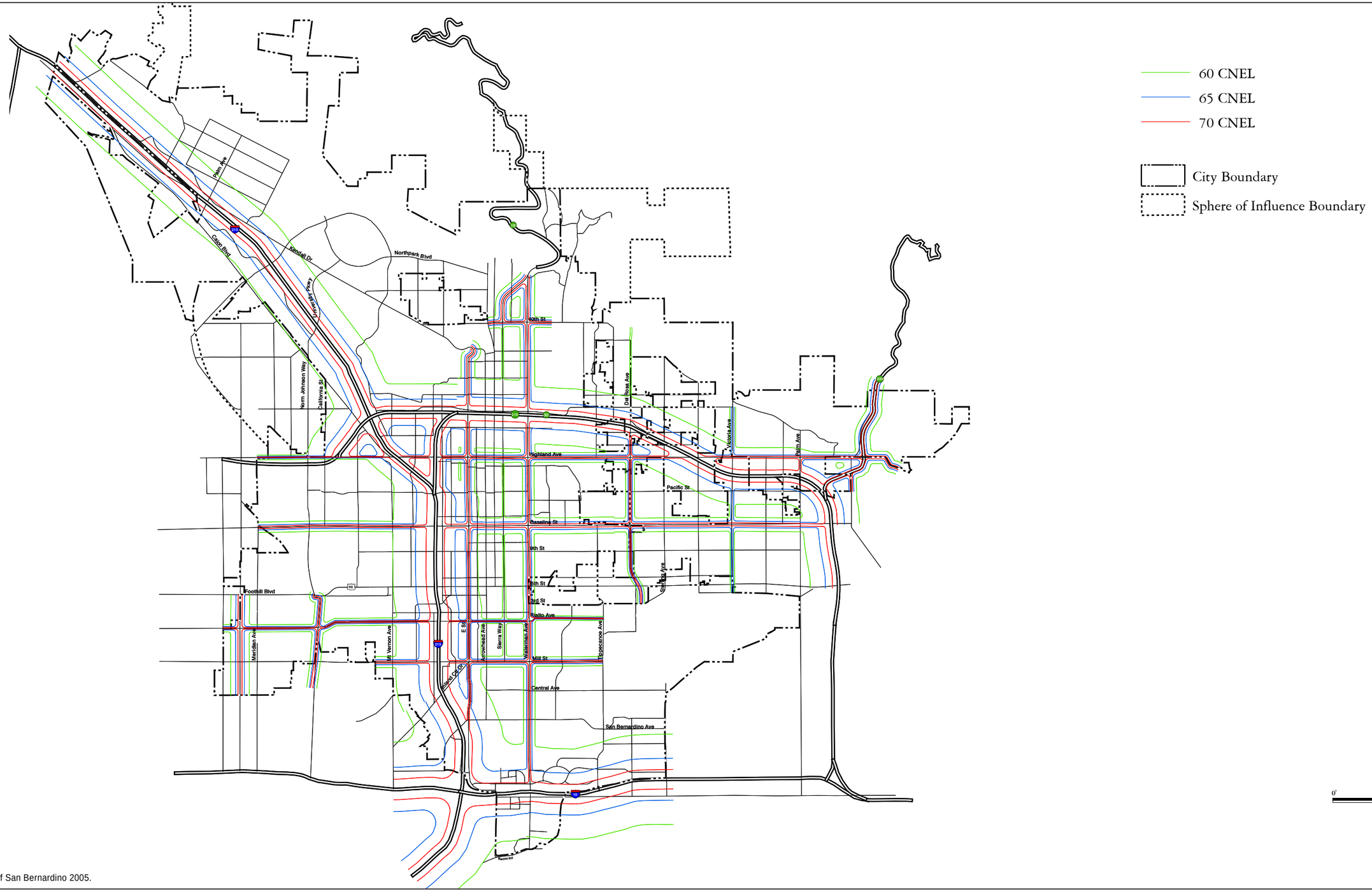
It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA, increases or decreases; that a change of 5 dBA is readily perceptible, and that an increase (decrease) of 10 dBA sounds twice (half) as loud (Caltrans 1998).

Table 4.17.12-1 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

Like all highly urbanized areas, The City of San Bernardino, like all highly urbanized areas, is subject to noise from a multitude of sources. Major noise source within the City is mobile sources, specifically, traffic traveling through. For the southeast portion of the City, located directly within the flight path of aircraft approaching and departing the San Bernardino International Airport, aircraft also contribute to this noise. Aircraft generate substantial noise within the area directly surrounding the airport. Noise from trains, commuter as well as freight trains, generates noise within the City. As with aircraft, train noise generated along these rail lines can be substantially higher than in areas that are located away from the tracks. Noise from trains and their associated horns and whistles are a particular concern to those residents that live along these railroad corridors. Stationary sources within the City, such as those associated with existing industrial land uses also add to the existing noise levels.



***Source*:** City of San Bernardino 2005.

Figure 4.17.12-1
Future Roadway Noise Contours

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On-Road Vehicles

Noise from motor vehicles is generated by engine vibrations, the interaction between tires and the road, and the exhaust system. Reducing the average motor vehicle speed reduces the noise exposure of receptors adjacent to the road. Each reduction of 5 miles per hour reduces noise by about 1.3 dBA. In addition to local traffic volumes, regional roadways in the City of San Bernardino accommodate large volumes of traffic that support the movement of people and goods for the southern California region Major regional roadways such as I-10, I-215, SR-30, SR-259, and SR-330 accommodate very large volumes of traffic and are responsible for a significant contribution to the noise environment.

These roadways accommodate a large amount of truck traffic, which adds significantly to the noise environment. Local roadways primarily accommodate local traffic for the City and include both major arterials and smaller collector streets. While local roadways are not a major source of noise for the City as a whole, they contribute a large proportion of the ambient noise at the neighborhood level.

In order to assess the potential for mobile-source noise impacts, it is necessary to determine the noise levels currently generated by vehicles traveling through the City. Modeling done for the San Bernardino General Plan indicate that noise levels along arterial segments range from approximately 61 to about 77 dBA CNEL at a distance of 50 feet from the centerline of the road. Interstate Routes and freeways indicated higher noise levels ranging from 74 to 87 dBA CNEL at the edge of the roadway. Future Roadway Noise Contours are identified in Figure 4.17.12-1 (Future Roadway Noise Contours).

Train Noise

Freight and passenger trains along the Union Pacific railroad (UPRR), Burlington Northern Santa Fe (BNSFRR) railroads and Metrolink railroads are part of the existing noise levels within the City. Located along the I-10 Freeway the UPRR rail line follow the freeway until it reaches Colton then splits into two lines. The Palmdale line turns northward and travels through the western portion of the City of San Bernardino. The Yuma line continues east along the freeway. These lines are used by both freight and commuter trains. The Cajon Line is the portion of the BNSFRR line that traverses north through the City. The City has two Metrolink lines: the San Bernardino Metrolink Line extends from San Bernardino to the Los Angeles Union Station; and the Inland Empire Orange County Metrolink Line extends from San Bernardino to San Juan Capistrano. The number of freight trains using the UPRR and BNSF is dependent on the quantities and scheduling of freight at the sea ports.

Numerous factors influence railroad noise including the number of engines and railcars, average speed, percentage of operations that take place at night, type of rails and the presence of "at-grade" crossings that require the engineer to sound a warning horn. An at-grade crossing raises the noise produced by train activity substantially due to the sounding of the horn at 103 dBA as measured at 100 feet. The distance from the rail lines to the 65 dBA L_{dn} contour ranges from approximately 300 feet to nearly 1,200 feet.

Aircraft Noise

The San Bernardino International Airport (SBIA) is located in the southern portion of the City. The operation of large aircraft contributes to the existing noise environment within the City from takeoff, flyovers/over flights, and approach/landings. These events result in noise exposure to the populations

living in close proximity to the airport. Existing and buildout noise contours for the airport are show on Figure 4.17.12-2 (Airport Noise Contours) (SBIA 2011).

Heliports

Local helicopter traffic is common through the City in addition to the aircraft noise. Helicopters for news and other uses are known to access the area. Use of helicopters for police, fire and hospitals are considered emergency activities and are thereby addressed by FAA regulations. Helicopter generated noise exposure varies based on flight path and wind direction. There are five heliports located in the City of San Bernardino including: National Orange Show, Red Dog Properties (private), San Bernardino Community Hospital, SCE Eastern Division, and in the Tri-City area.

Industrial and Warehousing Operations

Industrial uses comprise the majority of the northwestern and southeastern areas of the City of San Bernardino. In addition to on-site mechanical equipment, warehousing and industrial land uses generate substantial truck traffic that results in additional sources of noise on local roadways in the vicinity of industrial operations.

Noise-Sensitive Receptors

Certain land uses are particularly sensitive to noise and vibration. These uses include residential, school, and open space/recreation areas where quiet environments are necessary for enjoyment, public health, and safety. In the City of San Bernardino, sensitive noise receptors are primarily located in residential areas of the City. Commercial and industrial uses are not considered noise- and vibration-sensitive uses.

Schools

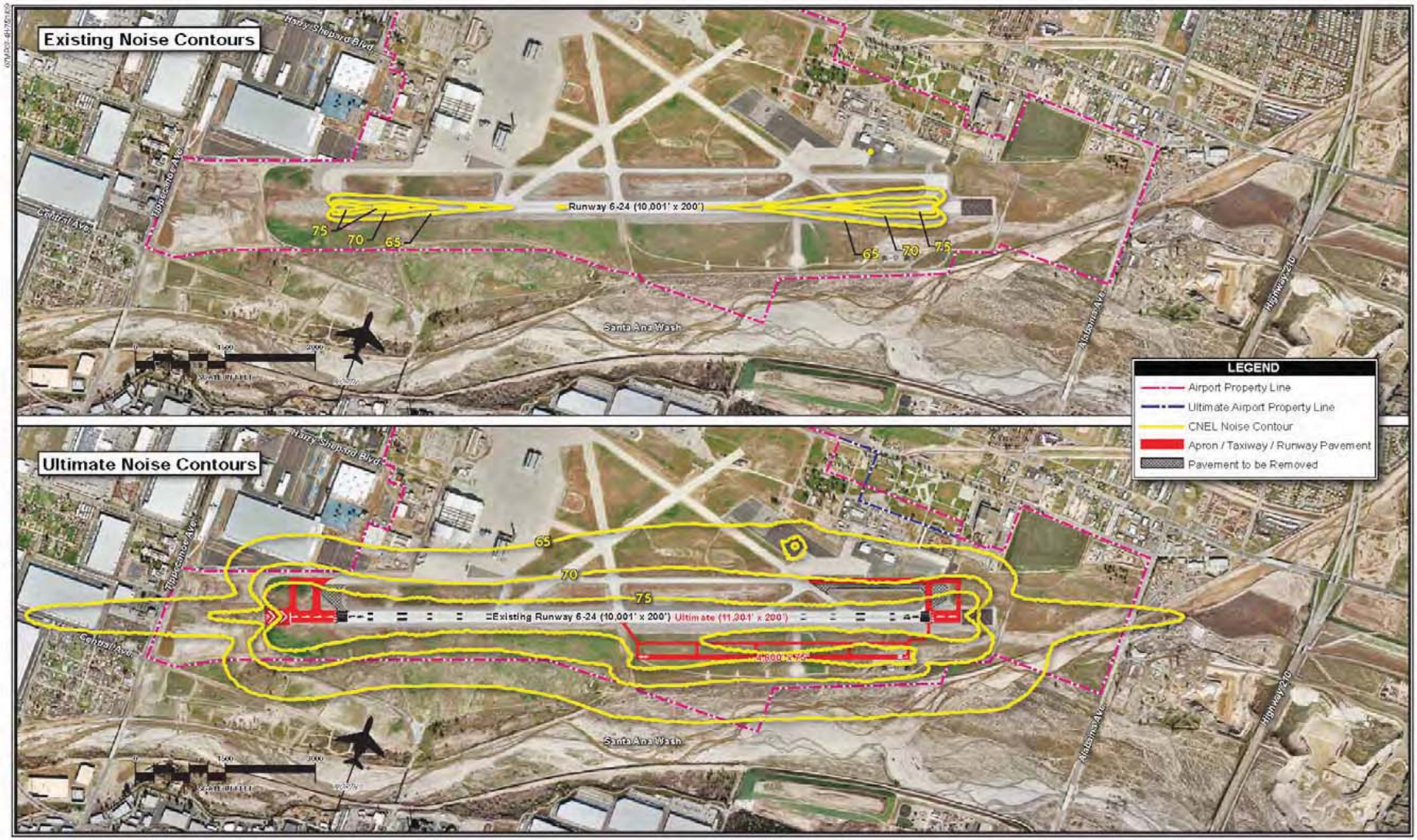
Schools are considered noise-sensitive because of the necessity for quiet in the classroom to provide an adequate environment for learning. However, outdoor activities that occur on school campuses throughout the City generate noticeable levels of noise. While it is preferable to have schools in residential areas to support the neighborhood, noise generated on both the weekdays (by physical education classes and sports programs) and weekends (by use of the fields by youth organizations) can elevate noise levels within the neighboring communities.

Regulatory Framework

Federal

Federal Highways Administration

The Federal Highway 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.



***Source*:** Coffman Associates, Inc. - Draft Airport Layout Plan Narrative Report, August, 2009.

Figure 4.17.12-2
Airport Noise Contours

ATKINS

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 noise sensitive land uses 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.

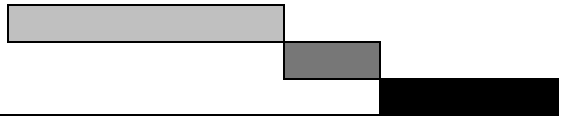
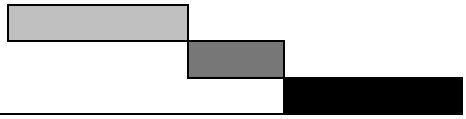
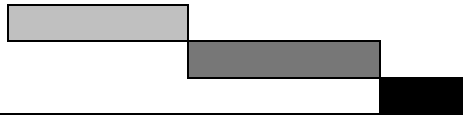
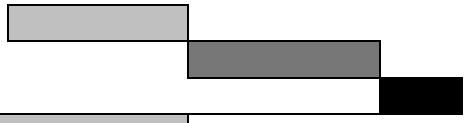
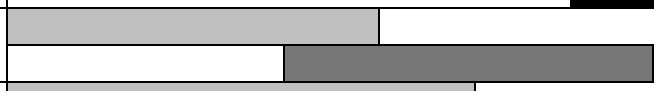
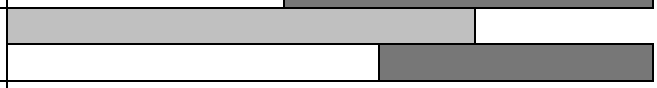
Table 4.17.12-2 (Land Use Compatibility for Community Noise Exposure) details a compatibility chart for community noise with respect to land use as prepared by the California Office of Noise Control. It identifies four categories of exterior noise levels for different land uses. These categories are, 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 4.17.12-3 (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.

Table 4.17.12-2 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: City of San Bernardino, *San Bernardino General Plan* (2005).

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 4.17.12-3 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: City of San Bernardino, *San Bernardino General Plan* (2005).

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.

Local

City of San Bernardino Municipal Code

Noise from the operation of construction equipment is governed under the local Municipal Code Section 8.54. City of San Bernardino Municipal Code Section 8.54.070 prohibits the operation or use between the hours of 8:00 PM and 7:00 AM of any pile driver, steam shovel, pneumatic hammers, derrick, steam or electric hoist, power driven saw, or any other tool or apparatus, the use of which is attended by loud and excessive noise, except with the approval of the Mayor and Common Council.

City of San Bernardino Development Code

The General Plan is subject to the Noise Ordinance incorporated therein. The City of San Bernardino Noise Ordinance (Development Code Section 19.20.030.15) specifies the maximum acceptable levels of noise for residential uses in the City. According to the Noise Ordinance, in residential areas, no exterior noise level shall exceed 65dBA and no interior noise level shall exceed 45 dBA.

San Bernardino General Plan

The San Bernardino General Plan policies that are applicable to noise[14] are as follows:

Policy 2.9.1 Require that all new development be consistent with the adopted Comprehensive Land Use Plan for the San Bernardino International Airport and ensure that no structures or activities encroach upon or adversely affect the use of navigable airspace.

Policy 6.4.8 Develop appropriate protection measures along routes frequently used by trucks to minimize noise impacts to sensitive land uses including but not limited to residences, hospitals, schools, parks, daycare facilities, libraries, and similar uses.

Policy 6.5.1 Provide designated truck routes for use by commercial/industrial trucking that minimize impacts on local traffic and neighborhoods.

Policy 14.2.1 Work with Caltrans to landscape or install mitigation elements along freeways and highways adjacent to existing residential subdivisions or noise-sensitive uses to reduce noise impacts.

Policy 14.2.9 Enforce sections of the California Vehicle Code related to mufflers and modified exhaust systems.

Policy 14.2.10 Provide for the development of alternate transportation modes such as bicycle paths and pedestrian walkways to minimize the number of automobile trips.

Policy 14.2.12 Require that commercial and industrial uses implement transportation demand management programs consistent with the Air Quality Management Plan that provide incentives for car pooling, van pools, and the use of public transit to reduce traffic and associated noise levels in the City.

Policy 14.2.13 Work with local agencies and businesses to provide public transit services that reduce traffic and associated noise.

Policy 14.2.19 As may be necessary, require acoustical analysis and ensure the provision of effective noise mitigation measures for sensitive land uses, especially residential uses, in areas significantly impacted by noise.

Policy 14.3.6 Ensure that buildings are constructed soundly to prevent adverse noise transmission between differing uses located in the same structure and individual residences in multifamily buildings.

Policy 14.3.8 Require common walls and floors between commercial and residential uses be constructed to minimize the transmission of noise and vibration.

[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.

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 vehicle miles traveled (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 San Bernardino 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. Energy retrofits would likely reduce impacts from vehicular noise to occupants of the particular buildings, since increased insulation and double- or triple-paned windows would also act to buffer exterior noise levels.

The location or extent of new renewable energy-generating facilities structures such as solar arrays and wind turbines 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. Commercially based wind turbines range in size, from small single assemblies to the large turbines seen on vast wind farms. The range of noise generated by commercial wind turbines varies dramatically and can be as high as 105.4 dBA based on wind speed and blade pitch. The Noise Element of the San Bernardino 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.

San Bernardino Municipal Code Section 8.54.070, San Bernardino Development Code Section 19.20.030.15, and the San Bernardino General Plan policies identified above would ensure that noise impacts to sensitive uses from implementation of the Regional Reduction Plan would be avoided or minimized. Each specific development project would undergo evaluation prior to project approval for consistency with the San Bernardino 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 energy-efficiency retrofit or installation of photovoltaic arrays or wind turbines would not be substantial, and if these activities were to occur on or near fragile buildings, all appropriate measures would be required per the state and local ordinances, plans and regulations 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 days of the week and 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 existing conditions. The San Bernardino Municipal Code Section 8.54.070, San Bernardino Development Code Section 19.20.030.15, and the San Bernardino General Plan policies identified above would ensure that noise impacts to sensitive uses from implementation of the Regional Reduction Plan would be avoided or minimized. Further, the implementation of the Regional Reduction Plan will reduce VMT along local roadways. Each specific development project would undergo evaluation prior to project approval for consistency with the San Bernardino 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 existing conditions. The San Bernardino Municipal Code Section 8.54.070, San Bernardino Development Code Section 19.20.030.15, and the San Bernardino General Plan policies identified above would ensure that noise impacts to sensitive uses from implementation of the Regional Reduction Plan would be avoided or minimized. Further, the implementation of the Regional Reduction Plan will reduce VMT along local roadways. Each specific development project would undergo evaluation prior to project approval for consistency with the San Bernardino 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 area around the San Bernardino International Airport is predominantly zoned for industrial development. However, the Regional Reduction Plan does not implement development of residential or commercial/industrial buildings where people would work or reside. Therefore the implementation of the Regional Reduction Plan would not result in the exposure of people residing or working within the City to excessive noise from airport activities. Therefore there would be ***no impact***. Further analysis is not 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?

The area around the San Bernardino International Airport is predominantly zoned for industrial development. However, the Regional Reduction Plan does not implement development of residential or commercial/industrial buildings where people would work or reside. Therefore the implementation of the Regional Reduction Plan would not result in the exposure of people residing or working within the City to excessive noise from airport activities. Therefore there would be ***no impact***. Further analysis is not required.

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***.

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4.17.13 Population/Housing

This section of the EIR analyzes the potential environmental effects on population/housing in the City of San Bernardino from implementation of the Regional Reduction Plan. Data for this section were taken from the San Bernardino General Plan (2005a), associated environmental document (2005b), the United States Census Bureau 2010 Census, and the California Department of Finance Interim Population Projections for California and Its Counties (2012). 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

Existing Population and Housing

San Bernardino's population in 2010 was 209,924 (209,924 in 2008), making San Bernardino the seventeenth largest city in California and the ninety-ninth largest city in the Country. The population is expected to grow to 231,151 by 2020, an increase of 10 percent compared to 2008, and employment by approximately 12 percent.

Table 4.17.13-1 (Socioeconomic Data for San Bernardino) presents socioeconomic data for San Bernardino, including population, housing (single-family and multifamily), and employment (agricultural, industrial, retail, and nonretail).

Table 4.17.13-1 Socioeconomic Data for San Bernardino

Category	*2008*	*2020*
Population	209,924	231,151
Housing (du)	59,310	66,924
Single-Family (du)	36,161	40,660
Multifamily (du)	23,149	26,264
Employment (jobs)	101,253	113,357
Agricultural (jobs)	872	412
Industrial (jobs)	13,411	17,552
Retail Commercial (jobs)	23,920	26,062
Non-Retail Commercial (jobs)	63,050	69,331

du = dwelling unit

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 council then assigns a share of the regional housing need to each of its cities and counties. The process of assigning shares provides cities and counties the opportunity to comment on the proposed allocations. The Housing and Community Development Department oversees the process to ensure that the council of governments distributes its share of the state's projected housing need.

The California housing element law (Government Code Sections 65580 to 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. To that end, the Government Code requires that the housing element:

- Achieve legislative goals to identify adequate sites to facilitate and encourage the development, maintenance, and improvement of housing for households of all economic levels, including persons with disabilities
- Remove, as legally feasible and appropriate, governmental constraints to the production, maintenance, and improvement of housing for persons of all incomes including those with disabilities; assist in the development of adequate housing to meet the needs of low and moderate income households
- Conserve and improve the condition of housing and neighborhoods, including existing affordable housing
- Promote housing opportunities for all persons regardless of race, religion, sex, marital status, ancestry, national origin, color, familial status, or disability
- Preserve for lower income households the publicly assisted multifamily housing developments in each community

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 city and county 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 years 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

San Bernardino General Plan

The San Bernardino General Plan provides a framework for the City's physical, economic, social, and environmental development and addressing all geographic areas in the City and includes all the required elements of a general plan. California law requires that other local government programs be consistent with the general plan. Policies pertinent to population and housing include:

Policy 2.1.1 Actively enforce development standards, design guidelines, and policies to preserve and enhance the character of San Bernardino's neighborhoods.

Policy 2.2.1 Ensure compatibility between land uses and quality design through adherence to the standards and regulations in the Development Code and policies and guidelines in the Community Design Element.

Policy 2.4.1 Quality infill development shall be accorded a high priority in the commitment of City resources and available funding.

Policy 2.4.2 Continue to provide special incentives and improvement programs to revitalize deteriorated housing stock, residential neighborhoods, major business corridors, and employment centers.

Policy 2.4.3 Where necessary to stimulate the desired mix and intensity of development, land use flexibility and customized site development standards shall be achieved through various master-planning devices such as specific plans, planned development zoning, and creative site planning.

Policy 2.6.2 Balance the preservation of plant and wildlife habitats with the need for new development through site plan review and enforcement of the California Environmental Quality Act (CEQA).

Policy 2.7.5 Require that development be contingent upon the ability of public infrastructure to provide sufficient capacity to accommodate its demands and mitigate its impacts.

Policy 3.1.1 Accommodate the production of new housing units on currently vacant or underutilized land at densities and standards designated in the Land Use Element of the General Plan.

Policy 3.1.4 Accommodate residential development in areas of the Central City designated for mixed commercial and residential use in accordance with policies in the Land Use Element.

Policy 3.3.1 In compliance with state law (Government Code Section 65915), provide density bonuses and/or regulatory and financial incentives to developers who propose to include a specified percentage of very low-income, low-income, and/or senior housing in new development projects or as part of the conversion of rental apartments to condominiums.

Policy 5.3.6 Provide for streetscape improvements, landscape and/or signage that uniquely identify architecturally or historically significant residential neighborhoods.

Policy 5.5.1 Require new and in-fill development to be of compatible scale and massing as existing development yet allow the flexibility to accommodate unique architecture, colors, and materials in individual projects.

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 and contains no housing component. This impact would be ***less than significant***. No mitigation is required.

Threshold	Would the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

The Regional Reduction Plan does not contain a housing component. Implementation of the Regional Reduction Plan would include energy efficiency retrofits of existing housing, which would improve the living conditions within the retrofitted homes, but would not displace existing housing. There would be ***no impact***. Further analysis is not required.

Threshold	Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

The Regional Reduction Plan does not contain a housing component. Implementation of the Regional Reduction Plan would not displace people. There would be ***no impact***. Further analysis is not required.

Cumulative Impacts

Because the Regional Reduction Plan does not create significant impacts to population and housing 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***.

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4.17.14 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 San Bernardino from implementation of the Regional Reduction Plan. Park services are addressed in Section 4.17.15 (Recreation). Public and private utilities and service systems, including water, wastewater, and solid waste services and systems, are addressed in Section 4.17.17 (Utilities/Service Systems). Data for this section were taken from the San Bernardino General Plan (2005a) and associated environmental document (2005b). 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 is responsible for firefighting operations within San Bernardino County and coordinates with the City of San Bernardino Fire Department for local needs within the City. The Office of Emergency Services (OES), a division within the San Bernardino County Fire Department is responsible for broad emergency services coordination throughout the county, including the City of San Bernardino. OES looks broadly at emergency responses affecting the region. The goal of the OES is to improve public and private sector readiness, and to mitigate local impacts resulting from natural or manmade emergencies through disaster preparedness planning and appropriate response efforts with city departments and local and state agencies. While OES does not directly manage field operations, it manages an Incident Command Post to ensure coordination of emergency response and recovery efforts through its day-to-day program management and during an incident/disaster. The division also manages and operates the Emergency Operations Center (EOC), which is the primary coordination point for major emergencies. In the event of an incident requiring complex coordination, preselected and trained responders report to the San Bernardino County Operational Area EOC. The 100-plus responders have been trained to perform specific functions designated under the Standardized Emergency Management System to coordinate emergency management of disasters. These responders are available 24 hours a day 7 days a week. OES conducts annual exercises in the EOC to test the readiness of various types of disasters and large-scale emergencies.

San Bernardino Fire Department

The City of San Bernardino Fire Department (SBCFD) services the 202,000 residents of the City of San Bernardino. The Fire Department covers a diverse service area of 59.3 square miles of which approximately 19 miles are wildland interface area, a major rail yard, an international airport, the County Seat, a correctional facility, two major mall complexes, and three major interstate freeways.

The San Bernardino City Fire Department staffs twelve fire engine companies and two aerial truck companies, one heavy rescue, and five 4-wheeled drive brush engines, one hazardous material response rig, and one medic squad. This equipment is housed in twelve stations throughout the City. There are 161 Emergency Operations Personnel within three platoons. The typical on duty staff is 53 personnel over the fourteen companies.

California Emergency Medical Service Authority (EMSA)

The California Emergency Medical Service Authority (EMSA) is responsible for coordinating the planning, development, and implementation of 32 local Emergency Management Services systems throughout California. EMSA has established a standard response time not to exceed 5 minutes at least 90 percent of the time from receipt of the emergency call to on-scene-arrival for basic life support and CPR-capable first responder. Advanced life support response should not exceed 8 minutes at least 90 percent of the time, which is lower than National Fire Protection Association (NFPA) standards.

Police Protection Services

San Bernardino County Sheriff's Department

The San Bernardino County Sheriff's Department is the regional law enforcement agency in San Bernardino County. The City of San Bernardino has its own police department that has jurisdiction within the City limits but will coordinate with the San Bernardino County Sheriff's Department on law enforcement actions that are regional or require inter-jurisdictional coordination.

San Bernardino Police Department

The San Bernardino Police Department is a full-service police agency providing a wide range of crime suppression, education, and prevention services to the community. The City of San Bernardino Police Department has a Strategic Plan that deploys personnel based on the Beat Plan. 150 civilian support staff members support the 312 sworn officers.

Schools

Local School Districts

There are 68 schools within the San Bernardino City Unified School District (SBCUSD): 47 elementary, 10 middle, and 11 high schools. In addition to public schools, the San Bernardino County Superintendent of Schools (SBCSS) acts as an intermediate service agency between the California Department of Education and the 38 school districts in San Bernardino County to help meet the educational needs of all children countywide. The SBCSS runs three community day schools within the San Bernardino area.

Libraries

City of San Bernardino Public Libraries

The City of San Bernardino's Public Library System consists of the Central Library (Norman F. Feldheym Central Library) and three branch locations (Dorothy Ingram Public Library, Howard M. Rowe Library, and Paul Villasenor Library). The San Bernardino Library system has over 236,000

volumes. The library system offers a variety of programs and facilities for public use. These include computers with Internet for reference purposes, typewriter, a Public Address system, a piano, and databases that can be accessed from home or the library for research purposes. In addition, they provide community classes such as basic computer usage, Adult Basic Education (ABE), English as a Second Language (ESL), Families for Literacy (FFL), After School Homework Assistance, and Citizenship preparation to individuals who would like assistance in such areas.

Regulatory Framework

Public services within the City of San Bernardino tend to grow proportionally with the population. Recent economic constraints have caused the City to prioritize emergency services such as fire and police protection, keeping these services in pace on a per capita basis with population growth. However, the local school districts have cut back on teachers and new school facilities even as the population has grown in order to have a balanced budget. Similar cutbacks have occurred at libraries within the city. The following discussion of regulations helps to understand how public services are evaluated.

Federal

Federal Fire Protection Standards

National Fire Protection Association Code 1710, Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments

The NFPA Code 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

San Bernardino General Plan

The San Bernardino General Plan provides a framework for the City's physical, economic, social, and environmental development and addressing all geographic areas in the City and includes all the required elements of a general plan. California law requires that other local government programs be consistent with the general plan. Policies pertinent to public services[15] include:

Policy 7.1.1 Maintain a complement of personnel in the Police Department that is capable of providing a timely response to criminal activity and can equitably protect all citizens and property in the City.

Policy 7.1.2 Coordinate inter-agency agreements with the County and adjacent jurisdictions to provide assistance and cooperation on inter-jurisdictional cases.

Policy 7.1.3 Continue to support and encourage community-based crime prevention efforts through regular interaction and coordination with existing neighborhood watch programs, assistance in the formation of new neighborhood watch groups, and regular communication with neighborhood and civic organizations.

Policy 7.1.4 Assist the San Bernardino City Unified School District and other educational agencies creating a program of early intervention for students that will provide instruction, recreation, and training programs outside of the classroom.

Policy 7.1.5 Ensure that landscaping (i.e., trees and shrubbery) around buildings does not obstruct views required to provide security surveillance.

Policy 7.1.6 Require adequate lighting around residential, commercial and industrial buildings in order to facilitate security surveillance.

Policy 7.1.7 Require the provision of security measures and devices that are designed to increase visibility and security in the design of building siting, interior and exterior design, and hardware.

Policy 7.2.1 Assure that adequate facilities and fire service personnel are maintained by periodically evaluating population growth, response time, and fire hazards in the City.

Policy 7.2.2 Assess the effects of increases in development density and related traffic congestion on the provision of adequate facilities and services ensuring that new development will maintain fire protection services of acceptable levels.

Policy 7.2.3 Establish a program whereby new development projects are assessed a pro rata fee to pay for additional fire service protection to that development.

[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.

Policy 7.2.4 Coordinate inter-agency fire service protection agreements with County U.S. Forest Service, and other fire protection agencies.

Policy 7.2.5 Maintain an "ISO" fire rating of at least Class 3.

Policy 7.2.6 Require that all buildings subject to City jurisdiction adhere to fire safety codes.

Policy 7.2.7 Develop and implement a comprehensive high-rise fire safety program.

Policy 7.2.8 Promote public education regarding fire safety to address issues such as storage of flammable material and other fire hazards.

Policy 7.2.9 Continue uniform reporting of all fire emergency data including type and cause of fire alarm response time and damage/injury data. Safety Element

Policy 7.3.1 Work with the local school districts, CSUSB, and SBVC to expand facilities and services to meet educational needs.

Policy 7.3.2 Work with the School District to ensure that new residential subdivisions dedicate land or contribute fees for the expansion of school facilities to meet the needs attributable to the new housing.

Policy 7.3.3 Work with the School District to consider alternative funding programs for school facilities construction and provision of educational programs should there be a shortfall of traditional revenue.

Policy 7.3.4 Cooperate with the San Bernardino City Unified School District, California State University, San Bernardino, and San Bernardino Valley College to integrate educational programs and facilities; ensure that adequate educational services are provided for youth; the educational needs of the students are being monitored; and the educational curricula is being designed to meet these needs.

Policy 7.3.5 Work with the Unified School District and all local educational agencies, including private schools, to provide continuing adult education courses.

Policy 7.4.14 Construct new libraries and rehabilitate and expand existing library facilities and programs as required to meet the needs of existing and future residents.

Policy 7.4.15 Acquire materials for the library facilities that reflect the needs and interests of the City residents.

Policy 7.4.16 Provide outreach services for seniors and the handicapped, if they cannot visit library facilities.

Policy 7.4.17 Provide appropriate linkages for the library's use of telecommunication and computer-based data for the storage, retrieval, and display of information including online access and CD Rom, as technologies develop and are standardized.

Policy 7.4.18 Continue to provide funding for library facilities and activities, examining other potential funding sources, including state and federal and corporate and private contributions.

Policy 7.4.19 Develop and install automated library circulation system and automated catalog for accurate and efficient control of materials.

Policy 10.11.1 Continue to conduct long-range fire safety planning efforts to minimize urban and wildland fires, including enforcement of stringent building, fire, subdivision and other Municipal Code standards, improved infrastructure, and mutual aid agreements with other public agencies and the private sector.

Policy 10.11.2 Work with the U.S. Forest Service and private landowners to ensure that buildings are constructed, sites are developed, and vegetation and natural areas are managed to minimize wildfire risks in the foothill areas of the City.

Policy 10.11.3 Require that development in the High Fire Hazard Area be subject to the provisions of the Hillside Management Overlay District (HMOD) and the Foothill Fire Zones Overlay.

Policy 10.11.4 Study the potential acquisition of private lands for establishment of greenbelt buffers adjacent to existing development, where such buffers cannot be created by new subdivision.

Policy 10.11.5 Continue to require that all new construction and the replacement of 50 percent or greater of the roofs of existing structures use fire retardant materials.

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 programs and measures contained in the Regional Reduction Plan were compared to applicable public service policies to determine if any inconsistency exists.

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?

The Regional Reduction Plan would not increase resident population in the City. Demand for fire protection services is based on population. The nature of the project would not affect the demand for fire services. Therefore, there would be ***no impact***. No further analysis is required.

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 police protection?

The Regional Reduction Plan would not increase resident population in the City. Demand for police protection services is based on population. The nature of the project would not affect the demand for police services. Therefore, there would be ***no impact***. No further analysis is required.

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 schools?

The Regional Reduction Plan would not increase resident population in the City. Demand for schools and school services is based on population. The nature of the project would not affect the demand for schools or school services. Therefore, there would be ***no impact***. No further analysis is required.

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 libraries?

The Regional Reduction Plan would not increase resident population in the City. Demand for public services is based on population. The nature of the project would not affect the demand for public services. Therefore, there would be ***no impact***. No further analysis is required.

Cumulative Impacts

Because the Regional Reduction Plan does not create significant impacts to public services 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

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4.17.15 Recreation

This section of the EIR analyzes the potential environmental effects on public parks and other recreational facilities in the City of San Bernardino from implementation of the Regional Reduction Plan. Data for this section were taken from the San Bernardino General Plan (2005a) and associated environmental document (2005b). 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 in the City of San Bernardino

The City of San Bernardino provides a variety of recreational opportunities in the City and nearby open space areas, including City parks, county parks, community centers, school recreation facilities, private parks, private golf courses, and recreational trails for bicycles, horses, and hiking. Open space provides many benefits to the community, including park and recreation areas, recreational trails, conservation of natural and significant resources, buffers between land uses, and the preservation of scenic views. The City of San Bernardino has convenient access to several active and passive open space areas. Active recreation areas typically include facilities such as tailored playing surfaces, buildings, parking areas, and similar modifications to a natural site. Passive recreation areas accommodate less-structured recreational pursuits and typically include minor modifications such as trails, service vehicle access improvements, enhanced landscape materials, and similar nonintrusive changes to the site. There are a total of 52 developed parks and recreational facilities in the City, encompassing 539.98 acres. These include neighborhood, community, mini, and regional parks, and special facilities. Figure 4.17.15-1 (Existing Parks and Recreation Facilities) shows the location of existing parks and facilities in and around the City. There are 17 mini-parks totaling 34.59 acres; 19 neighborhood parks totaling 130.33 acres; 10 community parks totaling 214.16 acres; and 3 regional parks totaling 158.40 acres.

Figure 4.17.15-2 (Multipurpose Trails) depicts the current and proposed trail system in the City of San Bernardino. There are different types of trails and bike paths for different uses. The off-street recreational trail system combines hiking, equestrian, and bike trails into what is called Multi-Purpose trails. The on-street trail system consists of dedicated bike lanes along the pavement edge of streets. Pedestrian access and recreation is provided through the City's sidewalks and hiking trails. Altogether, the multi-purpose trails and bikeways found in San Bernardino are Primary Regional Multi-Purpose Trails, Regional Multi-Purpose Trails, Local Multi-Purpose Trails, Bicycle Routes, and Pedestrian Facilities.

In addition to the aforementioned park facilities, the City offers individual regional facilities (such as the Shandin Hill Gold Course), recreational services at the local schools, Senior Citizen leisure programs, and community centers that offer variety of recreational, leisure, and social activities for all ages and cultural interest.

Regulatory Framework

A variety of National Forests, state recreational areas, regional parks, and local recreational opportunities exist in the region. The following section describes the regulatory framework and current recreational opportunities in and near the City of San Bernardino.

Federal

United States National Park Service

The National Park Service was founded in 1916 to maintain and care for the 400 national parks within the United States. The closest National Park is over 100 miles from the City of San Bernardino.

United States Forest Service and National Forests

Established in 1905, the Forest Service is an agency of the U.S. Department of Agriculture. The Forest Service manages public lands in national forests and grasslands. The San Bernardino National Forest is a maintained national recreational area within the region.

San Bernardino National Forest

San Bernardino National Forest (SBNF) is north of the City. It is situated in the San Gabriel, San Bernardino, San Jacinto, and Santa Rosa mountains and includes the vacation resort areas of Big Bear Lake, Lake Arrowhead, Mount San Jacinto, and the San Gorgonio Wilderness. The U.S. Forest Service manages the 665,753-acre SBNF, 456,928 acres of which are in San Bernardino County. The SBNF consists of 500 miles of trails. Aside from camping, SBNF provides outdoor activities like hunting, fishing, recreational shooting, hiking, backpacking, mountain biking, horseback riding, and boating in the warmer months; and cross-country skiing, snowboarding, and snowmobiling in the winter months. Also associated with SBNF activities are volunteer organizations and trails associations.

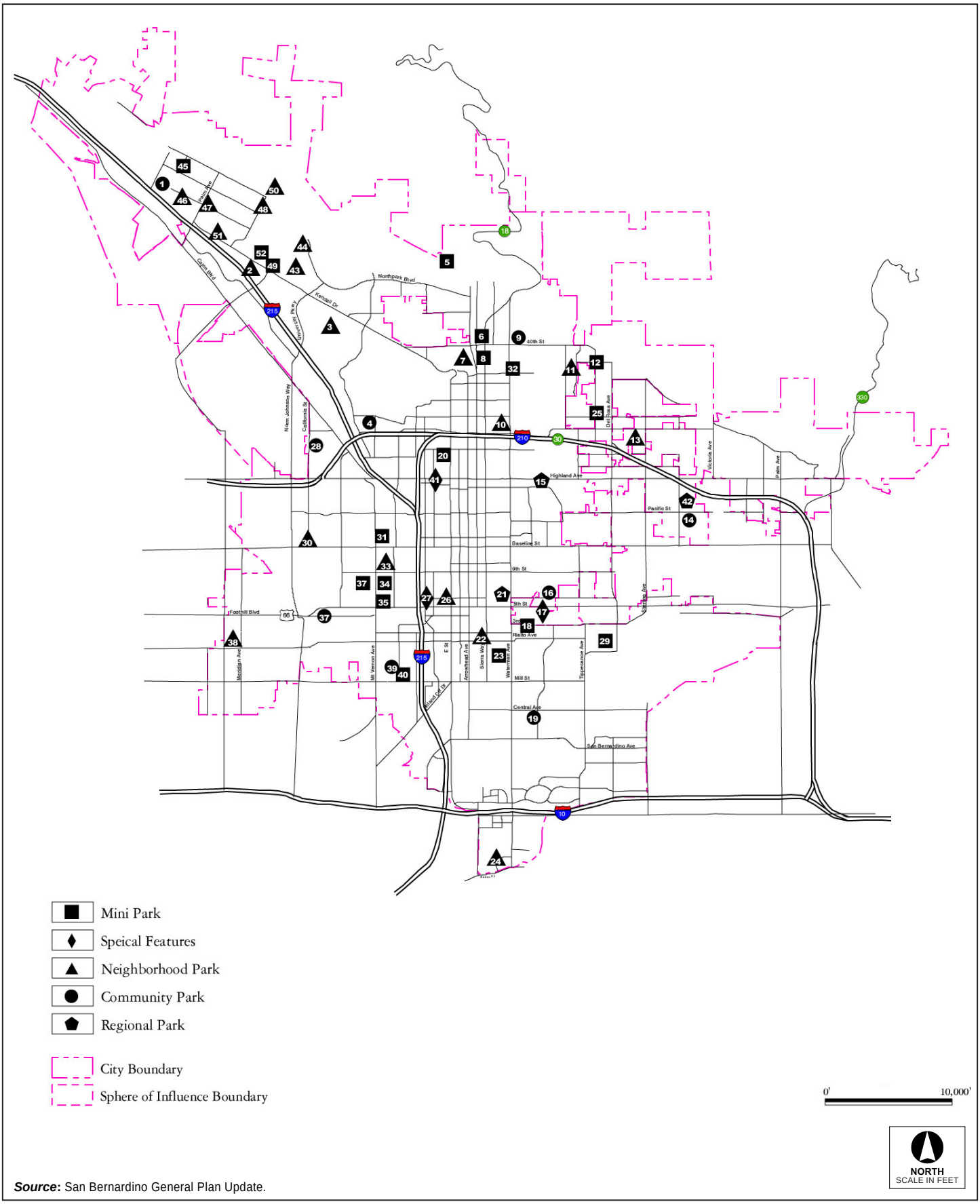
State

Quimby Act

The Quimby Act (California Government Code 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.

California Department of Park and Recreation and State Parks

California Department of Parks and Recreation maintains 280 state park units throughout California. The nearest State Park to the City of San Bernardino is the Silverwood Lake State Recreational Areas.



***Source*:** San Bernardino General Plan Update.

Figure 4.17.15-1
Existing Parks and Recreation Facilities

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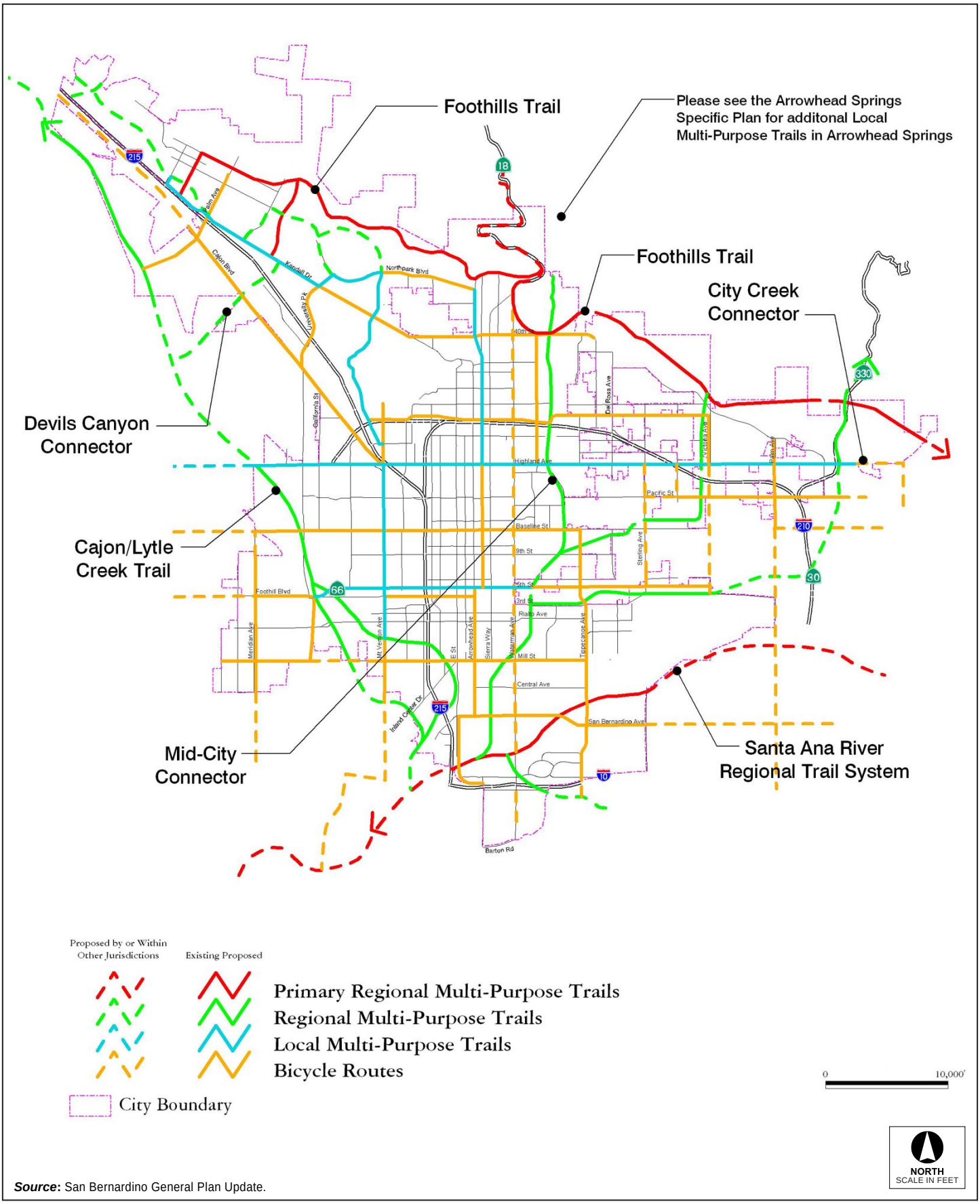

***Source*:** San Bernardino General Plan Update.

Figure 4.17.15-2
Multipurpose Trails

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Silverwood Lake State Recreation Area

Silverwood Lake State Recreation Area is adjacent to the SBNF, along Highway 138, approximately 15 miles North of San Bernardino. Silverwood Lake was formed by the 249-foot Cedar Springs Dam, and at 3,350 feet, it is the highest reservoir in the State Water Project. Silverwood Lake State Recreation Area is approximately 2,000 acres, and includes a stretch of the Pacific Crest Trail, which is a national scenic trail spanning 2,650 miles from Mexico to Canada. Activities at Silverwood Lake State Recreation Area include camping, hiking trails, swimming, boating, waterskiing, and fishing. Silverwood Lake State Recreation Area is managed by the California State Parks Department.

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 seven-member commission provides a citizen body responsible to communities and the people of San Bernardino County to recommend policy regarding the development and operation of a well-balanced system of Regional Parks. The Regional Parks Commission oversees the establishment and administration of appropriate policies and informs the County Board of Supervisors of activities related to the Regional Parks Department. Regional Parks within 10 to 40 miles of the City of San Bernardino include the Glen Helen, Yucaipa, Lake Gregory, Cucamonga-Guasti, Prado, and Mojave Narrows Parks. The nearest is Glen Helen Regional Park. The Santa Ana River Trail is a multi-agency administered regional recreational trail system. San Bernardino County Regional Parks Division is responsible for the 18 miles of trail running through the County between the SBNF boundary and the Riverside and Orange County boundary lines.

Glen Helen Regional Park

Glen Helen Regional Park is at the base of the chaparral covered hills of the Cajon Pass with scenic views of both the San Gabriel and San Bernardino Mountains, located just outside the northwest edge of the City. The park offers 1,340 acres of recreational activities including two lakes for fishing, a swim complex with pool, sandy area, dual water slides, zero depth water play park, and large group shelter picnic areas. The park also houses the San Manuel Amphitheatre, a 65,000-seat outdoor concert venue; as well as the Glen Helen Raceway, and off-highway competitive even facility.

Santa Ana River Trail

The Santa Ana River Trail is a developing corridor trail system south of the City of San Bernardino within the Santa Ana River Wash. This regional trail is 110 miles long, extending from the Heart Bar Ranch area in the San Bernardino National Forest to the Pacific Ocean. The trail crosses 33 miles of the SBNF and covers 18 miles within San Bernardino County. The San Bernardino County Regional Parks Division is currently improving 11 miles of the trail in three phases: Phase I consists of the trail portions from the Riverside/San Bernardino County line to La Cadena Drive for 3.3 miles, Phase II consists of the trail portions from La Cadena Drive to Waterman Avenue for 3.5 miles, and Phase III consists of the trail portions from Waterman Avenue to Alabama Street for 4.5 miles.

Local

City of San Bernardino Municipal Code

City of San Bernardino Development Code Chapter 19.30.320 also allows for credit for land and improvements that are dedicated in fee to public recreation and park purposes, in place of Park and Recreation Construction fees, where a public park or recreational facility has been designated in the General Plan and is to be located in whole or in part within the proposed subdivision and is reasonably related to serving the needs of the residents of that subdivision. Under these conditions, the subdivider shall dedicate land for park and recreational facilities sufficient in size and physical characteristics to meet that purpose. This chapter of the Development Code also provides for the requirement of land dedication or acceptance of in-lieu fees pursuant to state Subdivision Map Act Section 66477 (the Quimby Act). The amount of dedicated land and any conditions are determined by mutual agreement between the City and the dedicator (City of San Bernardino Development Code Chapter 19.30.320).

The City of San Bernardino has an adopted park standard of 5 acres per 1,000 residents. These define acceptable ratios of per capita park space for local parkland including a proportion of neighborhood and mini-parks based on national averages. Because these acreages are intended to accommodate different types of parks, no single set of accepted standards exist. The National Recreation and Parks Association (NRPA) has published benchmark guidelines for communities to consider for different park needs. Regional parks are not included in the NRPA standard because of their variation in size and type. The standard for the neighborhood park portion is 1 to 2 acres per 1,000 population, for mini-parks 0.25 to 0.5 acre per 1,000 population, and for the community park is 2 to 3 acres per 1,000 residents.

San Bernardino General Plan

The San Bernardino General Plan policies that are applicable to parks and recreational facilities[16] are as follows:

Policy 8.8.1 Establish a comprehensive parks master plan, which accomplishes the following:

- Establishes the standard of 5 acres of parkland for every 1,000 residents;
- Establishes guidelines for the types and amounts of recreational facilities and services necessary to adequately serve future residents;
- Defines park development standards based on types and sizes of parks (mini, neighborhood, community, regional) and their service area (e.g., Mini – one-quarter to one-half service radius);
- Describes the steps necessary to achieve the park standards and guidelines;
- Defines existing and anticipated recreational needs (based on population size, density, demographics, and types of facilities);
- Identifies areas in need of new or expanded recreational facilities and the types of facilities needed;

[16] 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.

- Disperses park facilities and equipment throughout the City to prevent an undue concentration at any location; including sports fields, basketball courts, tennis courts, swimming pools, picnic areas, and other facilities;
- Identifies potential locations and types of new or expanded facilities; and
- Identifies potential funding sources.

Policy 8.1.2 Provide a variety of park "experiences", including those developed for intense recreational activity, passive open space enjoyment, and a mixture of active and passive activities.

Policy 8.1.3 Pursue the development of portions of the Santa Ana River, Lytle Creek, and flood control drainages and detention basins for recreational uses that will not inhibit flood control purposes or be adversely impacted by flooding.

Policy 8.1.4 Examine the potential use of geothermal resources for recreational use (e.g., pools).

Policy 8.1.5 Integrate parks and recreation facilities with the Master Plan for Trails and Bikeways.

Policy 8.1.6 Accommodate the recreational needs of the City's residents reflecting their unique social, cultural, ethnic, and physical limitations in the design and programming of recreational spaces and facilities.

Policy 8.1.7 Continue to evaluate the community's recreational needs and the adequacy of the City's recreational facilities and programs in meeting these needs.

Policy 8.1.8 Inform the City residents of recreational programs through the internet, cable television, newsletters, and other publications.

Policy 8.1.9 Initiate and attend joint meetings with the Forest Service, County Parks and Recreation Department, and the state to coordinate the joint use of recreational facilities, and parkland acquisition, and establish new recreational programs.

Policy 8.1.10 Maintain and expand cooperative arrangements with the San Bernardino Unified School District, City Municipal Water Department, Cal State San Bernardino and San Bernardino Valley College for after hour and summertime use of parks, pools, concert halls, and other facilities.

Policy 8.2.1 Parks shall be designed in accordance with contemporary safety standards and "CPTED" (Crime Prevention Through Environmental Design) principles.

Policy 8.2.2 Each park within the City shall be evaluated for safety and maintenance on an established schedule.

Policy 8.2.3 Encourage local individuals and groups to contribute or plant trees (in accordance with a prescribed tree planting plan) in neighborhood and community parks.

Policy 8.2.4 Develop master plans for each park to ensure that (a) the siting of buildings, open air facilities, and landscape are unified, functionally related to efficiency, and compatible with adjacent uses; and (b) landscape locations and species are coordinated with architectural and site design.

Policy 8.2.5 Design and develop parks to complement and reflect their natural environmental setting and maximize their open space character.

Policy 8.2.6 Design and improve our parks according to the following:

- Locate parks on collector or neighborhood streets, so they are easily accessible to adjacent residential neighborhoods;
- Site uses so that they do not adversely impact adjacent residences (e.g., locating high activity, noise generating, and nighttime uses away from residences);
- Fulfill the particular needs of residents of the area they serve (i.e., senior citizens, and families with children);
- Provide for parking so that it does not disrupt abutting residences; and
- Incorporate landscape that "fits" with adjacent areas.

Policy 8.2.7 Install new and replace existing landscaping where it is severely deteriorated, inappropriately located for park activities, and incompatible with other landscape and adjacent uses.

Policy 8.2.8 Ensure that all parks are adequately illuminated for safe use at night.

Policy 8.2.9 Provide for the supervision of park activities and promote enforcement of codes restricting illegal activity.

Policy 8.2.10 Restrict and control nighttime park use so that adjacent residences are not adversely affected.

Policy 8.3.1 Work cooperatively with appropriate regional agencies to facilitate development of trails that tie into other facilities such as the Santa Ana River Trail system and provide facilities along the base of the foothills, as well as connections between these facilities.

Policy 8.3.2 Establish multi-purpose trail system, along the foothills of the San Bernardino Mountains, Santa Ana River, Cajon and Lytle Creeks, and interconnecting linkages in collaboration with the U.S. Forest Service, County of San Bernardino, City of Highland, Loma Linda, and other adjacent communities.

Policy 8.3.3 Establish a recreational greenbelt system linking the river and drainage corridors with the mountains.

Policy 8.3.4 All new developments on designated routes shall provide bicycle and pedestrian routes linked to adjacent facilities.

Policy 8.3.5 Provide routes accessible for disabled persons that link public facilities and commercial areas to residential neighborhoods.

Policy 8.3.6 Adequate and secure bicycle storage facilities shall be provided for new institutional and nonresidential development.

Policy 8.3.7 Provide bicycle racks in public facilities and in activity centers.

Policy 8.3.8 Install of sidewalks and wheelchair ramps in existing neighborhoods.

Policy 8.3.9 Separate bikeway and trail systems from traffic and roadways wherever possible.

Policy 8.3.10 Provide clear separation of hikers, joggers, and equestrians where possible.

Policy 8.3.11 Seek the use of easements and rights-of-way from owners and continue to negotiate agreements for the use of utility easements, flood controls channels, and railroad rights-of-way to expand its park and trail system.

Policy 8.3.12 Incorporate the following features in multi-purpose trails, bike routes, and pedestrian paths:

- Special paving or markings at intersections,
- Clear and unobstructed signing and trail/lane markings,
- Improved signal phasing,
- Vehicular turning restrictions at intersections,
- Hearing impaired cross walk signals,
- Trees to provide shade,
- Safe and well lighted rest areas, and
- Coordinated street furniture including signs, trash receptacles, newspaper stands, and drinking fountains.

Policy 8.4.1 Pursue the acquisition of surplus federal, state, and local lands to meet present and future recreation and community service needs.

Policy 8.4.2 Continue to require developers of residential subdivisions to provide fee contributions based on the valuation of the units to fund parkland acquisition and improvements.

Policy 8.4.3 Fund new neighborhood parks from Quimby fees in residential areas of the City.

Policy 8.4.4 Grant Quimby fee waivers only when parklands in excess of five contiguous and usable acres are received and when such waivers are determined to be in the best interest of City residents as certified by the Mayor and Common Council on recommendation of the Parks and Recreation Department.

Policy 8.4.5 Continue and expand mechanisms by which the City may accept gifts and dedications of parks, trails, open space, and facilities.

Policy 8.4.6 Consider the use of special taxes, sale of bonds, or assessment districts for park and trail development and maintenance.

Policy 8.4.7 Solicit funding for parkland and trail acquisition, improvement, maintenance, and programming from state and federal agencies, as available.

Policy 8.4.8 Continue to provide financial support, including user fees and in-lieu fees, for summer lunch, playground, swimming pool programs and recreational facilities, and other appropriate programs.

Policy 8.4.9 Solicit state, federal and other agency revenue to fund recreational programs, as it is available.

Policy 8.4.10 The City shall not construct facilities without funding resources for long-term maintenance and replacement costs.

Policy 8.4.11 Installation and/or replacement of the recreational facilities and equipment and the bikeway and trail system shall be carried out as part of the City's Capital Improvement Plan.

Policy 12.2.3 Pursue voluntary open space or conservation easements to protect sensitive species or their habitats.

Policy 12.3.1 Identify areas and formulate recommendations for the acquisition of property, including funding, to establish a permanent corridor contiguous to the National Forest via Cable Creek and/or Devil Canyon. The City shall consult with various federal, state and local agencies and City departments prior to the adoption of any open space corridor plan.

Policy 12.3.2 Seek to acquire real property rights of open space corridor parcels identified as being suitable for acquisition.

Policy 12.3.3 Establish the following habitat types as high-priority for acquisition as funds are available:

- Habitat of endangered species;
- Alluvial fan scrub vegetation;
- Riparian vegetation dominated by willow, alder, sycamore, or native oaks; and native walnut woodlands.

Policy 12.3.4 Preserve and enhance the natural characteristics of the Santa Ana River, City Creek, and Cajon Creek as habitat areas.

Policy 12.3.5 Delineate the habitats of the Santa Ana River Sucker (*Catastomus santaanae*) and Pacific Speckled Dace (*Rhinichthys osculus carringtoni*); develop recommendations for preservation and enhancement of these habitats; and develop standards for development of adjacent lands.

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 programs and measures contained in the Regional Reduction Plan were reviewed for potential impacts to parks, recreational facilities in and near the City of San Bernardino.

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 Regional Reduction Plan would not increase resident population in the City. Demand for parks and recreational facilities are based on population. The nature of the project would not affect the demand for recreational facilities. Therefore, there would be ***no impact***. Further analysis is not required.

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. Therefore, there would be ***no impact***. Further analysis is not required.

Cumulative Impacts

Because the Regional Reduction Plan does not create significant impacts to recreation 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

San Bernardino, City of. 2005a. *City of San Bernardino General Plan,* November 1.

———. 2005b. *San Bernardino General Plan Update and Associated Specific Plans Environmental Impact Report*. Draft. Prepared by The Planning Center, July 25.

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

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4.17.16 Transportation/Traffic

This section of the EIR analyzes the potential environmental effects on transportation/traffic in the City from implementation of the Regional Reduction Plan. Data for this section were taken from the San Bernardino General Plan (2010), the San Bernardino General Plan Update and Associated Specific Plan EIR (2005a), 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), the San Bernardino County Non-Motorized Transportation Plan (2011), and the Downtown San Bernardino Passenger Rail Project Revised EA/EIR (2012). 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 City of San Bernardino circulation system includes three freeways, an international logistics airport, two railroad main lines of the Union Pacific Railroad (UPRR) and one Southern California Regional Rail Authority (SCRRA) rail line, and a system of arterial and local streets.

Roadway Network

The City has the following roadway classifications for local roadways within the City:

- **Four-Lane Major Arterials** are capable of accommodating 40,000 vehicles per day, with or without a median. These facilities are the principal thoroughfares through the City. They are intended to carry high traffic volumes, and driveway access is limited in order to provide for efficient flow of high-volume traffic.
- **Two-Lane Major Arterials** accommodate 15,000 vehicles per day, with or without a median. They are also designed to carry high volumes of traffic. These facilities provide access to major destinations in the City, and serve as links between the major arterials and secondary arterials. Driveway access is limited where possible, to allow for efficient traffic flows.
- **Four-Lane Secondary Arterials** are capable of accommodating 30,000 vehicles per day, without a median. These facilities serve as links between the major arterials and collector streets.
- **Two-Lane Secondary Arterials** are capable of accommodating 12,000 vehicles per day, without a median. These facilities serve as links between the major arterials and collector streets.
- **Collector Streets** are two- to four-lane roadways that connect local streets to arterials. These facilities are designed to carry lower volumes of traffic, provide access to major developments, and allow travel between areas of the City.

- **Local Streets** are two-lane streets designed to provide access to local neighborhoods and individual properties. The City has two different cross-sections for local streets, although the configuration and purpose is the same for both.

Figure 4.17.16-1 (Circulation Plan) shows the various roadway classifications.

Transit

Metrolink

Commuter Rail service is provided by the Southern California Regional Rail Authority (SCRRA), which operates the Metrolink train service. The City of San Bernardino is served by the San Bernardino Line, which is Metrolink's busiest line, with a station located at the historic Santa Fe Depot. The San Bernardino Line connects rapidly growing San Bernardino County with the communities of the San Gabriel Valley and downtown Los Angeles. The San Bernardino Line is currently the only line with service seven days a week. On weekdays, there are approximately 20 roundtrips per day on the San Bernardino Line with about half of them during commute hours, but with close to hourly service in the midday.

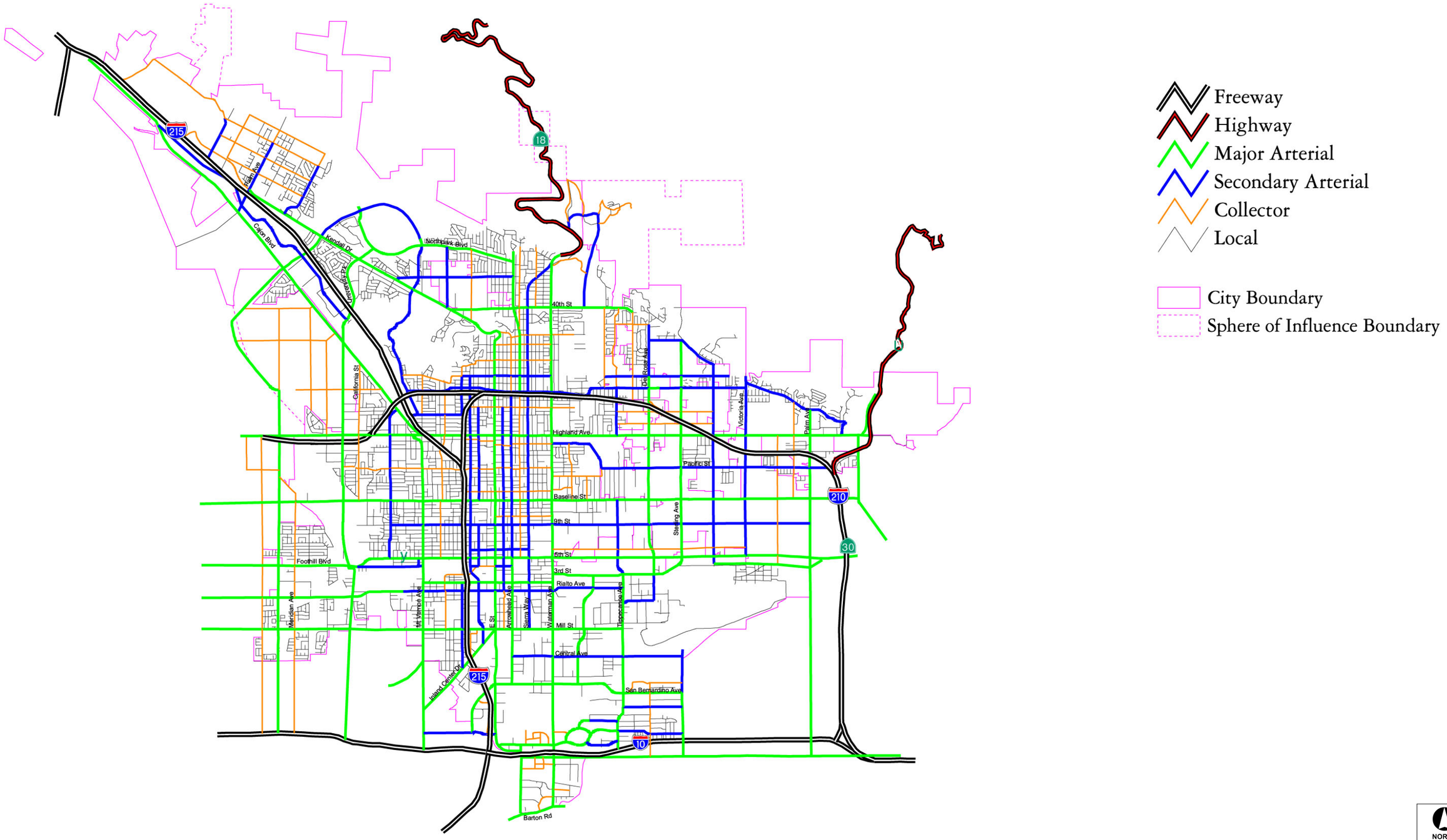
Redlands Transit Rail Line Extension

The Metrolink San Bernardino Line currently terminated at the station located at the historic Santa Fe Depot. The Redland Line extension will extend Metrolink service approximately 9 miles southeast into downtown Redlands and Redlands University. The initial segment will extend rail service approximately 1 mile from the Santa Fe Depot to the new San Bernardino Transit Center near the intersection of Rialto Avenue and E Street. The San Bernardino Transit Center will allow connections with the Omni Trans bus system including the Bus Rapid Transit (BRT) routes and Metrolink. This initial segment will begin construction in 2013. The full 9 miles of the Metrolink Redlands Line extension is anticipated to be operational sometime in 2018.

Bus Transit

Omnitrans Transit Agency provides local transit service throughout San Bernardino County, including the City of San Bernardino.

- **Route 1**—Arrowhead Medical Center (Colton)–San Bernardino-Del Rosa
- **Route 2**—Cal State–San Bernardino (E St)-Loma Linda
- **Route 3&4**—San Bernardino–Highland
- **Route 5**—San Bernardino–Del Rosa–Cal State
- **Route 7**—North San Bernardino–San Bernardino (via Sierra Way)
- **Route 8**—San Bernardino–Loma Linda–Redlands–Mentone–Yucaipa (via Redlands Blvd)
- **Route 9**— San Bernardino–Loma Linda-Redlands–Yucaipa (via Barton Road)
- **Route 10**—Fontana–San Bernardino (via Baseline Blvd)



***Source*:** San Bernardino General Plan Update and Associated Specific Plans EIR.

NORTH
NOT TO SCALE

Figure 4.17.16-1
Circulation Plan

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- **Route 11**—San Bernardino–Muscoy–Cal State
- **Route 14**—Fontana–San Bernardino (via Foothill Blvd)
- **Route 15**—Fontana–San Bernardino–Highland–Redlands
- **Route 215**— San Bernardino–Riverside (via 215 Fwy)

Planned Bus Rapid Transit (BRT) Routes

Omnitrans is developing bus rapid transit (BRT) routes within the region. The first route, the sbX (San Bernardino Express) that will traverse the San Bernardino Valley from north to south is under construction. The 15.7-mile sbX corridor spans between northern San Bernardino and Loma Linda. It will include sixteen art-inspired stations at key university, government, business, entertainment and medical centers as well as four park-and-ride facilities. Upgrades of existing bus transit stations are needed to accommodate the new 60-foot-long, low-emission BRT buses. Omnitrans has several BRT routes planned within the City.

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 inter-city 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 (MPOs) implementation of Senate Bill 375 (SB 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 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 Southern California Association of Governments (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 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 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 (TCM). 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)

San Bernardino Associated Governments (SANBAG) is an association of local San Bernardino County governments. It is the metropolitan planning organization (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 Congestion Management Program (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 State of California requirements of a Bicycle Transportation Plan (BTP) for purposes of Caltrans Bicycle Transportation Account (BTA) funding.

Local

San Bernardino General Plan

The General Plan contains the following policies regarding transportation, mobility and traffic[17]:

Policy 6.1.1 Maintain and rehabilitate all components of the circulation system, including roadways, sidewalks, bicycle facilities and pedestrian facilities.

Policy 6.3.1 Promote the principle that streets have multiple uses and users, and protect the safety of all users.

Policy 6.6.1 Support the efforts of regional, state, and federal agencies to provide additional local and express bus service in the City.

Policy 6.1.2 Create a partnership with Omnitrans to identify public transportation infrastructure needs that improve mobility.

Policy 6.6.3 In cooperation with Omnitrans, require new development to provide transit facilities, such as bus shelters and turnouts, as necessary and warranted by the scale of the development.

Policy 6.6.4 Ensure accessibility to public transportation for seniors and persons with disabilities.

Policy 6.3.5 In cooperation with Omnitrans, explore methods to improve the use, speed, and efficiency for transit services. These methods might include dedicated or priority

[17] 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.

lanes/signals, reduced parking standards for selected core areas, and incorporating Intelligent Transportation System architecture

Policy 6.3.6 Support and encourage the provision of a range of paratransit opportunities to complement bus and rail service for specialized transit needs.

Policy 6.3.7 Encourage measures that will reduce the number of vehicle-miles traveled during peak periods, including the following examples of these types of measures:

- Incentives for car-pooling and vanpooling.
- Preferential parking for car-pools and vanpools.
- An adequate, safe, and interconnected system of pedestrian and bicycle paths.
- Conveniently located bus stops with shelters that are connected to pedestrian/bicycle paths.

Policy 6.3.8 Promote the use of car-pools and vanpools by providing safe, convenient park-and-ride facilities.

Policy 6.3.9 Work with Omnitrans to create transit corridors, such as the one currently being explored on E Street linking CSUSB to Hospitality Lane, to increase transit ridership, reduce traffic congestion, and improve air quality.

Policy 6.3.10 Consider the provision of incentives, such as reduced parking standards and density/intensity bonuses, to those projects near transit stops that include transit-friendly uses such as child care, convenience retail, and housing.

Policy 6.7.1 Accommodate railroad services that allow for the movement of people and goods while minimizing their impact on adjacent land uses.

Policy 6.7.2 Coordinate with SANBAG, SCAG, the County and other regional, state or federal agencies and the railroads regarding plans for the provision of passenger, commuter, and high-speed rail service.

City of San Bernardino Intersection Analysis Criteria

The City of San Bernardino requires that morning and evening peak-hour turning movements use the methodology found in the 2000 Highway Capacity Manual (HCM) in determining the level of service (LOS) at intersections. The LOS value is determined based upon the volume to capacity (V/C) of turning movements. A V/C ratio of 1.00 means that the volume of traffic has matched 100 percent of the intersection capacity. Generally speaking, a V/C ratio such that the volume equals 80 percent (0.80) or less of the capacity constitutes stable traffic flow with only minor backups or queues of vehicles developing behind turning vehicles. Table 4.17.16-1 (Intersection Level of Service [LOS] Definitions) summarizes the LOS definitions in the HCM.

LOS D is the minimum acceptable threshold at all key intersections in the City of San Bernardino. However, for roadway segments the City has a minimum acceptable threshold of LOS C.

Table 4.17.16-1 Intersection Level of Service (LOS) Definitions

LOS	*Interpretation*	*Volume to Capacity (V/C) Ratio*
A	There are no stables that are fully loaded, and few are close to loaded. No approach phase is fully utilized by traffic and no vehicle waits longer than one red indication. Typically, the approach appears quite open, turning movements are easily made, and nearly all drivers find freedom of operation.	0.00–0.60
B	Represents stable operation. An occasional approach phase is fully utilized and a substantial number are approaching full use. Many drivers begin to feel somewhat restricted within platoons of vehicles.	0.61–0.70
C	Stable operation continues. Full signal cycle loading is still intermittent, but more frequent. Occasional drivers may have to wait through more than one red signal intersection, and backups may develop behind turning vehicles.	0.71–0.80
D	Encompasses a zone of increasing restriction approaching instability. Delays to approaching vehicles may be substantial during short peaks with the peak period, but enough cycles with lower demand occur to permit periodic clearance of developing queues, thus preventing excessive backups.	0.81–0.90
E	Represents the most vehicles that any particular intersection approach can accommodate. At capacity (V/C = 1.00), there may be long queues of vehicles waiting upstream of the intersection and delays may be great (up to several signal cycles).	0.91–1.00
F	Represents jammed conditions. Backups from locations downstream or on the cross street may restrict or prevent movement of vehicles out of the approach under consideration; hence, volumes carried are not predictable. V/C values are highly variable because full utilization of the approach may be prevented by outside conditions.	>1.00

SOURCE: HCM (2000).

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 City of San Bernardino Circulation Element in the General Plan, SCAG's Regional Transportation Plan (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 General Plan policies related to circulation and mobility. The General Plan Policies 6.6.1 through 6.6.6 (Multimodal transportation) ensure 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 to work with Omnitrans in implementing the BRT routes throughout the City, which correlates' with the General Plan Policies 6.6.1 (Support agencies in providing BRT service) and 6.6.3 (New development provide transit infrastructure), which has the City maintaining a proactive working partnership with transit providers to ensure that adequate public transit service is available. 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 General Plan Policies 6.1.1 (Bicycle and pedestrian circulation system), and 6.3.1 (Street use by pedestrians and bicycles). 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, including CPM-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. 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, the CMP and Caltrans. This impact is considered ***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 Congestion Management Program (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 CPM roadways. Transit and nonmotorized transportation infrastructure built on all roadways, including CPM-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 has a level of service standard of LOS D or better at all intersections within the City. Transit-oriented development and the emphasis on nonmotorized transportation near transit stops may result in localized impacts to the LOS designations on roadways and intersections near these transit stations. Changes in LOS values as a result of transit were evaluated in a traffic study as part of the General Plan Update EIR and concluded that at build-out of the Proposed Land Use Plan, all intersections with the recommended future lane configurations are projected to operate at LOS D or better during both the AM and PM peak hours. The City Development Impact Fee Schedule ensure funding and construction of the recommended lane configurations. This impact is considered ***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 or wind turbines on rooftops of new or renovated buildings, adjacent to structures, or in open spaces. 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 is considered ***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 VMT 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 Community Development and Public Works Departments 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 Reduction Plan 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 6.1.1 and 6.3.1 meant to improve 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 General Plan Policies 6.6.1 through 6.6.10 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***.

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4.17.17 Utilities/Service Systems

This section of the EIR analyzes the potential environmental effects on utilities in the City of San Bernardino from implementation of the Regional Reduction Plan, including water, wastewater, solid waste, natural gas and electric services systems. Data for this section were taken from the San Bernardino General Plan (2005a), associated environmental document (2005b), and the California Department of Water Resources (CDWR) California Groundwater Bulletin 118 (2004). Full reference-list entries for all cited materials are provided at the end of this section.

No comment letters addressing utilities or 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 City of San Bernardino sits on the Bunker Hill Groundwater Basin and in the Santa Ana River Watershed. The City of San Bernardino water supply is derived from local water supplies obtained from the Bernardino Municipal Water Department (SBMWD) and the East Valley Water District (EVWD) wells within the Bunker Hill Groundwater Basin. Water service is provided for single-family, multiple-family, commercial, light industrial, governmental, and landscaping purposes. The SBMWD serves an area of approximately 43 square miles with 35,246 service connections. The Department produces over 497 gallons per capita per day, with the average consumption use reaching 330 gallons per capita per day. Currently, the SBMWD available groundwater supply is approximately 49,460 acre-feet per year (afy) or 16.1 billion gallons per year. The EVWD serves the eastern portion of San Bernardino planning area, serving approximately 28.5 square miles. In 2004, the District produced approximately 24,276 afy of water. Together, the SBMWD and EVWD produce approximately 73,736 afy.

Local Water Supply and Reliability

The primary source of water for SBMWD and the EVWD is groundwater from the Bunker Hill Sub-Basin. The basin is replenished naturally by local precipitation and by stream flow from rain and snowmelt from the San Gabriel and San Bernardino Mountains. The Santa Ana River, Mill Creek, and Lytle Creek contribute more than 60 percent of the total recharge to the ground water system. The sub-basin is also replenished by percolation of water diverted to spreading grounds (percolation basins), such as those that flank the northern boundary of the City at the base of the San Bernardino Mountains. Groundwater is the principal source of supply in the planning area. The Bunker Hill Sub-Basin has a total capacity of 5,976,000 acre-feet (af), and total storage of 5,890,300 af (1.9 billion gallons) (1998) of water per year. Distribution of the groundwater water to more than 20 local public and private water suppliers within the San Bernardino Basin is managed through the San Bernardino Valley Municipal Water District (SBVMWD).

Imported Water Supply and Long-Term Reliability

The Southern California region faces a challenge satisfying its water requirements and securing its firm water supplies. Increased environmental regulations and competition for water from outside the region have resulted in reduced supplies of imported water. Continued population and economic growth correspond to increased water demands within the region, putting an even larger burden on local supplies. A number of significant factors affecting delivery reliability are discussed below. Major sources of uncertainty include Delta pumping restrictions, organism decline, climate change and sea level rise, and levee vulnerability associated with floods and earthquakes.

San Bernardino Valley Municipal Water District

San Bernardino Valley Municipal Water District (SBVMWD) was formed in 1954 to plan long-range water supply for the San Bernardino Valley. It imports water into its service area through participation in the California State Water Project and manages groundwater storage within its boundaries. SBVMWD covers about 325 square miles and includes the cities and communities of San Bernardino, and other cities within the region. The District's responsibility for long-range water supply planning includes importing supplemental water and management of the groundwater basins within its boundaries. The District maintains groundwater supplies in three groundwater basins: Bunker Hill, Yucaipa, and San Timoteo. The District is legally responsible to maintain the groundwater level in the Bunker Hill Aquifer at the designated "safe yield," currently 167,000 afy (54.4 billion gallons). The safe yield is the annual amount of water that can be taken from a source of supply over a period of years without depleting that source beyond its ability to be replenished naturally in "wet years." Currently extraction from the basin does not exceed natural or artificial recharge. In addition to safe yield supplies, the Bunker Hill Basin has over 250,000 af of contaminated water; sources of contamination include the Norton Air Force Base and Leaking Underground Storage Tanks which are discussed in Section 4.17.8 (Hazards/Hazardous Materials).

State Water Project Reliability Planning

The California Department of Water Resources (DWR) oversees the operation of the SWP. Beginning in 2003, DWR has published a SWP Delivery Reliability Report every 2 years. The most recent edition was the 2007 report, the final version of which was released in August 2008, which is incorporated by reference in this EIR (DWR 2008). According to the DWR reliability report, the long-term average delivery of contractual amounts of SWP water is expected to range from 63 percent under current (2007) conditions to between 66 and 69 percent under future (2027) conditions. Within that long-term average, SWP deliveries can range from 6 percent (single dry year) to 90 percent of contractual amounts under current (2007) conditions, and from 6 to 7 percent (single dry year) to 100 percent of contractual amounts under future (2027) conditions. The analyses provided in the DWR reliability report are based on 82 years of historical records for rainfall and runoff that have been adjusted to reflect the current and future levels of development in the source areas by analyzing land use patterns and projecting future land and water uses. Of key importance, the studies in the report for 2007 through 2027 conditions assume and account for current facility and institutional limitations. These limitations include:

- Water quality issues
- Fishery protections (threatened winter and spring-run salmon and steelhead trout)

- Export curtailments and other requirements under State Board Water Rights Decision 1641
- Vernalis Adaptive Management Plan as described in the 2004 Operations Criteria and Plan
- Recent court-ordered in-Delta flow targets to protect delta smelt
- Threatened longfin smelt that is related to the threatened delta smelt and whose habitat also includes the Sacramento Delta
- Potential effects of Delta levee failures and other seismic or flood events

In addition, DWR's long-term SWP delivery reliability analysis incorporates assumptions to account for potential supply shortfalls related to global climate change factors. Thus, the effects of these institutional, administrative and court-ordered reductions in SWP exports, as well as the potential effects of long-term global climate change, have been extensively analyzed and accounted for by DWR's 2007 Reliability Report.

The twenty-nine SWP contractors and water agencies throughout California utilize the reliability report in their water supply analyses, planning and reporting obligations. SWP contractors generally anticipate that the variability of SWP supplies may increase in the future as the contractors request their maximum allotment and as system wide issues such as Delta exports are resolved. At the same time, however, SWP Contractors who utilize groundwater basins to recharge portions of their SWP deliveries, as well as other exchange and transfer arrangements, can plan to receive long-term average deliveries of 66 to 69 percent of their allotments.

Delta Smelt

The delta smelt is a federally and state-listed threatened fish species that inhabits the estuaries of the Sacramento Delta region. In May 2007, a federal court invalidated the Biological Opinion issued by the U.S. Fish and Wildlife Service (USFWS) for operations of the SWP and Central Valley Project (CVP) with regard to the delta smelt (*Natural Resources Defense Council v. Kempthorne, et al.*). On August 31, 2007, the federal court ordered interim operating rules until a new Biological Opinion is approved for the delta smelt. Under the ruling, operational limits on Delta pumping are in place from the end of December, when fish are about to spawn, until June, when the smelt migrate. On December 14, 2007, the Court issued its Final Interim Remedial Order (Final Order) that sets forth temporary restrictions on Delta exports from the SWP and CVP based on flow rates in certain significant rivers near the export facilities and information concerning the distribution and spawning status of delta smelt. Estimated potential water supply losses resulting from the Final Order were (1) loss of 9 to 29 percent (or 512,000 to 1,741,000 af), if 2007–2008 was an average water year, and (2) loss of 3 to 19 percent (or 80,000 to 627,000 af), if 2007–2008 was a dry water year. Notably, these figures represented total restrictions to the SWP and CVP combined. DWR indicated that SWP losses would be assumed to be half of any total delivery reduction. For the 2007/08 water year, actual reductions to SWP supplies are estimated to be approximately 500,000 af.

On December 15, 2008, USFWS issued a new Biological Opinion regarding the effects of CVP and SWP operations on delta smelt. According to draft information published by DWR, the new Biological Opinion will continue the type of reductions in SWP and CVP exports from the Delta that were in effect since December 2007 under the federal court. DWR has estimated that under average water year

conditions, the most likely result of the new Biological Opinion is a 1 percent increase in the amount of available SWP supplies in comparison to the restrictions in the Final Order, although a worst-case scenario could result in an additional 13 percent decrease in available supplies beyond those ordered in Final Order. In the same draft information prepared by the DWR, that agency estimated that under dry water year conditions, the most likely result of the new Biological Opinion is the same type of potential restrictions as in the Final Order, although restrictions could possibly increase by 21 percent under a worst-case scenario. Potential water supply restrictions under the new Biological Opinion are dependent on factors that cannot be predicted with a high degree of certainty, including hydrologic conditions, migratory and reproductive patterns of delta smelt, and other factors affecting delta smelt abundance in the Delta. However, water agencies holding contracts to receive SWP supplies from DWR, among others, are challenging the validity of the Biological Opinion. Consequently, SWP delivery reductions as set forth by the Final Order could be put back in place pending final legal resolution of the new Biological Opinion. In light of these various factors, the degree to which SWP deliveries may be reduced under the new Biological Opinion for delta smelt remains somewhat speculative.

As indicated above, potential future reductions in SWP deliveries to San Bernardino based on the new Biological Opinion (or Final Order) will depend on precipitation and other weather conditions affecting Delta water supplies, distribution and behavior patterns of the delta smelt, flow conditions in the Delta, and how water supply reductions are divided between the SWP and CVP. SBVMWD is engaged in an aggressive planning process to address this decision and ensure that its overall water supply portfolio is capable of providing reliable long-term service to its member agencies. Currently, SBVMWD continues to rely upon the plans and policies outlined in its Urban Water Management Plan (UWMP) to address water supply scenarios and meet existing and projected water demands within its service territory. The UWMP update will address water supply uncertainties related to endangered fisheries in the Sacramento Delta, consider long-term facility options on the SWP, and revisit SBVMWD's water supply development targets and action plans in light of emerging SWP and climate change issues. The UWMP is an adaptive planning framework, and with the adopted annual implementation reporting and five-year updating cycle, SBVMWD and its member agencies will continue to refine and revise the resource targets as new information and technologies become available. As water demand, economics, impacts to human population, environmental circumstances, and priorities change over time, legislative and regulatory changes may occur that can increase or decrease impacts to water supply reliability.

It should be noted that other court cases have the potential to affect SWP water imports to Southern California. These include *Pacific Coast Federation of Fishermen's Association/Institute for Fisheries Resources, et al., v. Gutierrez, et al.*, (regarding impacts to winter/spring-run salmon); *Watershed Enforcers v. California Dept. of Water Resources* (alleging that the SWP was being operated without any take authorization under the California Endangered Species Act); and *State Water Contractors v. California Dept. of Fish & Game* (challenging the Dept. of Fish & Game's issuance of a take permit for longfin smelt to DWR for the operation of the SWP). In Gutierrez, remedies beyond the limitations placed on SWP operations in connection with the delta smelt in Kempthorne have been found by the court to not be necessary. In Watershed Enforcers, such additional limitations are not deemed likely, since the effects of SWP operations on protected fish are already being addressed via the Kempthorne and Gutierrez decisions. In the case of the longfin smelt litigation, no resolution is imminent, and the Department of Fish and Game's ability to enforce the terms of the take permit has been called into question. In light of the

foregoing factors, potential reductions in SWP supplies resulting from the longfin smelt take permit remain speculative and unquantifiable at this time. Thus, the reductions pursuant to the Kempthorne decision remain the operative limitation on SWP reliability.

Climate Change Planning of Water Supply Availability

The DWR reliability report accounts for potential effects of future climate change on SWP deliveries through the year 2050 by examining four climate change scenarios: weak temperature warming and weak precipitation increase in California under two different models; and modest warming and modest drying under those two models.

Potential climate change impacts on regional and local water supplies and relevant information for the Santa Ana Watershed are not sufficiently developed at this time to permit the City to assess and quantify the effect of any such impact on its conclusions in this assessment. In its anticipated UWMP update, SBVMWD will address emerging challenges and questions on the planning approach with regard to global warming and climate change. When new information on the impacts of climate change on local water supplies is available, the City will review this report to determine if supplementation of the assessment is appropriate.

Water Distribution Systems

The SBMWD distributes to over 151,000 residents in the City. SBMWD facilities include 60 active wells, four treatment plants with capacity of 50 million gallons per day (mgd), 32 reservoirs with a total capacity of more than 100 million gallons (MG) of domestic storage water capacity, 27 chlorination facilities, and 66 booster pump stations. The distribution system includes approximately 551 miles of water mains, 41,317 active water meters and over 4,000 fire hydrants. The EVWD system facilities consist of approximately 150 miles of pipeline, 13 wells, 14.2 MG of storage facilities, and 41 booster stations.

Wastewater Collection and Treatment

The SBMWD owns and has operated the San Bernardino Water Reclamation Plant (WRP) also known as the Margaret H Chandler Water Reclamation Plant since 1973, treating both residential and industrial wastewater. The WRP treatment process includes screening, grit removal, primary clarification, activated sludge (biological oxidation) with nitrification and de-nitrification and secondary clarification, ensuring all water discharged into the Santa Ana River is properly treated. The WRP is a Secondary Treatment facility serving a population of over 185,000 including the cities of San Bernardino and Loma Linda, the East Valley Water District customers (some of which are within the City of San Bernardino), the San Bernardino International Airport, Patton State Hospital, and parts of San Bernardino County. The wastewater facility, which includes both primary and secondary treatment, has the capacity to process 33 mgd and currently processes 28 mgd. In March 1996, the City of San Bernardino and the City of Colton jointly opened the Rapid Infiltration and Extraction (RIX) facility, where secondary-treated water undergoes the final filtering and disinfecting process to produce wastewater that is superior or equivalent to that produced by conventional filtration systems and is suitable for recycling into the Santa Ana River. The RIX (tertiary treatment) facility has a capacity of 40.0 mgd and currently treats 32 mgd.

Solid Waste

Solid waste collection within much of the City and a portion of the unincorporated planning area is provided by the Solid Waste Services and Refuse and Recycling Division of the City of San Bernardino Department of Public Services. Solid waste collection in the remainder of the planning area is provided by private haulers through franchise agreements with the City. According to the California Integrated Waste Management Board, residential land uses in the City of San Bernardino were responsible for disposing 58,454 tons of solid waste while businesses in the City were responsible for 136,392 tons of solid waste resulting in a total of 194,846 tons of solid waste deposited in local landfills. This total amount represents a 45 percent reduction in the total amount of refuse produced due the waste diversion programs. With diversion the average amount contributed to landfills by each resident would be 2 pounds of solid waste per day or 730 pounds per year. Employees/businesses produced 13 pounds of solid waste per person per day or 4,745 tons per year after 45 percent waste diversion.

The County of San Bernardino Solid Waste Management Division (SWMD) is responsible for the operation and management of the solid waste disposal system which consists of six regional landfills, eight transfer stations and five community collection centers. The County contracts with Burrtec Waste Industries for disposal site operations and maintenance. The City of San Bernardino has no active landfills but primarily utilizes the San Timoteo and Mid-Valley landfills. The San Timoteo Landfill is located in the City of Redlands, to the southeast of the City and the Fontana Sanitary Landfill (Mid-Valley) to the west of the City. The San Timoteo landfill is permitted to accept 1,000 tons per day and has an estimated capacity of 14,800,000 cubic yards. The estimated remaining capacity is 6,372,281 tons and has an anticipated closure date of 2016. Mid-Valley is permitted to accept 7,500 tons per day of solid waste and has an estimated capacity of 62,000,000 cubic yards. The estimated remaining capacity is 23,949,691 tons and has an estimated closure date of 2033.

Electricity

The Southern California Edison (SCE) Company provides electricity to San Bernardino's citizens, businesses and industry within the City and SOI. SCE owns, operates, and maintains both aboveground and underground facilities in the planning area. Most of SCE's facilities are located in the street right-of-way.

Electricity is transmitted through 500 and 220 kilovolt (kV) high voltage transmission lines and step-down transformers at substations located within the City. High voltage transmission lines deliver power to the SCE substation, where power is stepped down to 66 kV at substations and distributed through lower voltage lines. Individual homes and businesses then receive power through a final transformer which brings voltages down to useful levels. Currently there are no known deficiencies in the Southern California Edison Company system. 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 San Bernardino. TGC has gas mains throughout urbanized areas of the City. TGC owns, operates, and

maintains underground gas lines in most of the public streets. There are no local natural gas producing wells within the City of San Bernardino planning area, therefore, the supply of natural gas is imported. The availability of natural gas service is based upon present conditions of gas supply and regulatory policies. As a public utility, TGC is under the jurisdiction of the Public Utilities Commission and Federal regulatory agencies. Should these agencies take any action that affects gas supply, or the conditions under which services is available, gas service would be provided in accordance with revised conditions.

Geothermal Heating

A particular service system and use of energy unique to the City of San Bernardino is geothermal heat. Use of geothermal resources results in substantial energy savings and generates revenue for the City. As discussed in Section 4.17.6 (Geology/Soils), approximately 90 to 100 geothermal wells and springs have been identified in the San Bernardino area. The geothermal wells and springs are concentrated in the Commerce Center, Central City, and the Tri-City areas and the former Norton Air Force Base (see Figure 4.17.5-1 [Sensitive Archaeological Areas]). The San Bernardino Municipal Water Department (SBMWD) is operating two geothermal production wells which can pump 4,300,000 gallons of hot water per day. The usable supply of geothermal water, however, is much greater than what is currently used. The SBMWD uses geothermal resources to provide heat to over 35 offices and buildings including the Civic Center and National Orange Show in the central portion of the City. Use of geothermal heat has resulted in a substantial savings on winter heating bills where it is supplied.

Telephone and Communications

Communication services and telephone, mobile phone, cable, and internet services are provided by private companies in the City, including Verizon Communications and SBC Telecom. Cable service is provided to the City by local cable franchises, including Adelphia Cable, Mountain Shadows 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 San Bernardino 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 25 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.

State

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 af 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 City of San Bernardino UWMP 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.

Local

San Bernardino General Plan

The General Plan provides a framework for the City's physical development of infrastructure addressing all geographic areas in the City Policies pertinent to utilities and service systems[18] include:

Policy 9.4.8 Minimize the amount of impervious surfaces in conjunction with new development.

Policy 9.4.9 Develop and implement policies for adopting Sustainable Stormwater Management approaches that rely on infiltration of stormwater into soils over detention basins or channels. Sustainable Stormwater Management techniques include use of pervious pavements, garden roofs, and bioswales to treat

[18] 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.

stormwater, and reusing stormwater for non-potable water uses such as landscape irrigation and toilet/urinal flushing.

Policy 9.5.3 Continue to reduce the amount of solid waste that must be disposed of in area landfills, to conserve energy resources, and be consistent with the County Solid Waste Management Plan and State law.

Policy 9.5.4 Continue to support implementation of regional recycling programs through participation in the County Solid Waste Advisory Committee, the County Solid Waste Management Plan, and appropriate State programs.

Policy 9.5.5 Develop and participate in local recycling programs.

Policy 9.5.6 Develop and implement a program of public education regarding the benefits of recycling.

Policy 9.6.5 Encourage and promote the use of energy-efficient (U.S. Department of Energy "Energy Star" or equivalent) lighting fixtures, light bulbs, and compact fluorescent bulbs in residences, commercial, and public buildings, as well as in traffic signals and signs where feasible.

Policy 9.9.1 Provide for the continued development and expansion of geothermal energy distribution lines. Provide public funding to expand the existing geothermal production and distribution system.

Policy 9.9.2 Promote the use of geothermal resources particularly in the South San Bernardino Area.

Policy 13.1.1 Reduce the City's ongoing electricity use by 10 percent and set an example for residents and businesses to follow.

Policy 13.1.2 Ensure the incorporation of energy conservation features in the design of all new construction and site development in accordance with State Law.

Policy 13.1.3 Consider enrollment in the Community Energy Efficiency Program (CEEP), which provides incentives for builders who attain energy savings 30 percent above the National Model Energy Code, the Energy Star Program, which is sponsored by the United States Department of Energy and the Environmental Protection Agency and encourages superior energy efficiency by residents and businesses, or the State's Energy Efficiency and Demand Reduction Program, which offer rebates and incentives to agencies and developers who reduce energy consumption and use energy efficient fixtures and energy-saving design elements

Policy 13.1.4 Require energy audits of existing public structures and encourage audits of private structures, identifying levels of existing energy use and potential conservation measures.

Policy 13.1.5 Encourage energy-efficient retrofitting of existing buildings throughout the City.

Policy 13.1.6 Consider program that awards incentives to projects that install energy conservation measures, including technical assistance and possible low-interest loans.

Policy 13.1.7 Ensure that new development consider the ability of adjacent properties to utilize energy conservation design.

Policy 13.1.8 Educate the public regarding the need for energy conservation, environmental stewardship, and sustainability techniques and about systems and standards that are currently available for achieving greater energy and resource efficiency, such as the U.S. Green Building Council's "Leadership in Energy and Environmental Design" (LEED) standards for buildings.

Policy 13.1.9 Encourage increased use of passive and active solar and wind design in existing and new development (e.g., orienting buildings to maximize exposure to cooling effects of prevailing winds, daylighting design, natural ventilation, space planning, thermal massing and locating landscaping and landscape structures to shade buildings).

Policy 13.1.10 Consider adopting an ordinance relating to energy conservation, environmental stewardship, and sustainability for new development that incorporates the LEED standards.

Policy 13.2.1 Coordinate and monitor the City's water conservation efforts on an annual basis and modify or expand them as necessary to ensure their effectiveness.

Policy 13.2.3 Consider the establishment of incentives, funding programs, or a rebate program for projects that implement water conservation measures, such as replacing aging, leaking, and/or inefficient plumbing with more efficient, water-saving plumbing.

Policy 13.2.4 Require the use of reclaimed water for landscape irrigation and other non-contact uses for industrial projects, golf courses, and freeways.

Policy 13.2.11 Continue to inform the public about water conservation, techniques and available water conservation programs they can utilize

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 and service systems if it would:

- 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 SBMWD's 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. The wastewater treated in all of SBMWD's regional plants meets or exceeds the standards of water quality set by CCR Title 22. Therefore, there would be ***no impact***. No further analysis is required.

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 water recycling and reuse, 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***. No further analysis is required.

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 as provided for in The San Bernardino 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, recycled water for landscaping, 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***.

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4.17.18 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 for the City of San Bernardino, 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 4.17-5 (Summary of Environmental Effects of Implementing Local Reduction Measures in San Bernardino), 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 the City of San Bernardino in each of the environmental topics listed above and are provided in Sections 4.17.1 through 4.17.17 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 4.17.4 (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 4.17.5 (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 4.17.3, 4.17.6, 4.17.8, 4.17.9, 4.17.12, 4.17.13, 4.17.14, 4.17.16, and 4.17.17 of this EIR, respectively.

References

Kostka, Stephan L. and Michael H. Zischke. 2005. *Practice under the California Environmental Quality Act*.

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

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