

SAN BERNARDINO  
ASSOCIATED GOVERNMENTS  
**SAN BERNARDINO COUNTY REGIONAL  
GREENHOUSE GAS EMISSIONS  
INVENTORIES AND REDUCTION PLAN**  
**Environmental Impact Report**

SCH No. 2012111046

*Volume VIII: Draft EIR (Section 4.7 [City of Grand Terrace])*

*Prepared for*

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**October 2013**



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## 4.7 CITY OF GRAND TERRACE

### 4.7.0 Introduction to the Analysis

This section of the EIR analyzes the potential environmental effects in the City of Grand Terrace from implementation of the Regional Reduction Plan. The City of Grand Terrace is in the southwestern corner of San Bernardino County and surrounded by the City of Colton to the north, east, and west. The County of Riverside’s unincorporated community of Highgrove lies immediately south of Grand Terrace. Figure 4.7-1 (Vicinity Map) shows the corporate boundaries of the City and regional location.

Grand Terrace encompasses an area of 3.6 square miles with no external sphere of influence. The City is situated between two mountain ridges, Blue Mountain to the east and La Loma Hills to the west. Interstate 215 (I-215) passes through the western portion of the City in a general north/south direction. An interchange at Barton Road provides regional access to the City with secondary access available at La Cadena Drive. I-215 provides links to other regional highways including I-10 to the north and State Route 60 (SR-60) and SR-91 to the south.

Only 18 percent of the City is allocated to commercial and industrial uses (Grand Terrace General Plan 2010). The population of Grand Terrace in 2010 was 12,040, up from 11,768 in 2008. Population in Grand Terrace has grown at a slower pace relative to other cities in San Bernardino County, approximately 6 percent per decade as opposed to 20 percent on average for the county. Population in 2020 is expected to be 11,644, a slight decrease since 2008, yet GHG emissions are expected to increase from 86,075 MT CO<sub>2</sub>e to 88,210 MT CO<sub>2</sub>e by 2020 (excluding stationary sources), an increase of 2.5 percent.

Table 4.7-1 (Socioeconomic Data for Grand Terrace) presents socioeconomic data for Grand Terrace, including population, housing (single family and multifamily), and employment (agricultural, industrial, retail, and nonretail) (Minjares pers. comm.).

<b>Table 4.7-1 Socioeconomic Data for Grand Terrace</b>		
<i>Category</i>	<b>2008</b>	<b>2020</b>
Population	11,768	11,644
Housing (du)	4,303	4,554
Single-Family (du)	2,689	2,842
Multifamily (du)	1,614	1,712
Employment (jobs)	3,019	3,160
Agricultural (jobs)	0	0
Industrial (jobs)	626	704
Retail Commercial (jobs)	533	552
Non-Retail Commercial (jobs)	1,860	1,904

du = dwelling unit

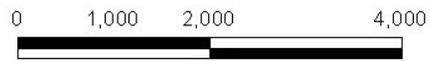
Two documents are used in reviewing the potential environmental impacts and mitigation within the City of Grand Terrace from implementation of the Regional Reduction Plan. The first document is the Grand Terrace General Plan, which is the planning document for the City and includes the required General Plan Elements and General Plan goals and policies. Within the Grand Terrace 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 Grand Terrace chapter that describes the reduction measures and reduction targets chosen by the City of Grand Terrace. This second document is the Proposed Project as it pertains to the City of Grand Terrace.

## ■ Grand Terrace General Plan

The Grand Terrace General Plan is the planning document for the City, which consists of eight elements. It integrates components of city governance documents into a single guidance system that shapes the community 20 years or more into the future.

- The elements in the Policy Plan are:
  - > Land Use Element: Guides and regulates land use patterns, distributions, densities, and intensities in Grand Terrace, including residential, employment, retail, recreation and public uses.
  - > Circulation Element: Guides the design and improvement of our multifaceted transportation system to meet the current and future needs of our residents and businesses.
  - > Open Space and Conservation Element: Guides management of Grand Terrace's biological, recreational, cultural resources, and water resources and provides policies that support systems integration, resource conservation and regeneration, and energy independence.
  - > Public Health and Safety Element: Provides policies to minimize impacts on life, property, and commerce from, and exposure to, manmade and natural disasters.
  - > Noise Element: Coordinate the various land uses with the existing and future noise environment, and to ensure that any negative effects of noise are minimized or avoided.
  - > Public Services and Facilities Element: Ensure community facilities and infrastructures are available to support existing development, to permit orderly growth, and to promote public health, safety, and welfare.
  - > Housing Element: Plans for the production, preservation, and improvement of housing in the Grand Terrace community.
  - > Sustainable Development Element: Establishes the goals and policies that will reduce the impacts of building construction and occupation on the current and future environment.

Policies in the Grand Terrace General Plan pertinent to the environmental analysis within this EIR that govern the decisions of the City of Grand Terrace are shown in Table 4.7-2 (Grand Terrace General Plan Policies).



Source: City of Grand Terrace General Plan, Adopted April 27, 2010.

Figure 4.7-1  
Vicinity Map



The policies summarized and listed in Table 4.7-2 are those that can mitigate environmental impacts associated with the Regional Reduction Plan in the City of Grand Terrace. In addition, some of the Grand Terrace General Plan policies contain quantitative and/or qualitative criteria concerning environmental topics the City requires that are used as thresholds of significance.

<b>Table 4.7-2 Grand Terrace General Plan Policies</b>	
<b>Policy No.</b>	<b>Policies</b>
<b>LAND USE ELEMENT</b>	
2.1.6	Mixed use development which can demonstrate superior use of land, more efficient utilization of public facilities, and more effective conservation of natural resources shall be strongly encouraged by the City of Grand Terrace.
2.4.1	The City shall promote the development of employment generating, light, nonpolluting industry, within the present land use pattern.
2.4.2	The city shall promote the development of light, non-polluting industry within the City.
2.5.3	Energy efficiency shall be encouraged in all future development.
<b>CIRCULATION ELEMENT</b>	
3.1.4	Coordinate with transportation planning, programming and implementation agencies such as SCAG, Caltrans, SANBAG, and the cities of San Bernardino County, as well as neighboring jurisdictions in Riverside County on various studies relating to freeway, high occupancy vehicle/high occupancy toll lanes and transportation corridor planning, construction, and improvement in order to facilitate the planning and implementation of an integrated circulation system in accordance with regional planning goals.
3.1.5	New development projects shall be analyzed in accordance with SANBAG congestion management Program (CMP) Traffic Impact Analysis (TIA) Guidelines.
3.1.7	The maximum acceptable Level of Service for streets identified in the City Master Plan of Streets and Highways during peak hours shall be LOS "D".
3.3.5	The City shall evaluate and, when appropriate, implement traffic calming measures on residential local residential streets.
3.4.1	Develop a system of continuous and convenient bicycle routes designed to connect schools, residential areas, shopping centers, parks, and employment areas.
3.4.2	The City shall promote and facilitate the use of bicycles as an alternative mode of transportation through the development of a City-wide network of bikeways.
3.4.3	The City shall seek grants and other available funding sources to construct additional segments of the Bikeway Plan.
3.4.5	The City shall work with the San Bernardino County Parks Department to provide connections within the City to the Santa Ana River Trail.
3.4.6	The City shall require the provision of bike racks at all new commercial and industrial developments.
3.5.1	Promote measures, which reduce reliance on single occupant vehicle usage by enforcement of the Traffic Control Measures (TCM) ordinance, which addresses development standards, land use patterns, employer based ride share programs and bicycle/pedestrian facilities.
3.5.2	The City shall participate in local and regional public transit programs.
3.5.3	The City shall encourage and facilitate pedestrian movement by creating environments that are conducive to walking and maintaining a "human scale" of development.
3.5.4	The City shall work closely with the regional transit agencies to ensure convenient and the affordable bus service continues to be available to local residents.
3.5.5	The City shall work with OmniTrans and SANBAG to implement a public transit system that meets the City's need for internal circulation as well as connections to regional activity centers and inter-urban transit routes.

**Table 4.7-2 Grand Terrace General Plan Policies**

<b>Policy No.</b>	<b>Policies</b>
3.5.6	The City shall encourage Transit Oriented Development (TOD) to provide housing that is in close proximity to designated public transit facilities and routes. All projects will be reviewed in relationship to their proximity to existing and future transit systems.
3.5.7	The City shall provide amenities along the Barton Road corridor that promote pedestrian and bicyclist use, such as a continued system of pedestrian paths and bike lanes to connect the City Center with schools, parks, and residential areas.
<b>OPEN SPACE AND CONSERVATION ELEMENT</b>	
4.1.4	The City shall evaluate the possibility of developing the Gage Canal as a linear park including a pedestrian/bike trail which would connect with the proposed regional trail along the Gage Canal in Riverside County.
4.1.5	The City will establish guidelines and standards for the establishment of a linkage system among the City's parks and open space areas. In residential areas, the feasibility of utilizing sidewalks shall be made. These sidewalks will be part of the "Pedestrian Sidewalk Master Plan" called for in the Circulation Element and "safe routes" to schools plan. In addition, consideration will be given to the placement of appropriate signage along the sidewalk identifying them as part of a designated trail system.
4.1.6	The City will work with other public agencies and private entities to coordinate its trail planning and development to tie into the regional trails systems, including the California Recreational Trail System, connecting neighboring cities and counties. These trails may be used for pedestrian, equestrian, or biking. Such efforts will include a connection with the Santa Ana River Trail as shown in the "Plan of Open Space and Trails for the County of San Bernardino" and with the trail system of the County of Riverside including the proposed regional trail along the Gage Canal in Riverside County.
4.2.2	The City shall establish land use regulations to preserve and protect any identified natural resources.
4.2.5	The City shall act to reasonably conserve and protect significant biological resources.
4.4.2	The City shall evaluate the feasibility of extending bike lanes and pedestrian paths to allow people to walk to the public plaza area in the Town Square project on Barton Road.
4.4.4	The City shall continue to implement the City's Bike Trail Master Plan as funds are available.
4.6.1	The City shall establish an energy conservation policy and implementation program for all City facilities.
4.6.2	The City shall implement a public outreach program to provide the public with information regarding energy conservation practices and programs.
4.6.3	The City shall encourage energy and environmentally sustainable design in new land development projects using the standards of Leadership in Energy and Environmental Design (LEED).
4.6.4	The City shall work with its franchised solid waste collection company to implement recycling programs designed to reduce the per capita waste generation within the City while responding to the requirements of the California Integrated Waste Management Act of 1989.
4.7.1	The City shall evaluate and implement traffic flow improvements and construction management practices that reduce locally generated vehicle emissions.
4.7.2	The City shall encourage the use of public transportation through coordination with local and regional transit providers.
4.7.3	The City shall encourage land use planning and urban design that reduces vehicle trips through mixed use development, consolidation of commercial uses along arterial highways, and pedestrian connection between residential and commercial uses.
4.7.4	The City shall promote public education programs regarding air quality programs and practices.
4.7.5	The City shall encourage employers to develop and implement trip reduction plans including alternate work schedules, rideshare programs, telecommuting, and employee education programs.
4.7.6	The City shall implement policies and procedures designed to reduce emissions generated by construction activities including enforcement of SCAQMD Rule 403.
4.7.7	The City shall promote energy conservation efforts in new and existing residences and businesses.

<b>Table 4.7-2 Grand Terrace General Plan Policies</b>	
<b>Policy No.</b>	<b>Policies</b>
4.9.1	The City shall take reasonable steps to ensure that cultural resources are located, identified and evaluated to assure that appropriate action is taken as to the disposition of these resources.
<b>NOISE ELEMENT</b>	
6.3.4	The City shall promote the establishment of bus routes that meet public transportation needs while minimizing bus noise impacts to residential areas.
<b>PUBLIC SERVICES AND FACILITIES ELEMENT</b>	
7.2.3	Work with Riverside Highland Water Company to promote water conservation and education programs.
7.4.3	Work with the County and the City's waste hauler to implement effective recycling programs to reduce the total amount of waste requiring disposal.
<b>HOUSING ELEMENT</b>	
8.1.3	Promote and encourage infill housing development and more intensive use of underutilized land for residential construction.
8.1.5	Strive to provide incentives for and otherwise encourage the private development of new affordable housing for low- and moderate-income households.
8.2.4	Support the development of cost saving and energy conserving construction techniques.
8.3.5	Encourage the use of rehabilitation assistance programs to make residences more energy efficient.
<b>SUSTAINABLE DEVELOPMENT ELEMENT</b>	
9.1.1	The City shall work with Southern California Edison to promote energy conservation at residences and businesses.
9.1.2	The City shall incorporate energy conservation measures into conditions of approval for new development projects.
9.2.1	The City shall reduce the use of disposable products at all City facilities.
9.2.2	Require all new development projects to recycle construction and demolition wastes.
9.2.3	The City shall work with its franchise waste collection company to expand current recycling programs.
9.3.1	Incorporate "green" building practices into the review of all new or renovated development projects.
9.3.2	Site and building design in new developments should maximize opportunities for efficient energy performance.
9.4.2	The City shall provide trees and other landscaping along all arterial highways.
9.5.1	The City shall encourage alternative transportation modes, including mass transit, ride sharing, bicycles, and pedestrian transportation.
9.5.2	The City shall encourage the creation of local jobs designed to reduce commuter mileage and fuel consumption.
9.5.3	The City shall encourage new and rehabilitation projects that support alternative transportation modes.
9.7.1	The City shall work with Riverside Highland Water Company to reduce water consumption throughout the City.
9.7.2	The City shall incorporate water conservation into the development review process.
9.8.1	The City shall support green development standards for new or rehabilitated public buildings and facilities.
9.8.2	The City shall actively reduce greenhouse gas emissions from public facilities throughout the community.
SOURCE: City of Grand Terrace General Plan (2010).	

The second document used in reviewing potential environmental impacts and mitigation within the City of Grand Terrace is the Regional Reduction Plan City of Grand Terrace chapter that describes the Proposed Project including the reduction measures and reduction targets chosen by the City of Grand Terrace.

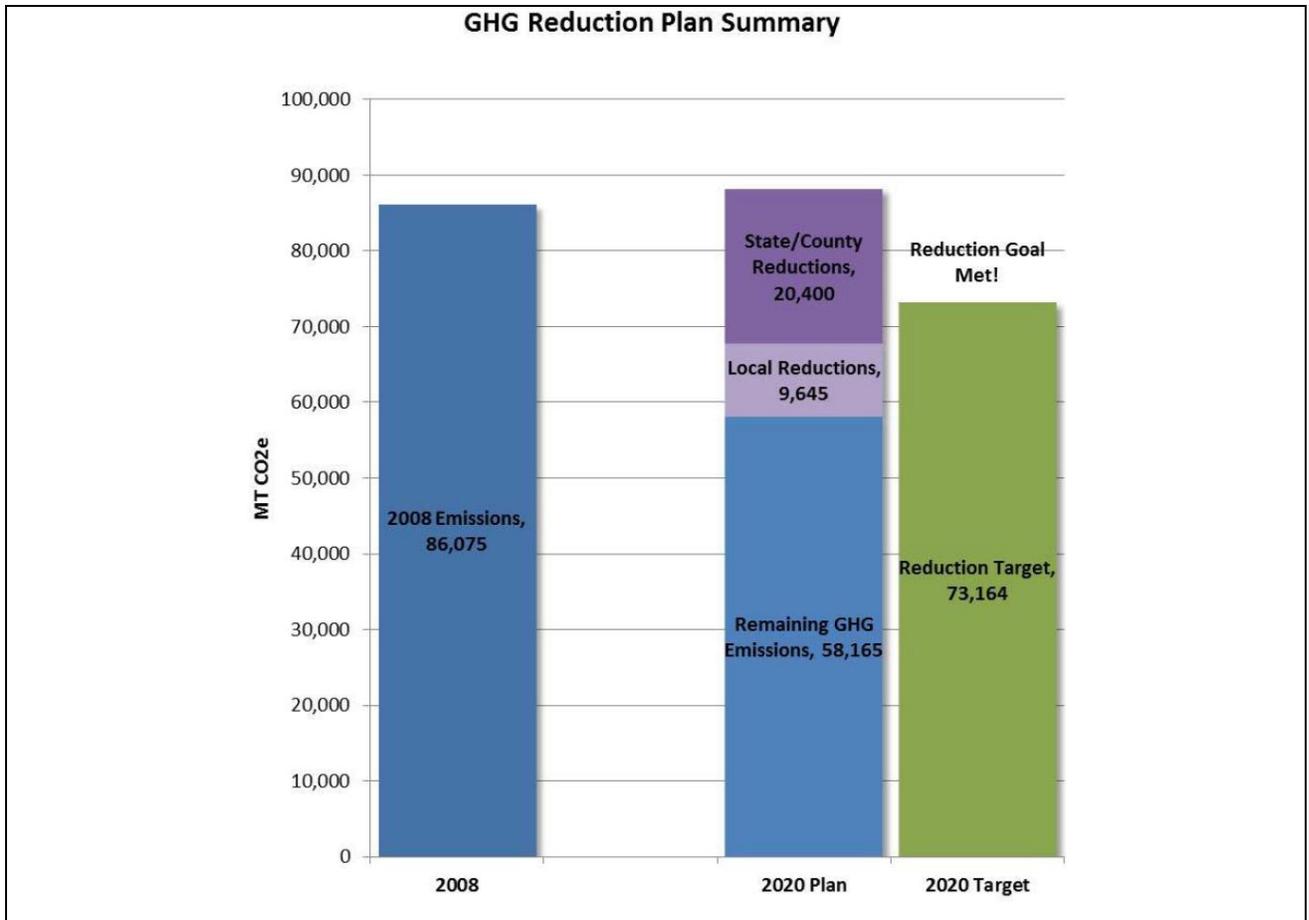
## ■ Grand Terrace Chapter of the San Bernardino County Regional GHG Reduction Plan

The City of Grand Terrace selected a goal in the Regional Reduction Plan to reduce its community GHG emissions to a level that is 15 percent below 2008 emissions levels by 2020. The City will meet and exceed this goal through a combination of state (~68 percent) and local (~32 percent) efforts. The City actually exceeds the goal with only state/county level actions (136 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 Grand Terrace's on-road, solid waste, and building energy sectors in 2020. An additional reduction of 9,645 MTCO<sub>2</sub>e will be achieved primarily through the following local measures, in order of importance: Implement SBX 7-7 (Water-4); Smart Bus Technologies (On-Road Transportation-2); and Equipment Upgrades at Wastewater Treatment Plants (Wastewater-2). Grand Terrace's Plan has the greatest impacts on GHG emissions in the solid waste management, building energy, and on-road transportation sectors.

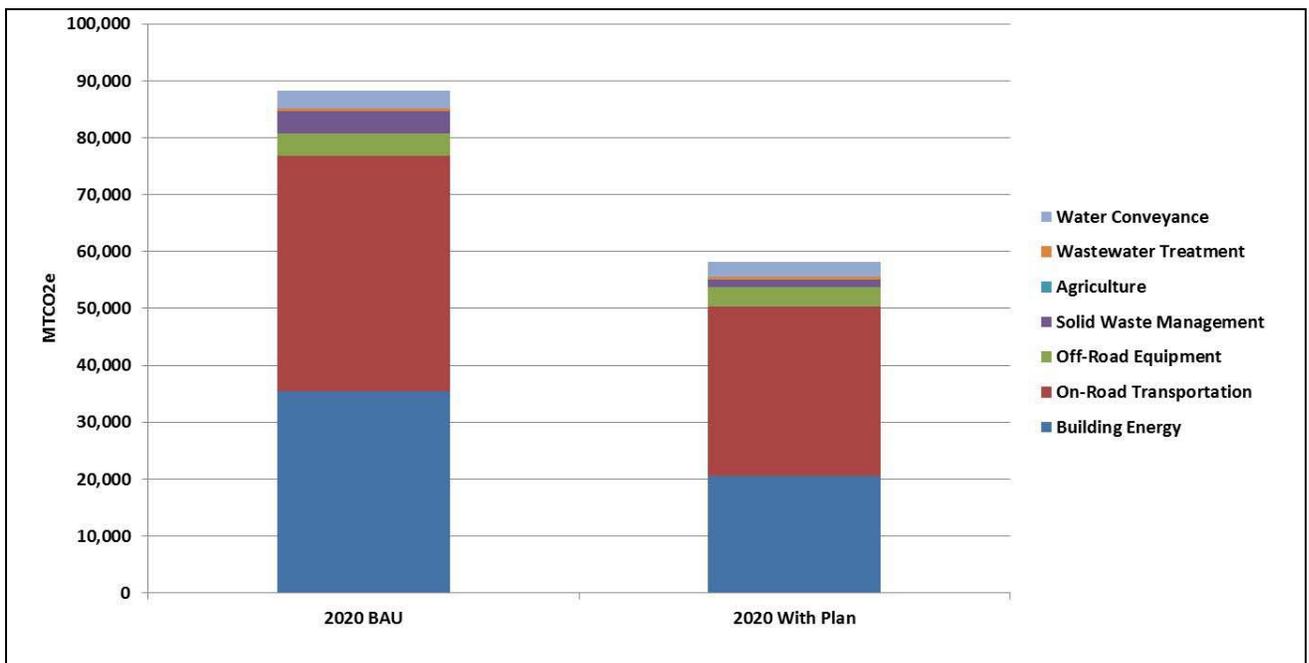
The bars in Figure 4.7-2 (Emissions Reduction Profile for Grand Terrace) show Grand Terrace's 2008 GHG emissions total, 2020 BAU emissions forecast total, and the total emissions remaining after meeting the city's emissions reduction target (i.e., 15 percent below the 2008 emissions level). The contribution of state/county and local reductions are overlaid on the 2020 BAU emissions forecast total ("2020 Plan"), representing the total emissions reductions achieved in 2020. As stated above, state/county reductions account for the majority (~68 percent) of the total reductions needed to achieve the 2020 target.

Figure 4.7-3 (Emissions by Sector for Grand Terrace) presents emissions by sector, for both the 2020 BAU and the 2020 reduction or "Plan" scenarios. The largest emissions contributions are in the on-road transportation, building energy, and off-road equipment emissions sectors.

Table 4.7-3 (Emission Reduction by Sector for Grand Terrace) 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 Grand Terrace exceeds its emissions reduction goal. Emissions sectors with the greatest percent reduction include the solid waste management, building energy, and on-road transportation sectors.



**Figure 4.7-2 Emissions Reduction Profile for Grand Terrace**



**Figure 4.7-3 Emissions by Sector for Grand Terrace**

**Table 4.7-3 Emission Reduction by Sector for Grand Terrace**

Sector	2008	2020 BAU	Reductions	2020 Emissions with Plan	% Reduction
Building Energy	33,593	35,395	14,780	20,615	41.8%
On-Road Transportation	41,756	41,436	11,791	29,645	28.5%
Off-Road Equipment	3,909	3,922	350	3,572	8.9%
Solid Waste Management	3,863	3,895	2,685	1,210	68.9%
Agriculture	116	59	0	59	0.0%
Wastewater Treatment	476	474	45	429	9.4%
Water Conveyance	2,362	3,029	388	2,641	12.8%
GHG Performance Standard*	—	—	6	—	—
<b>Total Emissions</b>	<b>86,075</b>	<b>88,210</b>	<b>30,045</b>	<b>58,165</b>	<b>34.1%</b>
<b>Reduction Goal</b>	—	—	<b>15,046</b>	<b>73,164</b>	<b>17.1%</b>
Met Goal?	—	—	Yes	Yes	Yes
<b>Reductions Beyond Goal</b>	—	—	<b>14,999</b>	—	—
Per-Capita Emissions	7.3	7.6	—	5.0	—
Per-Job Emissions	28.5	27.9	—	18.4	—
Excluded Stationary Source Emissions	7,348	7,781	—	—	—

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 4.7-4 (Emission Reductions by Control and by Sector for Grand Terrace) presents emission reductions by sector and by control (i.e., state/county control versus local or city control). As stated previously, the majority of emissions reductions are due to state/county measures. Of the state/county measures, the majority of reductions are in the building energy and on-road transportation sectors. Of the local measures, the majority of reductions are in the building energy sector due to the implementation of SBX 7-7 (Water-4).

Table 4.7-4 (GHG Reduction Measures and Estimated 2020 Reduced Emissions in Grand Terrace) presents each reduction measure evaluated for Grand Terrace. 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.

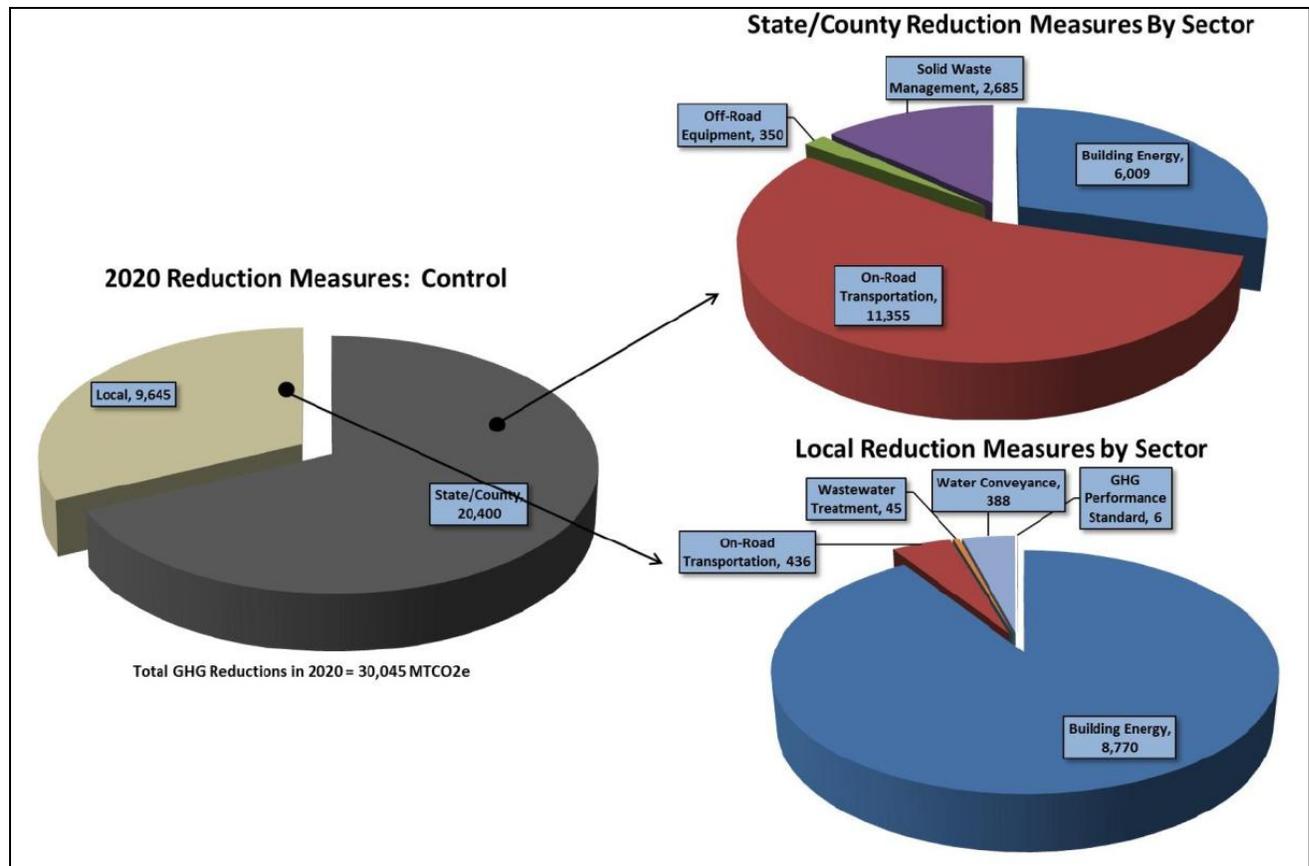


Figure 4.7-4 Emission Reductions by Control and by Sector for Grand Terrace

Table 4.7-4 GHG Reduction Measures and Estimated 2020 Reduced Emissions in Grand Terrace		
Reduction Measure Number	Description	Emissions Reductions
<b>STATE AND COUNTY MEASURES</b>		
State-1	Renewable Portfolio Standard	4,071
State-2	Title 24	464
State-3	AB 1190	1,270
State-4	Solar Water Heating	38
State-5	Industrial Boiler Efficiency	166
State-6	Pavley and Low Carbon Fuel Standard	10,436
State-7	AB 32 Transportation Reduction Strategies	919
State-8	Low Carbon Fuel Standard-Off-road	350
State-9	AB 32 Methane Capture	0
County-1	County GHG Reduction Plan Landfill Controls	2,685

**Table 4.7-4 GHG Reduction Measures and Estimated 2020 Reduced Emissions in Grand Terrace**

<i>Reduction Measure Number</i>	<i>Description</i>	<i>Emissions Reductions</i>
<b>LOCAL MEASURES</b>		
<b>Building Energy</b>		
Energy-1	Energy Efficiency of Existing Buildings	129
Energy-2	Outdoor Lighting	160
Energy-4	Solar Installation for New Housing	63
<i>Wastwater-2 (BE)</i>	<i>Equipment Upgrades</i>	316
<i>Water-4 (BE)</i>	<i>Implement SBX 7-7</i>	8,103
<b>On-Road Transportation</b>		
Transportation-2	Smart Bus Technologies	436
<b>Wastewater Treatment</b>		
<i>Water-4 (WT)</i>	<i>Implement SBX 7-7</i>	45
<b>Water Conveyance</b>		
Water-4	Implement SBX 7-7	388
<b>GHG Performance Standard for New Development</b>		
PS-1	GHG Performance Standard for New Development	6
<b>Total Reductions</b>		<b>30,045</b>

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

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

Table 4.7-5 (Summary of Environmental Impacts of Implementing Local Reduction Measures in Grand Terrace) summarizes the environmental impacts of implementing the Regional Reduction Plan local reduction measures by issue area.

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

Cultural Resources (Historical Resources)

**MM4.7.5-1**

*Prior to activities that would physically affect any buildings or structures built prior to 1950 or older or affect their historic setting, a cultural resource professional who meets the Secretary of the Interior's Professional Qualifications Standards for Architectural History shall be retained 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 Grand Terrace, 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. Methods could include, but are not limited to, written and photographic recordation of the resource in accordance with the level of Historic American Building Survey (HABS) documentation that is appropriate to the significance (local, state, national) of the resource.*

**Table 4.7-5 Summary of Environmental Impacts of Implementing Local Reduction Measures in Grand Terrace**

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-2	Energy-4	Wastewater-2	Transportation-2	Water-4	PS-1
<b>Aesthetics</b>							
Scenic vistas	LS	NI	LS/PR	NI	NI	NI	NI
Scenic highways	NI	NI	NI	NI	NI	NI	NI
Visual character or quality	LS	NI	LS/PR	NI	NI	NI	NI
Light and glare	LS	LS	LS/PR	NI	NI	NI	NI
Cumulative impacts	LS	LS	LS/PR	NI	NI	NI	NI
<b>Agriculture/Forestry Resources</b>							
Convert farmland to nonagricultural use	NI	NI	NI	NI	NI	NI	NI
Conflict with existing agricultural zoning or Williamson Act	NI	NI	NI	NI	NI	NI	NI
Conflict with existing forest land or timberland zoning	NI	NI	NI	NI	NI	NI	NI
Loss or conversion of forest land to nonforest land	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
Cumulative impacts	NI	NI	NI	NI	NI	NI	NI
<b>Air Quality</b>							
Conflict or obstruct air quality management plan	LS	LS	LS	LS	LS	LS	LS
Violation of air quality standard	NI	NI	NI	NI	NI	NI	LS
Exposure of sensitive receptors	NI	NI	NI	NI	NI	NI	NI
Creation of objectionable odors	NI	NI	NI	NI	NI	NI	NI
Cumulatively considerable net increase of any nonattainment criteria pollutant	LS	LS	LS	NI	NI	NI	LS

**Table 4.7-5 Summary of Environmental Impacts of Implementing Local Reduction Measures in Grand Terrace**

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-2	Energy-4	Wastewater-2	Transportation-2	Water-4	PS-1
<b>Biological Resources</b>							
Special-status species	NI	NI	NI	NI	NI	NI	NI
Riparian habitat or other sensitive natural community	NI	NI	NI	NI	NI	NI	NI
Protected wetlands	NI	NI	NI	NI	NI	NI	NI
Wildlife movement	NI	NI	NI	NI	NI	NI	NI
Conflict with any local policies or ordinances protecting biological resources	NI	NI	NI	NI	NI	NI	NI
Conflict with habitat conservation plan	NI	NI	NI	NI	NI	NI	NI
Cumulative impacts	NI	NI	NI	NI	NI	NI	NI
<b>Cultural Resources</b>							
Substantial adverse change in significance of a historical resource	LS/MM	NI	NI	NI	NI	NI	NI
Substantial adverse change in significance of a archaeological resource	NI	NI	NI	NI	NI	NI	NI
Destruction of a unique paleontological resource or site or unique geologic feature	NI	NI	NI	NI	NI	NI	NI
Disturb any human remains	NI	NI	NI	NI	NI	NI	NI
Cumulative impacts	LS/MM	NI	NI	NI	NI	NI	NI
<b>Geology/Soils</b>							
Fault rupture, strong seismic groundshaking, seismic-related ground failure, including liquefaction, landslides	LS/PR	NI	LS/PR	NI	NI	NI	NI
Substantial soil erosion or loss of topsoil	NI	NI	NI	NI	NI	NI	NI
Located on a geologic unit or soil that is unstable, resulting in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse	NI	NI	NI	NI	NI	NI	NI
Located on expansive soil	NI	NI	NI	NI	NI	NI	NI

**Table 4.7-5 Summary of Environmental Impacts of Implementing Local Reduction Measures in Grand Terrace**

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-2	Energy-4	Wastewater-2	Transportation-2	Water-4	PS-1
Soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems	NI	NI	NI	NI	NI	NI	NI
Cumulative impacts	LS/PR	NI	NI	NI	NI	NI	NI
<b>Greenhouse Gas Emissions/Global Climate Change</b>							
Generate greenhouse gas emissions	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
<b>Hazards/Hazardous Materials</b>							
Create significant hazard through the routine transport, use, or disposal of hazardous materials	LS/PR	NI	NI	NI	NI	NI	NI
Create significant hazard through release of hazardous materials	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
Located on a site that is included on a list of hazardous materials sites, creating significant hazard	NI	NI	NI	NI	NI	NI	NI
Located within 2 miles of a public airport or public use airport	NI	NI	NI	NI	NI	NI	NI
Located within the vicinity of a private airstrip	NI	NI	NI	NI	NI	NI	NI
Impair or interfere with an adopted emergency response plan or emergency evacuation plan	NI	NI	NI	NI	NI	NI	NI
Risk of loss, injury, or death involving wildland fires	NI	NI	NI	NI	NI	NI	NI
Cumulative impacts	LS/PR	NI	NI	NI	NI	NI	NI
<b>Hydrology/Water Quality</b>							
Violate any water quality standards or waste discharge requirements	NI	NI	NI	LS	NI	NI	NI
Deplete groundwater supplies or interfere with groundwater recharge	NI	NI	NI	NI	NI	NI	NI
Alter the existing drainage pattern of the site or area, resulting in substantial erosion or siltation	NI	NI	NI	NI	NI	NI	NI

**Table 4.7-5 Summary of Environmental Impacts of Implementing Local Reduction Measures in Grand Terrace**

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

<i>Environmental Impacts</i>	<i>Regional Reduction Plan Local Reduction Measure</i>						
	<i>Energy-1</i>	<i>Energy-2</i>	<i>Energy-4</i>	<i>Wastewater-2</i>	<i>Transportation-2</i>	<i>Water-4</i>	<i>PS-1</i>
Alter the existing drainage pattern of the site or area, resulting in on- or off-site flooding	NI	NI	NI	NI	NI	NI	NI
Exceed the capacity of existing or planned stormwater drainage systems or provide additional sources of polluted runoff	NI	NI	NI	NI	NI	NI	NI
Otherwise degrade water quality	NI	NI	NI	NI	NI	NI	NI
Place housing within a 100-year flood hazard area	NI	NI	NI	NI	NI	NI	NI
Place within a 100-year flood hazard area structures that would impede or redirect flood flows	NI	NI	NI	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	NI	NI	NI	NI	NI
Inundation by seiche, tsunami, or mudflow	NI	NI	NI	NI	NI	NI	NI
Cumulative impacts	NI	NI	NI	LS	NI	NI	NI
<b>Land Use/Planning</b>							
Physically divide an established community	NI	NI	NI	NI	NI	NI	NI
Conflict with any applicable land use plan, policy, or regulation	LS	LS	LS	LS	LS	LS	LS
Conflict with any applicable habitat conservation plan or natural community conservation plan	NI	NI	NI	NI	NI	NI	NI
Cumulative impacts	LS	LS	LS	LS	LS	LS	LS
<b>Mineral Resources</b>							
Loss of availability of a known mineral resource	NI	NI	NI	NI	NI	NI	NI
Loss of availability of a locally important mineral resource recovery site	NI	NI	NI	NI	NI	NI	NI
Cumulative impacts	NI	NI	NI	NI	NI	NI	NI
<b>Noise</b>							
Noise levels in excess of standards established in the local general plan or noise ordinance	LS/PR	NI	NI	NI	NI	NI	NI

**Table 4.7-5 Summary of Environmental Impacts of Implementing Local Reduction Measures in Grand Terrace**

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-2	Energy-4	Wastewater-2	Transportation-2	Water-4	PS-1
Excessive groundborne vibration or groundborne noise levels	NI	NI	NI	NI	NI	NI	NI
Permanent increase in ambient noise levels	NI	NI	NI	NI	NI	NI	NI
Temporary or periodic increase in ambient noise levels	LS/PR	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
Excessive noise levels within the vicinity of a private airstrip	NI	NI	NI	NI	NI	NI	NI
Cumulative impacts	LS/PR	NI	NI	NI	NI	NI	NI
<b>Population/Housing</b>							
Induce substantial population growth	NI	NI	NI	NI	NI	NI	NI
Displace substantial numbers of existing housing	NI	NI	NI	NI	NI	NI	NI
Displace substantial numbers of people	NI	NI	NI	NI	NI	NI	NI
Cumulative impacts	NI	NI	NI	NI	NI	NI	NI
<b>Public Services</b>							
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
Cumulative impacts	NI	NI	NI	NI	NI	NI	NI
<b>Recreation</b>							
Physical deterioration of recreational facilities	NI	NI	NI	NI	NI	NI	NI
Construction or expansion of recreational facilities	NI	NI	NI	NI	NI	NI	NI
Cumulative impacts	NI	NI	NI	NI	NI	NI	NI

**Table 4.7-5 Summary of Environmental Impacts of Implementing Local Reduction Measures in Grand Terrace**

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

<i>Environmental Impacts</i>	<i>Regional Reduction Plan Local Reduction Measure</i>						
	<i>Energy-1</i>	<i>Energy-2</i>	<i>Energy-4</i>	<i>Wastewater-2</i>	<i>Transportation-2</i>	<i>Water-4</i>	<i>PS-1</i>
<b>Transportation/Traffic</b>							
Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system	NI	NI	NI	NI	LS	NI	LS
Conflict with an applicable congestion management program	NI	NI	NI	NI	LS	NI	LS
Change in air traffic patterns that results in substantial safety risks	NI	NI	NI	NI	NI	NI	NI
Increase hazards due to a design feature or incompatible uses	NI	NI	NI	NI	NI	NI	NI
Inadequate emergency access	NI	NI	NI	NI	NI	NI	NI
Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities	NI	NI	NI	NI	LS	NI	LS
Cumulative impacts	NI	NI	NI	NI	LS	NI	LS
<b>Utilities/Service Systems</b>							
Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board	NI	NI	NI	LS	NI	NI	NI
Construction or expansion of new or existing water or wastewater treatment facilities	NI	NI	NI	LS	NI	LS	NI
Construction or expansion of new or existing stormwater drainage facilities	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	LS	NI
Inadequate wastewater treatment capacity	NI	NI	NI	LS	NI	NI	NI
Insufficient permitted solid waste disposal capacity	NI	NI	NI	NI	NI	NI	NI
Noncompliance with federal, state, or local statutes and regulations related to solid waste	NI	NI	NI	NI	NI	NI	NI
Cumulative impacts	NI	NI	NI	LS	NI	LS	NI

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## 4.7.1 Aesthetics

This section of the EIR analyzes the potential environmental effects on aesthetics in the City of Grand Terrace from implementation of the Regional Reduction Plan. Data for this section were taken from the Grand Terrace General Plan (2010a) and General Plan Update EIR (2010b). 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

The City is characterized by a mixture of natural and urban landforms. The natural environment is made up of diverse landforms, rock outcrops, plants and animal resources, natural colors and hues and panoramic public views of the horizon, and of the surrounding foothills and mountain ranges. Scenic views of nearby hills and of the valley to the north of the City are prominent from a number of locations within the City. Several residential communities have been constructed and oriented to take advantage of the views provided by these natural landforms.

The major scenic resource in the planning area is Blue Mountain on the eastern boundary of the City. Blue Mountain has become the symbol of the City providing a scenic backdrop for much of the City. Scenic views are offered to residences nestled on the side of Blue Mountain including views of the San Bernardino Mountains to the north.

### ■ Regulatory Framework

#### ***Federal***

There are no federal regulations pertaining to visual quality.

#### ***State***

#### **State Scenic Highways Program**

The State Scenic Highway System is a list of highways, mainly state highways that have been designated by the California Department of Transportation (Caltrans) as scenic highways. The California State Legislature, primarily through Streets and Highways Code Section 263, makes highways eligible for designation as a scenic highway. The City of Grand Terrace does not contain any highway segments designated a state scenic highway.

#### **Outdoor Lighting Energy-Efficiency Standards**

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

## Regional

### San Bernardino County Ordinance

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

## Local

### City of Grand Terrace Municipal Code

The Grand Terrace Municipal Code (Title 18 [Zoning]) contains design guidelines that regulate the aesthetic quality of new development with respect to structures, signs, walls, and landscaping and other improvements. Existing regulations also require night light for non-residential developments to be shielded where appropriate to reduce the intensity of light that spills on neighboring properties (Chapter 18.63 [Architectural Review], Chapter 18.80 [Signs]).

### Grand Terrace General Plan

The Grand Terrace General Plan policies that are applicable to aesthetics<sup>1</sup> are as follows:

#### Land Use Element

- Policy 2.4.2** The city shall promote the development of light, non-polluting industry, within the present land use pattern.

#### Open Space and Conservation Element

- Policy 4.6.3** The City shall encourage energy and environmentally sustainable design in new land development projects using the standards of Leadership in Energy and Environmental Design (LEED).

#### Sustainable Design Element

- Policy 9.3.1** Incorporate “green” building practices into the review of all new or renovated development projects.
- Policy 9.3.2** Site and building design in new developments should maximize opportunities for efficient energy performance.

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<sup>1</sup> 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 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***

Regional Reduction Plan reduction measures were reviewed to determine if they would include elements that, if implemented, would result changes in the viewshed that could be subjectively perceived as adverse or negative, or if implementation of the measures would be inconsistent with applicable General Plan goals or City standards pertaining to community design and visual quality.

### ***Effects Not Found to Be Significant***

Threshold	Would the project have a substantial adverse effect on a scenic vista?
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The major scenic resource in Grand Terrace is Blue Mountain on the eastern boundary of the City. Blue Mountain has become the symbol of the City providing a scenic backdrop for much of the City. Scenic views are offered to residences nestled on the side of Blue Mountain including views of the San Bernardino Mountains to the north. New development is expected to be infill and relative minor in scale.

It is expected that, as a result of implementing a GHG Performance Standard for New Development (PS-1), the installation of energy-saving features (e.g., indoor energy-efficient appliances, roof-mounted equipment, or small-scale energy-generating facilities for a new individual development project) would be within the footprint of that development. As such, potential impacts on scenic vistas would neither be a direct nor indirect effect of implementing the Regional Reduction Plan in Grand Terrace. If there are elements of new development that could result in changes that would affect the integrity of Blue Mountain as a visual asset, such effects would be minimized through compliance with General Plan Open Space and Conservation Element policies and City's design review process. Energy-efficiency retrofits (Energy-1) and solar installation in new housing developments (Energy-4) would also be subject to the City's design standards.

Other measures such as On-Road-2, Water-4, and Wastewater-2 would not directly or indirectly result in physical changes to the environment that would affect scenic vistas in Grand Terrace.

Therefore, implementation of the Regional Reduction Plan would not have a substantial effect on a scenic vista, and the impact would be *less than significant*. No mitigation is required.

Threshold	Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?
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The I-215 passes through the northwest portion of the City. This segment of I-215 has not been officially designated as a scenic highway in the California State Highway Program. There are also no County designated scenic routes in the City. As a consequence, there would be *no impact*.

Threshold	Would the project substantially degrade the existing visual character or quality of the site and its surroundings?
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The City is largely built out. As such, the visual character of the City as a whole has already been established. New development projects would be subject to policies and policy actions in the General Plan to preserve and enhance the visual quality of residential neighborhoods and City entrances and streetscapes. The General Plan Update Land Use Designations and the City's Zoning Code provide density ranges and development standards which will contribute to consistency in visual quality and character.

With GHG Performance Standard for New Development (PS-1), the installation of energy-saving features (e.g., indoor energy-efficient appliances, roof-mounted equipment, or small-scale energy-generating facilities for a new individual development project) would be within the footprint of that development. As such, potential impacts on visual quality would neither be a direct nor indirect effect of implementing the Regional Reduction Plan in Grand Terrace. If there are elements of new development that could result in changes in visual character, such effects would be minimized through compliance with current City Zoning Code lighting standards and City's design review process. Solar installation in new housing developments (Energy-4) and energy retrofits (Energy-1) would also be subject to the City's design standards.

Other measures such as On-Road-2, Water-4, and Wastewater-2 would not directly or indirectly result in physical changes to the environment that would alter the visual character or quality of a site or its surroundings.

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

Threshold	Would the project create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?
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The installation of energy-saving features (e.g., indoor energy-efficient appliances, roof-mounted equipment, or small-scale energy-generating facilities for a new individual development project) that could occur with PS-1 would be within the disturbance footprint of that development. As such, potential impacts would neither be a direct nor indirect effect of implementing the Regional Reduction Plan in Grand Terrace. If there are elements of new development that could result in new sources of substantial

light or glare, such effects would be minimized through compliance with current City Zoning Code lighting standards in combination with the City's design review process. Solar installation in new housing developments (Energy-4) and energy retrofits (Energy-1) could result in features that could be a source of glare, although, typically solar panels are non-reflective. Solar installations would also be subject to the City's design standards.

Measure Energy-2 encourages lighting along the urban-rural edge not to exceed one-half the current maximum lighting standard. It also would prohibit continuous all night outdoor lighting in parks, sport facilities, and construction sites (unless safety is compromised). In addition, it encourages implementation of CALGreen outdoor lighting standards to achieve energy efficiency. This could be considered a benefit of the proposed project because it could help reduce sources of nighttime lighting that contribute to sky glow.

Other measures (On-Road-2, Water-4, and Wastewater-2) would not directly or indirectly result in physical changes to the environment that could be a source of glare or light.

Therefore, implementation of the Regional Reduction Plan would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area, and the impact would be *less than significant*. No mitigation is required.

## ■ Cumulative Impacts

Cumulative development in the City and surrounding communities has altered scenic vistas, changed the visual quality of the viewshed, and has contributed to moderate to high levels of ambient light and glare. Such past effects and anticipated effects of future development is typical of urban areas in southern San Bernardino County along major transportation corridors. Grand Terrace is largely built out. As such, the visual character of the City as a whole has already been established. The reduction measures that would be implemented by Grand Terrace that could result in changes in visual quality would be limited to features that could be included in new development (PS-1 and Energy-4) or retrofits in existing development (Energy-1). If there are elements of new development that could result in changes in visual character, such effects would be minimized through compliance with current City Zoning Code lighting standards and City's design review process and in conjunction with separate environmental review and discretionary approvals. Therefore, the indirect effect of implementing the measures would not be cumulatively considerable. Implementation of Energy-2 would help reduce nighttime lighting, and, therefore, would not contribute to cumulative lighting impacts. Therefore, the proposed project would not make a cumulatively considerable contribution to aesthetics impacts, and the *cumulative impact would be less than significant*.

## ■ References

Grand Terrace, City of. 2010a. *City of Grand Terrace General Plan*.

———. 2010b. *City of Grand Terrace General Plan Update and Amendment No. 6 to the Redevelopment Plan for the Revised Grand Terrace Community Redevelopment Project Program EIR*.

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

## 4.7.2 Agriculture/Forestry Resources

This section of the EIR analyzes the potential environmental effects on agriculture/forestry resources in the City of Grand Terrace from implementation of the Regional Reduction Plan. Data for this section were taken from the Grand Terrace General Plan (2010a) and General Plan Update EIR (2010b). 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

#### ***Designated Agricultural Lands***

The State of California designates agricultural land into five categories of land use designation based on soil quality and existing agriculture uses to produce maps and statistical data. 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. The highest rated Important Farmland is Prime Farmland. There are approximately 13 acres of Prime Farmland between Pico and Van Buren streets on the west side of the City and approximately 11 acres the foot of Blue Mountain. There are approximately 15 acres of Farmland of Statewide Importance between Pico and Van Buren streets adjoining the Prime Farmland.

Prime Farmland has the best combination of physical and chemical features and is able to sustain long-term agricultural production. The land has the soil quality, growing season, and moisture supply needed to produce sustained high yields and it must have been used for irrigated agricultural production at some time during the four years prior to the mapping date. Farmland of Statewide Importance is similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. The land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

#### ***Existing and Planned Land Uses of Agricultural Lands***

Lands that are used in the production of resources include those lands used for forestry, agriculture, or rangeland or those that are classified as economically important to the production of food and fiber. There are presently no areas within the City limits that are classified as being used for the managed production of resources that are designated as open space or conservation areas.

The City's General Plan Update Land Use Map designates the farmlands on the west side of the City and at the foot of Blue Mountain (where it adjoins the Hillside Open Space designation) as "Public". This designation provides for public uses such as schools, parks, and other city facilities and facilities owned and operated by public utility companies.

## **Timberland**

There is no designated or protected forestry/timberland in Grand Terrace.

### **■ Regulatory Framework**

#### **Federal**

There are no federal regulations pertaining to agricultural or forestry resources.

#### **State**

##### **Williamson Act**

The California Land Conservation Act of 1965, or the Williamson Act, allows city or county governments to preserve agricultural land or open space through contracts with landowners. Contracts last 10 years and are automatically renewed unless a notice of nonrenewal is issued. 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. There are no Williamson Act contract lands in Grand Terrace.

#### **Local**

The General Plan recognizes the potential for managed production of agriculture, rangeland, and forestry lands in open space areas. However, it goes on to state there are presently no areas within the City limits that are classified as being used for the managed production of such resources that should be designated as open space or conservation areas. There are no policies in the General Plan concerning important farmland, agricultural, or forestry uses. Neither the General Plan nor Zoning Code (Municipal Code, Title 18) designates any land in Grand Terrace for agricultural land or timberland use. However, the Zoning Code (Section 18.53) provides for an agricultural overlay zone, which permits limited agricultural uses in areas of the City that historically contained such uses and where current lot size is sufficient to provide a compatible relationship between the limited agricultural uses and the underlying district's residential uses.

### **■ 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 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 locations of Important Farmlands as mapped by the California FMMP and General Plan land use designations were reviewed in combination with the GHG reduction measures selected by the City of Grand Terrace in the Regional Reduction Plan to determine whether the proposed project would result in the conversion of agricultural or timber lands to nonagricultural uses.

### **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?
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There are approximately 50 acres of Important Farmlands in Grand Terrace, which the City has designated as Public under its adopted 2010 General Plan. 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 convert agricultural land to non-agricultural use or in any way degrade the dairy farm as an agricultural use. Therefore, implementation of the Regional Reduction Plan measures would not directly or indirectly change this land use and, therefore, would not result in the conversion of Important Farmlands to other uses. There would be *no impact*.

Threshold	Would the project conflict with existing zoning for agricultural use or with a Williamson Act contract?
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The City has established an agricultural overlay zone. Implementation of the Regional Reduction Plan measures would not affect this overlay zone or Williamson Act contracts because no changes in land use are proposed. There would be *no impact*.

Threshold	Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?
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The General Plan and zoning do not designate any lands for forestry/timberland purposes. There would be ***no impact***.

Threshold	Would the project result in the loss of forest land or conversion of forest land to nonforest use?
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Forested hillsides in Grand Terrace are associated with Blue Mountain, which is designated Open Space in the adopted General Plan. None of the measures that could be implemented in Grand Terrace would directly involve land disturbance beyond that contemplated by the General Plan. There would be ***no impact***.

Threshold	Would the project involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to nonagricultural use or conversion of forest land to nonforest use?
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For the reasons described above, no other changes are anticipated that would result in conversion of Farmland to nonagricultural use or conversion of forest land to nonforest use. There would be ***no impact***.

## ■ Cumulative Impacts

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

## ■ References

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

Grand Terrace, City of. 2010a. *City of Grand Terrace General Plan*.

———. 2010b. *City of Grand Terrace General Plan Update and Amendment No. 6 to the Redevelopment Plan for the Revised Grand Terrace Community Redevelopment Project Program EIR*.

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

### 4.7.3 Air Quality

This section of the EIR analyzes the potential environmental effects on air quality in the City of Grand Terrace from implementation of the Regional Reduction Plan. Data for this section were taken from various sources, including the South Coast Air Quality Management District's (SCAQMD) Air Quality Management Plan (2012 AQMP), SCAQMD's CEQA Air Quality Handbook and online updates (accessed 2012), SCAQMD air monitoring data, the Grand Terrace General Plan (2010a) and General Plan Update EIR (2010b). 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 Grand Terrace 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 (Air Quality System [AQs] No. 060719004). The average low is reported at 50.5°F in January and the average high is 79°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 9.86 inches per year in the project area. Annual average humidity ranges from 58 percent in the eastern portion of the basin to 72 percent by the coast.

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<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), coarse inhalable particulate matter (PM<sub>10</sub>), fine inhalable particulate matter (PM<sub>2.5</sub>), and lead (Pb) are primary air pollutants. VOC and NO<sub>x</sub> are criteria pollutant precursors and go on to form secondary criteria pollutants through chemical and photochemical reactions in the atmosphere. Ozone (O<sub>3</sub>) and nitrogen dioxide (NO<sub>2</sub>) 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 4.7.7 [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<sub>x</sub>)** serve as integral participants in the process of photochemical smog production. The two major forms of NO<sub>x</sub> are nitric oxide (NO) and nitrogen dioxide (NO<sub>2</sub>). NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure. NO<sub>2</sub> is a reddish-brown irritating gas formed by the combination of

NO and oxygen. NO<sub>x</sub> acts as an acute respiratory irritant and increases susceptibility to respiratory pathogens (SCAQMD 2005).

NO<sub>2</sub> is a by-product of fuel combustion. The principal form of NO<sub>2</sub> produced by combustion is NO, but NO reacts with oxygen to form NO<sub>2</sub>, creating the mixture of NO and NO<sub>2</sub> commonly called NO<sub>x</sub>. NO<sub>2</sub> acts as an acute irritant and, in equal concentrations, is more injurious than NO. At atmospheric concentrations, however, NO<sub>2</sub> is only potentially irritating. There is some indication of a relationship between NO<sub>2</sub> 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<sub>2</sub> absorbs blue light; the result is a brownish-red cast to the atmosphere and reduced visibility. NO<sub>2</sub> also contributes to the formation of PM<sub>10</sub>, PM<sub>2.5</sub>, and ozone (SCAQMD 2005).

**Sulfur dioxide (SO<sub>2</sub>)** is a colorless, pungent, irritating gas formed by the combustion of sulfurous fossil fuels. Fuel combustion is the primary source of SO<sub>2</sub>. At sufficiently high concentrations, SO<sub>2</sub> may irritate the upper respiratory tract. At lower concentrations and when combined with particulates, SO<sub>2</sub> may do greater harm by injuring lung tissue. A primary source of SO<sub>2</sub> emissions is high-sulfur-content coal. Gasoline and natural gas have very low sulfur content and hence do not release significant quantities of SO<sub>2</sub> (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 coarse particles, or PM<sub>10</sub>, 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<sub>2.5</sub>, 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<sub>10</sub> and PM<sub>2.5</sub> 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<sub>3</sub>)**, or smog, is one of a number of substances called photochemical oxidants that are formed when VOC and NO<sub>x</sub> (both by-products of the internal combustion engine) react with sunlight. O<sub>3</sub> is present in relatively high concentrations in the Basin, and the damaging effects of photochemical smog are generally related to the concentrations of O<sub>3</sub>. O<sub>3</sub> poses a health threat to those who already suffer from respiratory diseases as well as to healthy people. Additionally, O<sub>3</sub> has been tied to crop damage, typically in the form of stunted growth and premature death. O<sub>3</sub> can also be a corrosive, resulting in property damage such as the degradation of rubber products (SCAQMD 2005).

## Toxic Air Contaminants

The public's exposure to toxic air contaminants (TACs) is a significant environmental health issue in California. In 1983, the California Legislature enacted a program to identify the health effects of TACs and to reduce exposure to these contaminants to protect the public health. The Health and Safety Code defines a TAC as "an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health." A substance that is listed as a hazardous air pollutant pursuant to subsection (b) of Section 112 of the federal Clean Air Act (42 United States Code Section 7412(b)) is a TAC. 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 City of Grand Terrace are best documented by measurements made by the SCAQMD. The City is in the southeastern portion of Source Receptor Area (SRA) 34 (San Bernardino Valley [Central San Bernardino Valley]). The SCAQMD air quality monitoring stations in the SRA 34 that is closest to the City is the Central San Bernardino Valley 1 and Valley 2 Monitoring Stations. Data from these two stations are summarized in Table 4.7.3-1 (Ambient Air Quality Monitoring in the City of Grand Terrace). The data show recurring violations of both the state and federal O<sub>3</sub> standards. The data also indicate that the area regularly exceeds the state PM<sub>10</sub> and federal PM<sub>2.5</sub> standards. The CO, SO<sub>2</sub>, and NO<sub>2</sub> 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 of 1970 (CAA) and the CAA Amendments of 1971 required the U.S. Environmental Protection Agency (USEPA) to establish National Ambient Air Quality Standards (NAAQS), with States retaining the option to adopt more stringent standards or to include other specific pollutants. These NAAQS standards are the levels of air quality considered safe, along with an adequate margin of safety to protect the public health and welfare. They are designed to protect those sensitive receptors most susceptible to further respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

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

**Table 4.7.3-1 Ambient Air Quality Monitoring in the City of Grand Terrace**

Pollutant/Standard	Number of Days Air Quality Standards Were Exceeded per Year and Maximum Level of Concentrations in Each Year <sup>a</sup>				
	2007	2008	2009	2010	2011
<b>Ozone (O<sub>3</sub>)</b>					
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 <sup>b</sup>	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
<b>Carbon Monoxide (CO)</b>					
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
<b>Nitrogen Dioxide (NO<sub>2</sub>)</b>					
State 1-Hour ≥ 0.18 ppm <sup>c</sup>	0	0	0	0	0
Maximum 1-Hour Average Concentration (ppm)	0.09	0.10	0.08	0.07	0.08
<b>Sulfur Dioxide</b>					
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
<b>Suspended Particulates (PM<sub>10</sub>)</b>					
State 24-Hour > 50 µg/m <sup>3</sup>	33	19	13	9	3
Federal-24 Hour > 150 µg/m <sup>3</sup>	0	0	0	0	0
Maximum 24-Hour Average Concentration (µg/m <sup>3</sup> )	136	76	75	63	56
<b>Fine Particulates (PM<sub>2.5</sub>)</b>					
Federal-24 Hour ≥ 35 µg/m <sup>3d</sup>	11	6	3	2	2
Maximum 24-Hour Average Concentration (µg/m <sup>3</sup> )	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<sup>3</sup> = 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<sub>2.5</sub> standard from 65 µg/m<sup>3</sup> to 35 µg/m<sup>3</sup>.

## 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 4.7.3-2 (State and Federal Ambient Air Quality Standards) shows the California Ambient Air Quality Standards and NAAQS for each of the criteria pollutants.

<i>Pollutant</i>	<i>Averaging Time</i>	<i>California Standard</i>	<i>Federal Primary Standard</i>	<i>Major Sources</i>
Ozone (O <sub>3</sub> ) <sup>a</sup>	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 <sub>2</sub> ) <sup>b</sup>	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 <sub>10</sub> )	Annual Arithmetic Mean	20 µg/m <sup>3</sup>	—	Dust from agricultural and construction, combustion, natural activities
	24 hours	50 µg/m <sup>3</sup>	150 µg/m <sup>3</sup>	
Fine Particulates (PM <sub>2.5</sub> ) <sup>c</sup>	Annual Arithmetic Mean	12 µg/m <sup>3</sup>	15 µg/m <sup>3</sup>	Primarily from Internal combustion engines
	24 hours	—	35 µg/m <sup>3</sup>	
Lead (Pb)	Monthly	1.5 µg/m <sup>3</sup>	—	Lead smelters and lead battery manufacturing & recycling.
	Quarterly	—	1.5 µg/m <sup>3</sup>	
Sulfates (SO <sub>4</sub> )	24 hours	25 µg/m <sup>3</sup>		Industrial processes

SOURCE California ARB (2012).

ppm = parts per million; µg/m<sup>3</sup> = 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<sub>2.5</sub> standard from 65 µg/m<sup>3</sup> to 35 µg/m<sup>3</sup>

## 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<sub>10</sub>, PM<sub>2.5</sub>, 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 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<sub>2.5</sub> 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 4.7.3-3 (Attainment Status of Basin) shows the attainment status for criteria air pollutants in the Basin.

<b>Table 4.7.3-3 Attainment Status of Basin</b>		
<i>Pollutant</i>	<i>State</i>	<i>Federal</i>
Ozone: 1-hour	Extreme Nonattainment	Extreme Nonattainment
Ozone: 8-hour	Extreme Nonattainment	Severe-1 Nonattainment
Carbon Dioxide (CO)	Attainment	Attainment
Nitrogen Dioxide (NO <sub>2</sub> )	Attainment	Attainment/Maintenance
Sulfur Dioxide (SO <sub>2</sub> )	Attainment	Attainment
Suspended Particulates (PM <sub>10</sub> )	Serious Nonattainment	Serious Nonattainment
Fine Particulates (PM <sub>2.5</sub> )	Nonattainment	Nonattainment
Lead	Attainment	Attainment
Sulfates (SO <sub>4</sub> )	Unclassified	Unclassified

SOURCE California ARB (2012).

## Local

### Grand Terrace General Plan

The Grand Terrace General Plan policies that are applicable to air quality and air pollutant emissions<sup>2</sup> are as follows:

- Policy 2.1.6** Mixed use development which can demonstrate superior use of land, more efficient utilization of public facilities, and more effective conservation of natural resources shall be strongly encouraged by the City of Grand Terrace.
- Policy 2.4.1** The City shall promote the development of employment generating, light, nonpolluting industry, within the present land use pattern.
- Policy 2.4.2** The City shall promote the development of light, non-polluting industrial uses within the City.
- Policy 2.5.3** Energy efficiency shall be encouraged in all future development.
- Policy 3.1.4** Coordinate with transportation planning, programming and implementation agencies such as SCAG, Caltrans, SANBAG, and the cities of San Bernardino County, as well as neighboring jurisdictions in Riverside County on various studies relating to freeway, high occupancy vehicle/high occupancy toll lanes and transportation corridor planning, construction, and improvement in order to facilitate the planning and implementation of an integrated circulation system in accordance with regional planning goals
- Policy 3.4.1** Develop a system of continuous and convenient bicycle routes designed to connect schools, residential areas, shopping centers, parks, and employment areas.

<sup>2</sup> 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.

- Policy 3.4.2** The City shall promote and facilitate the use of bicycles as an alternative mode of transportation through the development of a City-wide network of bikeways.
- Policy 3.4.3** The City shall seek grants and other available funding sources to construct additional segments of the Bikeway Plan.
- Policy 3.4.4** The City shall develop a public relations program, in concert with other local and regional agencies, to promote bicycle usages.
- Policy 3.4.5** The City shall work with the San Bernardino County Parks Department to provide connections within the City to the Santa Ana River Trail.
- Policy 3.4.6** The City shall require the provision of bike racks at all new commercial and industrial developments.
- Policy 3.5.1** Promote measures which reduce reliance on single occupant vehicle usage by enforcement of the Traffic Control Measures (TCM) ordinance which addresses development standards, land use patterns, employer based ride share programs and bicycle/pedestrian facilities.
- Policy 3.5.2** The City shall participate in local and regional public transit programs.
- Policy 3.5.3** The City shall encourage and facilitate pedestrian movement by creating environments that are conducive to walking and maintaining a "human scale" of development.
- Policy 3.5.4** The City shall work closely with the regional transit agencies to ensure convenient and the affordable bus service continues to be available to local residents.
- Policy 3.5.5** The City shall work with OmniTrans and SANBAG to implement a public transit system that meets the City's need for internal circulation as well as connections to regional activity centers and inter-urban transit routes.
- Policy 3.5.6** The City shall encourage Transit Oriented Development (TOD) to provide housing that is in close proximity to designated public transit facilities and routes.
- Policy 3.5.7** The City shall provide amenities along the Barton Road corridor that promote pedestrian and bicyclist use, such as a continued system of pedestrian paths and bikelanes to connect the City Center with schools, parks, and residential areas.
- Policy 4.1.4** The City shall evaluate the possibility of developing the Gage Canal as a linear park including a pedestrian/bike trail which would connect with the proposed regional trail along the Gage Canal in Riverside County.
- Policy 4.1.5** The City will establish guidelines and standards for the establishment of a linkage system among the City's parks and open space areas. In residential areas, the feasibility of utilizing sidewalks shall be made. These sidewalks will be part of the "Pedestrian Sidewalk Master Plan" called for in the Circulation Element and "safe routes" to schools plan. In addition, consideration will be given to the placement of appropriate signage along the sidewalk identifying them as part of a designated trail system.
- Policy 4.1.6** The City will work with other public agencies and private entities to coordinate its trail planning and development to tie into the regional trails systems, including the California Recreational Trail System, connecting neighboring cities and counties.

These trails may be used for pedestrian, equestrian, or biking. Such efforts will include a connection with the Santa Ana River Trail as shown in the "Plan of Open Space and Trails for the County of San Bernardino" and with the trail system of the County of Riverside including the proposed regional trail along the Gage Canal in Riverside County.

- Policy 4.1.7** The City will explore various means to fund the construction and maintenance of its trail system.
- Policy 4.4.2** The City shall evaluate the feasibility of extending bike lanes and pedestrian paths to allow people to walk to the public plaza area in the Town Square project on Barton Road.
- Policy 4.4.4** The City shall continue to implement the City's Bike Trail Master Plan as funds are available.
- Policy 4.6.1** The City shall establish an energy conservation policy and implementation program for all City facilities.
- Policy 4.6.2** The City shall implement a public outreach program to provide the public with information regarding energy conservation practices and programs.
- Policy 4.6.3** The City shall encourage energy and environmentally sustainable design in new land development projects using the standards of Leadership in Energy and Environmental Design (LEED).
- Policy 4.6.4** The City shall work with its franchised solid waste collection company to implement recycling programs designed to reduce the per capita waste generation within the City while responding to the requirements of the California Integrated Waste Management Act of 1989.
- Policy 4.7.1** The City shall evaluate and implement traffic flow improvements and construction management practices that reduce locally generated vehicle emissions.
- Policy 4.7.2** The City shall encourage the use of public transportation through coordination with local and regional transit providers.
- Policy 4.7.3** The City shall encourage land use planning and urban design that reduces vehicle trips through mixed use development, consolidation of commercial uses along arterial highways, and pedestrian connection between residential and commercial uses.
- Policy 4.7.4** The City shall promote public education programs regarding air quality programs and practices.
- Policy 4.7.5** The City shall encourage employers to develop and implement trip reduction plans including alternate work schedules, rideshare programs, telecommuting, and employee education programs.
- Policy 4.7.6** The City shall implement policies and procedures designed to reduce emissions generated by construction activities including enforcement of SCAQMD Rule 403.

- Policy 4.7.7** The City shall promote energy conservation efforts in new and existing residences and businesses.
- Policy 7.2.3** Work with Riverside Highland Water Company to promote water conservation and education programs.
- Policy 7.4.3** Work with the County and the City’s waste hauler to implement effective recycling programs to reduce the total amount of waste requiring disposal.
- Policy 8.1.3** Promote and encourage infill housing development and more intensive use of underutilized land for residential construction.
- Policy 8.1.9** Amend the Barton Road Specific Plan to promote a village atmosphere in the downtown that will encourage a mix of residential and commercial activity.
- Policy 8.1.10** Promote mixed use development with senior citizen housing in the Barton Road Specific Plan areas.
- Policy 8.2.4** Support the development of cost saving and energy conserving construction techniques.
- Policy 8.3.5** Encourage the use of rehabilitation assistance programs to make residences more energy efficient.
- Policy 9.1.1** The City shall work with Southern California Edison to promote energy conservation at residences and businesses.
- Policy 9.1.2** The City shall incorporate energy conservation measures into conditions of approval for new development projects.
- Policy 9.2.1** The City shall reduce the use of disposable products at all City facilities.
- Policy 9.2.2** Require all new development projects to recycle construction and demolition wastes.
- Policy 9.2.3** The City shall work with its franchise waste collection company to expand current recycling programs.
- Policy 9.3.1** Incorporate “green” building practices into the review of all new or renovated development projects.
- Policy 9.3.2** Site and building design in new developments should maximize opportunities for efficient energy performance.
- Policy 9.5.1** The City shall encourage alternative transportation modes, including mass transit, ride sharing, bicycles, and pedestrian transportation.
- Policy 9.5.2** The City shall encourage the creation of local jobs designed to reduce commuter mileage and fuel consumption.
- Policy 9.5.3** The City shall encourage new and rehabilitation projects that support alternative transportation modes.
- Policy 9.6.1** The City shall discourage the use of volatile and hazardous materials at municipal facilities.
- Policy 9.7.1** The City shall work with Riverside Highland Water Company to reduce water consumption throughout the City.

- Policy 9.7.2** The City shall incorporate water conservation into the development review Process
- Policy 9.8.1** The City shall support green development standards for new or rehabilitated public buildings and facilities.
- Policy 9.8.2** The City shall actively reduce greenhouse gas emissions from public facilities throughout the community.

## ■ 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 4.7.3-4 (SCAQMD Thresholds of Significance).

<b>Table 4.7.3-4 SCAQMD Thresholds of Significance</b>		
<i>Pollutant</i>	<i>Construction Phase</i>	<i>Operational Phase</i>
Volatile Organic Compounds (VOC; an ozone precursor)	75 lb/day	55 lb/day
Nitrogen Oxides (both NO <sub>2</sub> and NO <sub>x</sub> as an ozone precursor)	100 lb/day	55 lb/day
Sulfur Oxides (SO <sub>x</sub> , both SO <sub>2</sub> and SO <sub>4</sub> )	150 lb/day	150 lb/day
Carbon Monoxide (CO)	550 lb/day	550 lb/day
Suspended Particulates (PM <sub>10</sub> )	150 lb/day	150 lb/day
Fine Particulates (PM <sub>2.5</sub> )	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 City of Grand Terrace 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?
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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<sub>2.5</sub> 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 Grand Terrace designed to increase energy efficiency and reduce VMT. While these reduction strategies were formulated to reduce greenhouse gases, they also act to improve overall air quality by reducing emissions of criteria pollutants.

The City will implement transportation measures to improve air quality. These include VMT reduction strategies such as Regional Reduction Plan reduction Transportation-2, Smart Bus Technologies which helps to implement the SCS within Grand Terrace by providing for enhanced technologies that provide for greater ease of use. Increased user functionality will promote use of alternative modes of transportation within the City.

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 improve air quality by reducing vehicle-related air pollutant emissions through the reduction of VMT. 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 criteria air pollution locally. The implementation of the Regional Reduction Plan will further the goals of the Air Quality Management Plan for the Basin. Therefore, this impact is ***less than significant***. No mitigation is required.

Threshold	Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?
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Construction activities, such as building energy retrofits and grading or excavation activities, if required, for installation of energy-generating structures or bicycle/pedestrian paths and transit infrastructure, would result in temporary, short-term emissions of air pollutants. The primary source of NO<sub>x</sub>, CO, and SO<sub>x</sub> emissions is the operation of construction equipment. The primary sources of particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>) emissions include activities that disturb the soil, such as grading and excavation, road construction, and building demolition and construction. The primary source of VOC emissions is the application of architectural coating and off-gas emissions associated with asphalt paving. Because information regarding specific facilities and building details required to implement the Regional Reduction Plan reduction measures is not available, short-term construction emissions from these activities cannot be quantified. However, these temporary, short-term emissions would not be substantial, and would be offset by the operation of energy-efficiency retrofits, renewable energy project, pedestrian and bicycle paths and transit infrastructure that are part of the reduction measures in the Regional Reduction Plan that would result in an overall reduction in both GHG and criteria air pollutant emissions.

While we may not be able to quantify short-term construction emissions, long-term emissions of criteria pollutants from operation of the energy efficiency measures, renewable energy generation, methane capture systems, water conservation measures, solid waste diversion programs, and the various transportation measures are better understood at a regional level. This is because of the level of commitment that the City of Grand Terrace has chosen in implementing the reduction measures in the Regional Reduction Plan. Table 4.7.3-5 (City of Grand Terrace Regional Emissions) compares the criteria pollutant emissions predicted in The Grand Terrace 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 Grand Terrace General Plan, but the net emissions from buildout of the Grand Terrace General Plan are still over the SCAQMD Thresholds. This significant impact was addressed in the Grand Terrace General Plan EIR. Impacts from the Regional Reduction Plan reduce criteria pollutants and benefit air quality in Grand Terrace. Therefore, the impact for the proposed project is ***less than significant***. No mitigation is required.

Threshold	Would the project expose sensitive receptors to substantial pollutant concentrations?
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As shown in Table 4.7.3-5, the Regional Reduction Plan will reduce criteria pollutant emissions within the City of Grand Terrace. Additionally, the Regional Reduction Plan reduction strategies Wastewater-2 (Equipment Upgrades) and Water-4 (Implement SBX 7-7) would reduce criteria pollutant emissions indirectly by reducing the amount of electricity generated to support the needs of the City. Further, implementation of Regional Reduction Plan reduction strategy Transportation-2 (Smart Bus Technologies) would reduce emissions of criteria pollutants directly by reducing vehicle miles traveled within the City. The emissions reduction strategies selected by the City do not include any new facilities that would result in a new source of TAC emissions, including diesel particulate matter. While there is discussion of a Highgrove/Grand Terrace Metrolink Station, the station would be situated in Highgrove

and therefore emissions associated with the station would be addressed by environmental documentation for Highgrove. Therefore, the project would not expose sensitive receptors in the City to substantial pollutant concentrations. This impact would be *less than significant*. No mitigation is required.

<b>Table 4.7.3-5 City of Grand Terrace Regional Emissions (lb/day)</b>					
<i>Emission Sources</i>	VOC	NO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>Grand Terrace General Plan</b>					
Transportation	780	987	8,383	2,692	528
Area Sources:					
Natural Gas	7.38	98	59	0.18	0.18
Landscaping	2.11	0.26	20.32	0.07	0.07
Consumer Products			289.02		
Architectural Coatings			54.99		
<i>Subtotal Area Sources</i>	10	98	424	0	0
<b>Total Grand Terrace General Plan Emissions</b>	<b>790</b>	<b>1,085</b>	<b>8,806</b>	<b>2,692</b>	<b>528</b>
<b>Changes in Emissions with Regional Reduction Plan<sup>a</sup></b>					
Transportation	-222	-281	-2,389	-767	-150
Area Sources:					
Natural Gas	-0.5	-6.7	-4.1	0.0	0.0
Landscaping	0	0	0	0	0
Consumer Products	0	0	0	0	0
Architectural Coatings	0	0	0	0	0
<i>Subtotal Area Sources Changes</i>	-0.51	-6.75	-4.07	-0.01	-0.01
GHG Performance Standard <sup>b</sup>	-0.1	-0.1	-0.6	-0.2	0.0
<b>Total Changes in Emissions</b>	<b>-223</b>	<b>-288</b>	<b>-2,394</b>	<b>-767</b>	<b>-150</b>
<b>Emission Comparison</b>					
Net Grand Terrace General Plan Emissions with implementation of the Regional Reduction Plan	567	797	6,413	1,925	377
Estimated Regional Reduction Plan Percent Reduction in Air Pollution	28.2%	26.5%	27.2%	28.5%	28.5%
<b>SCAQMD Threshold</b>	<b>55</b>	<b>55</b>	<b>550</b>	<b>150</b>	<b>55</b>
Is Grand Terrace General Plan Significant with Regional Reduction Plan Reductions?	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>
Is the Regional Reduction Plan Significant?	No	No	No	No	No
lb/day = pounds per day					
a. Regional Reduction Plan reductions based on percentage reductions by sector (energy sector = natural gas, etc.).					
b. GHG Performance Standard is not sector specific. Estimated reductions based upon expected reductions of totals for new development.					

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

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 Grand Terrace includes components that typically generate odors. Therefore, this impact would be ***less than significant***. No mitigation is required.

## ■ Cumulative Impacts

Threshold	Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?
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As shown in Table 4.7.3-5, the Regional Reduction Plan will reduce criteria pollutant emissions within the City of Grand Terrace. 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 Grand Terrace General Plan to be less than cumulatively considerable. Therefore, the net emissions resulting from the Grand Terrace General Plan with implementation of 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 Grand terrace Plan was identified in the Grand Terrace Plan Update Program EIR.

However, because implementation of the Regional Reduction Plan has a net reduction in air pollution, the ***cumulative impact would be less than significant***. No mitigation is required.

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## 4.7.4 Biological Resources

This section of the EIR analyzes the potential environmental effects on biological resources in the City of Grand Terrace from implementation of the Regional Reduction Plan. Data for this section were taken from the Grand Terrace General Plan (2010a) and General Plan Update EIR (2010b). 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

The City is approximately 85 percent built out. There remain approximately 600 acres of undeveloped area within the City. The majority of this acreage is located along the west slopes of Blue Mountain. This area supports a wide range of plants and animal life.

#### ***Sensitive Vegetation Communities***

Sensitive vegetation communities in the City include Riversidean Alluvial Fan Sage Scrub, Southern Coast Live Oak Riparian Forest, Southern Cottonwood Willow Riparian Forest, Southern Riparian Scrub, and Southern Sycamore-Alder Riparian Woodland.

#### **Special-Status Species**

##### *Plants*

Twenty-eight sensitive plant species are known to occur within the vicinity of Grand Terrace. Seven are federally or state-listed special-status species: Nevin's barberry, Gambel's yellowcress, marsh sandwort, Santa Ana River woollystar, slender-horned spineflower, salt marsh bird's beak, and thread-leaved brodiaea.

##### *Wildlife*

Thirty-four sensitive wildlife species are known to occur within the vicinity of Grand Terrace. Nine are federally or state-listed special-status species: Delhi Sands flower-loving fly, Santa Ana sucker, mountain yellow-legged frog, coastal California gnatcatcher, western yellow-billed cuckoo, least Bell's vireo, southwestern willow flycatcher, San Bernardino kangaroo rat, and Stephen's kangaroo rat.

#### **Wildlife Corridors**

The concept of habitat corridors addresses the linkage between large blocks of habitat that allow the safe movement of mammals and other wildlife species from one habitat area to another. The definition of a corridor is varied, but corridors may include such areas as greenbelts, refuge systems, underpasses, and biogeographic landbridges, for example. Wildlife corridors in Grand Terrace are limited to the southeast corner of the city where Blue Mountain connects to Sugarloaf Mountain. Other areas include Cassina Springs to south of Grand Terrace, and to Reche Canyons and San Timoteo Canyons in a southeast direction. The San Timoteo Canyons connect to the San Bernardino Mountains through the City of

Yucaipa. These areas are generally open space, and which would remain open space under the General Plan.

### **Designated Critical Habitat and Recovery Plans**

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. The USFWS has designated Final Critical Habitats for two federally listed species: the San Bernardino kangaroo rat and the coastal California gnatcatcher. Grand Terrace is not within Critical Habitat for the San Bernardino kangaroo rat, but the eastern part of the City is within Final Critical Habitat for coastal California gnatcatcher.

Critical habitat has not been designated for the Delhi Sands flower-loving fly, but a Draft Recovery Plan for the DSFLF was prepared in 1997. The plan comprises three recovery units (RUs): Ontario, Jurupa, and Colton. Grand Terrace is adjacent to the Colton RU.

### **Habitat Conservation Plans**

Neither the City of Grand Terrace nor the County of San Bernardino has adopted a federal or state habitat conservation plan that provides any requirements or guidance for the planning area.

### **Conservation Areas**

There are no designated conservation areas in the Grand Terrace planning area.

## **■ Regulatory Framework**

### **Federal**

#### **Endangered Species Act**

The Federal Endangered Species Act of 1973 (FESA), as amended, was promulgated to protect and conserve any species of plant or animal that is endangered or threatened with extinction and the habitats in which these species are found. “Take” of endangered species is prohibited under FESA Section 9. Take, as defined under the FESA, means to “harass, harm, pursue, hunt, wound, kill, trap, capture, collect, or attempt to engage in any such conduct.” FESA Section 7 requires federal agencies to consult with the U.S. Fish and Wildlife Service (USFWS) on proposed federal actions that may affect any endangered, threatened, or proposed (for listing) species or critical habitat that may support the species. FESA Section 4(a) requires that critical habitat be designated by the USFWS “to the maximum extent prudent and determinable, at the time a species is determined to be endangered or threatened.”

#### **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 RWQCB. The City of Grand Terrace is within the jurisdiction of the Santa Ana RWQCB (Region 8).

### **Clean Water Act, Section 404**

The United States Army Corps of Engineers (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 Regional Water Quality Control Board (RWQCB).

## **State**

### **California Endangered Species Act**

The California Endangered Species Act (CESA) generally parallels the main provisions of the FESA and is administered by the California Department of Fish and Wildlife (CDFW). Its intent is to prohibit take and protect state-listed endangered and threatened species of fish, wildlife, and plants. Unlike its federal counterpart, CESA also applies the take prohibitions to species petitioned for listing (state candidates). Candidate species may be afforded temporary protection as though they were already listed as threatened or endangered at the discretion of the Fish and 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 California Natural Diversity Data Base (CNDDB) project. Informally listed taxa are not protected per se, but warrant consideration in the preparation of biological resources assessments.

## California Fish and 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.

## California Fish and Wildlife Code, Section 3503.5

Birds of prey are protected under the California Fish and Wildlife Code. Section 3503.5 of the code states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "take" by the CDFW.

## Local

### City of Grand Terrace Municipal Code

Chapter 12.28 (Street and Parkway Trees) regulates the installation, maintenance, removal and pruning of trees within the City's rights of way. Chapter 15.56 (Water Efficient Landscape) outlines provisions for water efficient landscaping in new and rehabilitated public and private development projects and also certain existing landscapes.

### Grand Terrace General Plan

The Grand Terrace Plan policies that are applicable to biological resources<sup>3</sup> are as follows:

#### Open Space and Conservation Element

**Policy 4.2.5** The City shall act to reasonably conserve and protect significant biological resources.

**Action 4.2.5.a** For projects located in areas with potential for moderate or high plant and wildlife sensitivity, require biological surveys as part of the development review process, distribute this analysis to the appropriate responsible agencies, and require compliance with any recommended mitigation measures.

**Action 4.2.5.b** Coordinate with State and federal agencies to preserve rare and endangered species and areas of special habitat value through the environmental review process.

#### Sustainable Development Element

**Policy 9.4.2** The City shall provide trees and other landscaping along all arterial highways.

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<sup>3</sup> 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 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**

Baseline information to characterize biological resources that could be affected by the proposed project was compiled from readily available publications, including the General Plan, and available resource mapping. GHG reduction measures selected by the City of Grand Terrace in the Regional Reduction Plan were reviewed to determine which actions could result in physical changes to the environment that could affect biological resources.

### **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?
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Sensitive vegetation communities in the City include Riversidean Alluvial Fan Sage Scrub, Southern Coast Live Oak Riparian Forest, Southern Cottonwood Willow Riparian Forest, Southern Riparian Scrub, and Southern Sycamore-Alder Riparian Woodland. In addition, a number of sensitive plant species are known to occur or have the potential to occur in the City, and a portion of the City is within Final Critical Habitat for coastal California gnatcatcher. There are a number of sensitive animal species

are known to occur or have the potential to occur within the City. The San Timoteo Canyons as well as green belts throughout the City provide important foraging, dispersal, migratory, and wildlife corridors for many sensitive species. Development of large undisturbed areas will result in the elimination of habitat and food resources through the removal of vegetation communities. The majority of impacts to sensitive vegetation communities and wildlife species may occur as a result of project-specific activities developed pursuant to the General Plan.

Implementation of the GHG Performance Standard for New Development (PS-1) could involve the installation of energy-saving features (e.g., indoor energy-efficient appliances, roof-mounted equipment, or small-scale energy-generating facilities for a new individual development project), which would be within the footprint of that development. Similarly, solar installation in housing within new housing developments (Energy-4) would also be within the development footprint, and energy retrofits (Energy-1) would be on existing structures. As such, potential impacts on special-status species or habitat supporting those species would neither be a direct nor indirect effect of implementing the Regional Reduction Plan in Grand Terrace. If there are elements of new development that could result in changes that could affect these resources, at the time individual development applications are submitted, the City will assess development proposals for potential impacts to significant natural resources pursuant to CEQA and associated state and federal regulations (Action 4.2.5). Development within the City will be reviewed for compliance with USFWS and CDFW requirements. Potential impacts related to development would be mitigated through compliance with USFWS and CDFW requirements.

Other measures (Energy-2, On-Road-2, Water-4, and Wastewater-2) would not directly or indirectly result in physical changes to the environment that would affect special-status species or habitat in Grand Terrace.

Therefore, implementation of the Regional Reduction Plan would not have a substantial effect on a special-status species or habitat supporting those species, and the 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?
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Riparian communities that may exist within the City include: Riversidean Alluvial Fan Sage Scrub, Southern Coast Live Oak Riparian Forest, Southern Cottonwood Willow Riparian Forest, Southern Riparian Scrub, and Southern Sycamore-Alder Riparian Woodland. Development under the General Plan Update could impact existing riparian areas through urban development and potential recreational uses.

Similar to the potential impacts on special-status species or habitat supporting those species described above, potential effects of Regional Reduction Plan implementation in Grand Terrace would not result in a direct or indirect effect on riparian habitat or sensitive natural communities. If there are elements of new development that could result in changes that could affect these riparian habitat or other sensitive natural community (for example with PS-1), at the time individual development applications are submitted, the City will assess development proposals for potential impacts to significant natural

resources pursuant to CEQA and associated state and federal regulations (Action 4.2.5). Potential impacts would be mitigated through compliance with USACE regulations under Section 404 and CDFW regulations under Sections 1601–1603.

Other measures implemented in Grand Terrace would not directly or indirectly result in physical changes to the environment that would affect special-status species or habitat in Grand Terrace.

Therefore, implementation of the Regional Reduction Plan would not have a substantial effect on riparian habitat or other sensitive natural communities, and the impact 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?
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There are isolated wetlands along natural drainages in Grand Terrace. Development under the General Plan Update could impact wetlands through urban development and potential recreational uses.

Similar to the potential impacts described above, potential effects of Regional Reduction Plan implementation in Grand Terrace would not result in a direct or indirect effect on wetlands. If there are elements of new development that could result in changes that could affect wetlands, at the time individual development applications are submitted, the City will assess development proposals for potential impacts to significant natural resources pursuant to CEQA and associated state and federal regulations (General Plan Action 4.2.5). Any potential impacts to blue line streams, wetlands, and/or drainages in the City will require an assessment in order to determine Army Corps of Engineers (USACE) and/or CDFW jurisdiction, and impacts would be mitigated under Clean Water Act Section 404 and CDFW regulations under Sections 1601–1603.

Other measures would not directly or indirectly result in physical changes to the environment that would affect special-status species or habitat in Grand Terrace.

Therefore, implementation of the Regional Reduction Plan would not have a substantial adverse effect on protected wetlands, and the impact 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?
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In Grand Terrace, wildlife corridors are limited to the southeast corner of the city where Blue Mountain connects to Sugarloaf Mountain. Other areas include Cassina Springs to south of Grand Terrace, and to Reche Canyons and San Timoteo Canyons in a southeast direction. The San Timoteo Canyons connect to the San Bernardino Mountains through the City of Yucaipa. These areas are generally open space, and which would remain open space under the General Plan. There are no aspects of Regional Reduction Plan implementation that would directly or indirect affect wildlife corridors because it would not confer development approvals in open space areas. There would be *no impact*.

Threshold	Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?
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Regional Reduction Plan implementation in Grand Terrace would not conflict with local policies and ordinances pertaining to biological resources. Other than Municipal Code Chapter 12.28 (Street and Parkway Trees), which regulates the installation, maintenance, removal and pruning of trees within the City's rights of way and Chapter 15.56 (Water Efficient Landscaping), which outlines provisions for water efficient landscaping in new, rehabilitated, and certain existing landscaped developments, there are no other provisions relating to biological resources in the City's Municipal Code.

It is expected that, as a result of implementing a GHG Performance Standard for New Development (PS-1), the installation of energy-saving features (e.g., indoor energy-efficient appliances, roof-mounted equipment, or small-scale energy-generating facilities for a new individual development project) would be within the footprint of that development. Similarly, solar installation in housing within new housing developments (Energy-4) would also be within the footprint, and energy retrofits (Energy-1) would be on existing structures. As such, potential impacts on trees would neither be a direct nor indirect effect of implementing the Regional Reduction Plan in Grand Terrace. If there are elements of new development that could result in tree removal, at the time individual development applications are submitted, the City will assess development proposals for potential impacts to determine appropriate mitigation consistent with the Municipal Code requirements.

Implementation of the other measures would not directly or indirectly result in physical changes to the environment that would affect trees.

Therefore, implementation of the Regional Reduction Plan would not have a substantial adverse effect on trees or other locally protected resources, and the impact 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?
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There are no adopted HCPs or NCCPs that apply to development in Grand Terrace. There would be *no impact*.

## ■ Cumulative Impacts

Cumulative development in San Bernardino County, including the Participating Cities, has the potential to result in a cumulative loss of special-status species and habitat, primarily as a result of conversion of land to accommodate urban development, along with transportation network improvements. In most cases, compliance with applicable federal and state regulations and locally adopted policies and programs, would reduce impacts. While the Regional Reduction Plan would not confer directly confer development approvals for any GHG reduction measure that could be implemented by any Participating City, it is possible that some energy-generating projects such as wind turbines and photovoltaic/solar arrays could be developed in some cities, subject to a conditional use permit. These projects have the potential to contribute to cumulative biological resources impacts as well.

The measures selected by the City of Grand Terrace are anticipated to result in minimal biological resources impacts, due to the limited nature and likely locations of those measures, as described above. For new development projects that could include energy-saving measures, the features would be integral to the development and subject to separate CEQA review, and mitigation, as required. Where potential impacts have been identified, there is an established regulatory mechanism in place that the City of Grand Terrace would enforce for those projects to ensure there would be no net loss of species or habitat or habitat fragmentation. Because the City's contribution to biological resources impacts would not be cumulatively considerable, ***cumulative impacts would be less than significant.***

## ■ References

- Grand Terrace, City of. 2010a. *City of Grand Terrace General Plan*.
- . 2010b. *City of Grand Terrace General Plan Update and Amendment No. 6 to the Redevelopment Plan for the Revised Grand Terrace Community Redevelopment Project Program EIR*.
- San Bernardino Associated Governments (SANBAG). 2012. *San Bernardino County Regional Greenhouse Gas Reduction Plan*. Draft. Prepared by ICF International, December.

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## 4.7.5 Cultural Resources

This section of the EIR analyzes the potential environmental effects on cultural resources in the City of Grand Terrace from implementation of the Regional Reduction Plan. Data for this section were taken from the Grand Terrace General Plan (2010a) and General Plan Update EIR (2010b). 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 Grand Terrace lies within an area known to contain prehistoric archaeological materials, which include the material culture reflective of groups that preceded Euro-American contact and settlement. This area has boasted several thousand years of land use and resource adaptation as evidenced by prehistoric resources containing rock art, groundstone tools, and flaked stone tools (Grand Terrace 2010b).

#### ***Ethnohistoric Setting***

The Grand Terrace area is found in an ethnographic transitional region, and is situated near the borders of the traditional use areas of the Gabrieliño/Tongva, Serrano, and Cahuilla groups. The City is found in the eastern-most portion of the Gabrieliño/Tongva tribal territory, which is mapped as extending north from Aliso Creek to just beyond Topanga Canyon along the Pacific Coast, and inland to the City of San Bernardino. The Serrano traditional use is mapped as encompassing the San Bernardino Mountains from the Cajon Pass in the west to beyond modern Twentynine Palms in the east, and from about Victorville in the north to near the San Gorgonio Pass in the south. The area is also located adjacent to the northwestern-most portion of documented Cahuilla territory, mapped as extending just beyond the City of Riverside (Heizer 1978).

#### ***Historic Setting***

The history of the modern City of Grand Terrace 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 region was affiliated with the Rancho San Bernardino, which was established by the Mission San Gabriel. The history of the Rancho San Bernardino influenced the entire San Bernardino Valley region, including portions of the northern Coachella Valley.

Mexico achieved independence from Spain in 1821, and the former mission lands were secularized and subdivided into land grants under a law adopted by the Mexican congress in 1833. In the vicinity of Grand Terrace, Antonio Maria Lugo established the Rancho San Bernardino and Juan Bandini established the Rancho Jurupa in the 1830s (Colton 2013).

California was ceded to the U.S. under the Treaty of Guadalupe Hidalgo at the end of the Mexican-American War, and thereafter, the Mexican ranchos were subdivided or sold. In 1879, Juan Bandini was granted land located within the modern City of Grand Terrace, and known as the Jurupa (Steans) grant. This land grant occurred under the authority of the March 3, 1851 Spanish-Mexican Grant, and included approximately 24,000 acres (BLM 2013).

During the American period, the Grand Terrace-Highgrove area was known as East Riverside and Grand Terrace was also referred to as “The Terrace,” as it was situated on higher ground. Historic era development in this area was facilitated by the construction of the Gage Canal. The Gage Canal was built in 1896, and brought water from the Santa Ana marshlands below the terrace via a 22.5-mile canal. Access to irrigation water allowed the area to rapidly transform into an agricultural community heavily invested in production of citrus. The area’s first settlers were Dr. Benjamin Barton and Dr. W.R. Fox. Modern Barton Road is named in honor of Dr. Barton (Grand Terrace 2010b and 2013).

By 1898, the Riverside-Highgrove Water Company was formed, and the community had become known as Grand Terrace because of its scenic views. Citrus production continued to prove important to the area. However, walnuts and peaches were also planted, as many of the existing citrus groves were destroyed by a severe freeze in 1913 (Grand Terrace 2010b and 2013).

In 1962, the Grand Terrace Chamber of Commerce was organized. Since its inception, the Chamber of Commerce was invested in preserving the local identity of the area and was a strong supporter of incorporation. An increasing push by residents for incorporation led to hearings by the County Local Agency Formation Commission (LAFCO), which was charged with deciding whether the town could succeed as a city. Various LAFCO hearings were held, and despite fears that the town was too small to function as a city, the residents were able to take the issue to the ballot. On November 7, 1978, 82 percent of the Grand Terrace voters favored incorporation. Thereafter, the City was officially formed on November 30, 1978, when the City Council had its first meeting at Terrace Hills Middle School. Grand Terrace became the sixteenth City in San Bernardino County (Grand Terrace 2010b and 2013).

## ***Historical Resources in Grand Terrace***

### **Designation Process**

Significant cultural resources can include archaeological resources, historical structures, historical districts, traditional cultural properties, and landscapes. Such resources can be recognized in the context of national, state, regional or local history. Designation can occur at the federal level in the National Register of Historic Places (NRHP) and at the state level in the California Register of Historical Resources (CRHR). Resources can often be designated locally; however, the City of Grand Terrace has not established criteria or a register to address resources at the local level. The criteria for consideration as an NRHP or CRHR resource 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. One resource in the City of Grand Terrace has been evaluated and recommended eligible for listing on the NRHP:

- **Gage Canal (Potentially Eligible)**—A portion of the Gage Canal, which was constructed in the 1880s and considered essential to the development of the City and surrounding areas. This canal allowed a largely arid region to grow into an agricultural center.

## 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. The Gage Canal has been found to be potentially eligible for listing on the NRHP. As such, the Gage Canal appears to be potentially eligible for listing on the CRHR.

## California Historical Landmarks and Points of Historical Interest

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

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

No CHLs or PHIs are located within the City of Grand Terrace.

### ***Built Environment Resources in Grand Terrace***

Recorded historic or built environment resources include historic-age residences, railroad bridges, and an adobe building. In addition, an historic-age agricultural property has been recorded in the City, with associated residential and agricultural buildings, as well as water conveyance and containment features (Grand Terrace 2010b).

### ***Archaeological Resources in Grand Terrace***

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.

Prehistoric and protohistoric archaeological resources have been recorded within Grand Terrace, and include rock art sites and resources containing groundstone and chipped stone tools. Historic era resources consist of various canals and ditches, such as the Belarde and Salazar ditch, the Rancheria Ditch, and the Gage Canal (Grand Terrace 2010b).

### ***Paleontological Resources in Grand Terrace***

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.

Geologic mapping of the Grand Terrace area indicates that the City is situated upon Quaternary fan deposits. These sediments were deposited during the early to middle Pleistocene Epoch and overlie sediments of the fossiliferous San Timoteo Formation. Pleistocene older alluvium throughout San Bernardino and Riverside counties, and particularly in the Inland Empire, has repeatedly demonstrated high paleontological sensitivity. Fossils recovered from these Pleistocene sediments have included mammoths, mastodons, ground sloths, dire wolves, short-faced bears, saber-toothed cats, large and small horses, large and small camels, and bison (Grand Terrace 2010b).

## ■ 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:

- (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 California Historic Landmark (CHLs) and Points of Historical Interest (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 on 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 on, specified Native American places, features, and objects located within that jurisdiction.

### **Regional**

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 policies relating to the preservation of cultural and paleontological resources within their jurisdiction, as outlined below.

### **Local**

#### **City of Grand Terrace Municipal Code**

There are no provisions in the City of Grand Terrace Municipal Code relating to cultural resources.

## Grand Terrace General Plan

The Grand Terrace General Plan has included the following policy and actions to address the protection and preservation of known and currently unidentified cultural and paleontological resources<sup>4</sup>:

- Policy 4.9.1** The City shall take reasonable steps to ensure that cultural resources are located, identified and evaluated to assure that appropriate action is taken as to the disposition of these resources.
- Action 4.9.1 a** Applicants with development proposals on sites that occur within areas which are determined through initial evaluation to be potentially significant shall submit results of a records search conducted by the San Bernardino Archaeological Information Center at the San Bernardino County Museum or other appropriate agency, for comment during initial environmental review in accordance with the notice and comment provisions applicable to responsible agencies under CEQA.
- Action 4.9.1 b** For areas with documented or inferred resource presence, applicants shall provide studies to document the presence or absence of cultural resources. Such studies shall provide a detailed mitigation plan, including an implementation and monitoring program and recovery or preservation plan, based on the recommendations of a qualified archaeologist and/or paleontologist.
- Action 4.9.1 c** In the event that a paleontological or archaeological resource is uncovered during the course of construction, ground-disturbing activities in the vicinity of the suspected resource shall be redirected until the nature and extent of the find can be evaluated by a qualified archaeologist and/or paleontologist (as determined by the City). As deemed appropriate by the City, any such resource uncovered during the course of project-related grading or construction shall be recorded and/or removed per applicable City and/or State regulations.

## ■ 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

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<sup>4</sup> 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.

## 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. 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 Grand Terrace, various City planning documents were reviewed, and searches were conducted on-line for resources listed in the NRHP and CRHR (Grand Terrace 2010b; Grand Terrace 2010a; 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?
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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 City 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), 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. While there are numerous archaeological resources located throughout the City of Grand Terrace, the Regional Reduction Plan does not include activities that would directly result in extensive ground disturbance in previously undisturbed soils.

Implementation of General Plan Goal 4.9, Policy 4.9.1, and its related actions would minimize any impacts on archaeological resources that may occur in association with the Regional Reduction Plan. All projects within the City of Grand Terrace are required to follow these actions, which include determining the presence or absence of cultural resources in association with development proposals. In addition, the actions include the cessation of ground disturbing activities in the event of an unanticipated discovery and their subsequent evaluation by a qualified archaeologist. Thereafter, any such resources would be recorded and/or removed per applicable City and/or State regulations. Consequently, potential impacts on archaeological resources as a result of implementation of the Regional Reduction Plan would be ***less than significant***.

Threshold	Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?
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Geologic units known to have the potential to yield fossil remains are present within the City of Grand Terrace. Excavations into Pleistocene older alluvium and the fossiliferous San Timoteo Formation would have the potential to impact paleontological resources. However, the Regional Reduction Plan does not include activities that would directly result in extensive ground disturbance in previously undisturbed soils.

Implementation of General Plan Goal 4.9, Policy 4.9.1, and its related actions would minimize any impacts on paleontological resources that may occur in association with the Regional Reduction Plan. All projects within the City of Grand Terrace are required to follow these actions, which include determining the presence or absence of cultural resources (including paleontological resources) in association with development proposals. In addition, the actions include the cessation of ground-disturbing activities in the event of an unanticipated discovery and their subsequent evaluation by a qualified paleontologist. Thereafter, any such resources would be recorded and/or removed per applicable City and/or State regulations. Consequently, potential impacts on paleontological resources as a result of implementation of the Regional Reduction Plan would be *less than significant*.

Threshold	Would the project disturb any human remains, including those interred outside of formal cemeteries?
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The Regional Reduction Plan does not include activities that would directly result in ground-disturbing activities, which renders it unlikely that human burials would be disturbed as a result of project implementation. In addition, and in the event human remains are encountered, the discovery is required to comply with State of California Public Resources Health and Safety Code Sections 7050.5 to 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*.

## 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?
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**Impact 4.7.5-1**      **Implementation of the proposed project could cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5. Implementation of mitigation measure MM4.7.5-1 would reduce this impact to *less than significant*.**

Implementation of the Regional Reduction Plan could include energy-efficiency retrofit activities on existing structures. While few known historical resources are located within the City, such activities could be proposed at the site of a potential historical resource. Future energy-efficiency retrofit activities have the potential to result in significant impacts on historical resources within the City, including resources 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 have the potential to result in significant impacts on buildings or structures of historic age (50 years old or older), or buildings or structures which may eventually be of historic age, and which may qualify as historical resources pursuant to CEQA upon evaluation.

CEQA Guidelines Section 15064.5(b) states that “a project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment.” The Regional Reduction Plan may allow for energy-efficiency retrofit activities and 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. With the implementation of mitigation measure MM4.7.5-1 to address unidentified, potential historical resources (buildings or structures 50 years and older), impacts would be reduced to *less than significant*.

**MM4.7.5-1**      *Prior to activities that would physically affect any buildings or structures built prior to 1950 or older or affect their historic setting, a cultural resource professional who meets the Secretary of the Interior’s Professional Qualifications Standards for Architectural History shall be retained 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 Grand Terrace, 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. Methods could include, but are not limited to, written and photographic recordation of the resource in accordance with the level of Historic American Building Survey (HABS) documentation that is appropriate to the significance (local, state, national) of the resource.*

## ■ Cumulative Impacts

The cumulative analysis for impacts on cultural resources considers a broad regional system of which the resources are a part. The cumulative context for the cultural resources analysis is the Santa Ana River 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 Santa Ana River 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 on such resources would be determined on a discretionary case-by-case basis, and follow CEQA and General Plan Goal 4.9, Policy 4.9.1, and its related actions. 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, based on the recommendations of a qualified archaeologist. Therefore, the proposed Regional Reduction Plan's cumulative impact on archaeological resources is *less than significant*.

Past development has resulted in destruction of unique paleontological resources and unique geologic features. Based upon the geologic history of the Santa Ana River Valley and Prado Basin, and the high 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 on such resources would be determined on a discretionary case-by-case basis, and follow CEQA and General Plan Goal 4.9, Policy 4.9.1, and its related actions. 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 resource presence. Thereafter, properties with resources would be addressed through detailed mitigation plans, based on the recommendations of a qualified paleontologist. 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 Santa Ana River 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. For this reason, the cumulative effects of development in the region on historical resources are considered significant. Compliance with CEQA, General Plan Goal 4.9, Policy 4.9.1, and its related actions, and MM 4.7.5-1, requires qualified professionals to conduct site-specific cultural resource investigations for future activities associated with the Regional Reduction Plan. Compliance with existing policies and MM4.7.5-1 would ensure that impacts on historical resources are appropriately assessed and that mitigation is performed, as necessary. In this manner, the project's incremental contribution to cumulative effects on historical resources would not be cumulatively considerable, and cumulative impacts are considered *less than significant*.

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## 4.7.6 Geology/Soils

This section of the EIR analyzes the potential environmental effects on geology/soils in the City of Grand Terrace from implementation of the Regional Reduction Plan. Data for this section were taken from the Grand Terrace General Plan (2010a) and General Plan Update EIR (2010b). Full reference-list entries for all cited materials are provided at the end of this section.

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

### ■ Environmental Setting

#### ***Geology and Physiography***

Grand Terrace is located in the northern Peninsular Ranges Geomorphic Province of Southern California within the central portion of the San Bernardino Valley. This is a geologically complex area where the northwest moving Peninsular Range Province meets the south moving Transverse Ranges Province. The San Bernardino Valley in the vicinity of the City is underlain by a thick accumulation of alluvial sediments eroded from the granitic and metamorphic rocks in the San Gabriel and San Bernardino mountains to the northwest and north.

The City consists of three distinct topographic regions. The majority of the City is located on a broad alluvial plateau extending from Blue Mountain, which is composed of older undifferentiated alluvial fan deposits and decomposed clay-rich alluvium of Pleistocene age (greater than 11,000 years old). The second area is the steep slope of Blue Mountain that is composed of gray, medium to coarse-grained quartz diorite of the Cretaceous Period. The third area is the northwest portion of the City that is located within the Santa Ana River floodplain where unconsolidated sand is present.

#### ***Faults and Seismic Hazards***

The Southern California region is characterized by many fault systems. The City is located in the vicinity of two major fault systems: the San Jacinto and San Andreas fault zones. The San Jacinto fault zone, considered one of the most active fault zones in Southern California, is located approximately 1 mile southwest of the City and crosses through highly eroded terrestrial deposits in the San Timoteo Badlands south of the City. The trace of the San Andreas fault is approximately 9 miles north of Grand Terrace. Other faults near Grand Terrace include the Cucamonga fault (13.5 miles north), Chino-Elsinore fault (20 miles southwest), Loma Linda fault (2.4 miles north), Rialto-Colton fault (less than 1 mile northeast), and an unnamed fault (less than 1 mile northeast). Strong to severe groundshaking from an earthquake on nearby faults poses a serious risk to Grand Terrace. Areas susceptible to liquefaction are limited to locations along the Santa Ana River.

#### ***Landslide Hazards***

The undeveloped steep slopes of Blue Mountain have a moderate to high landslide susceptibility.

## ■ 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. There are no Alquist-Priolo Earthquake Fault Zones in Grand Terrace.

#### **Seismic Hazard Mapping Act**

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

#### **Senate Bill 547**

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

#### **California Building Code (2010)**

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

Each jurisdiction in California may adopt its own building code based on the 2010 CBC. Local codes are permitted to be more stringent than the 2010 CBC, but, at a minimum, are required to meet all state

standards and enforce the regulations of the 2010 CBC beginning January 1, 2011. The City of Grand Terrace has adopted the 2010 CBC (Ordinance No. 254).

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

### **Natural Hazards Disclosure Act**

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

### **Local**

#### **City of Grand Terrace Municipal Code**

The City has adopted the CBC into its Municipal Code (Chapter 15.08 [Building Code]) and is required to comply with the State of California Subdivision Map Act. These State laws require developers to submit grading plans, including soils engineering reports, and, if necessary, engineering geology reports. The recommendations contained in the reports must be included in the grading plans and specifications. The reports typically include recommendations concerning cuts, fills, compaction, and foundation to ensure stable development (Chapter 15.04.070 [Soil Report]).

#### **Grand Terrace General Plan**

The Grand Terrace General Plan policies that are applicable to geology and soils<sup>5</sup> are as follows:

##### Public Health and Safety Element

**Policy 5.1.1** All new development shall comply with current seismic design standards.

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

- Policy 5.1.2** All proposed developments shall be evaluated for impacts associated with geologic and seismic hazards.
- Policy 5.1.4** Grading plans for development projects shall include an approved drainage and erosion control plan to minimize the impacts from erosion and sedimentation during grading.
- Policy 5.2.2** All new developments in areas of slope instability shall be required to provide perform adequate geotechnical analysis and provide engineered design to assure that slope instability will not impact the development.
- Policy 5.3.4** The City shall require all development projects to comply with the National Pollutant Discharge Elimination System (NPDES) and implement appropriate Best Management Practices.

## ■ **Project Impact Evaluation**

### ***Thresholds of Significance***

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

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
  - > Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.
  - > Strong seismic groundshaking
  - > Seismic-related ground failure, including liquefaction
  - > Landslides
- Result in substantial soil erosion or the loss of topsoil
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse
- Be located on expansive soil, as defined in 2010 California Building Code Section 1803.5.2, creating substantial risks to life or property?
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater

### ***Analytic Method***

Baseline information to characterize geologic and soils conditions that could affect or be affected by the proposed project was compiled from readily available publications, including the General Plan, and available resource mapping. GHG reduction measures selected by the City of Grand Terrace in the

Regional Reduction Plan were reviewed to determine which actions could result in physical changes to the environment that could affect or be affected by seismic hazards, erosion, or other geologic or soils hazards.

### Effects Not Found to Be Significant

Threshold	Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: <ul style="list-style-type: none"><li>■ 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.</li><li>■ Strong seismic groundshaking</li><li>■ Seismic-related ground failure, including liquefaction</li><li>■ Landslides</li></ul>
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There are no Alquist-Priolo Earthquake Fault Zones in Grand Terrace, and no known active faults are located within the City limits. There would be *no impact* associated with fault rupture.

The City is bounded by the San Andreas and San Jacinto faults to the north and the Elsinore Fault to the south. There are numerous other faults near Grand Terrace. A major earthquake associated with any of these faults could result in moderate to severe groundshaking within the City, which could result in damage to buildings and infrastructure. Groundshaking could also cause liquefaction. Liquefaction areas are limited to areas along the Santa Ana River, which are not considered developable by the City, and, therefore, liquefaction is not considered a hazard. Groundshaking could result in landslides along steep slopes of Blue Mountain.

Implementation of the GHG Performance Standard for New Development (PS-1) could result in the installation of energy-saving features (e.g., indoor energy-efficient appliances, roof-mounted equipment, or small-scale energy-generating facilities for a new individual development project), which would be within the footprint of that development. Similarly, solar installation in housing within new housing developments (Energy-4) would also be within the footprint, and energy-efficiency retrofits (Energy-1) would be on existing structures. As such, potential impacts related to strong groundshaking and related seismic hazards would neither be a direct nor indirect effect of implementing the Regional Reduction Plan in Grand Terrace. If there are elements of new development that could be vulnerable to seismic hazards, at the time individual development applications are submitted, the City will assess development proposals for potential impacts. Policies in the Public Health and Safety Element (Policies 5.1.1 through 5.1.4), and associated Actions that encourage the avoidance of geotechnically hazardous areas, and compliance with existing seismic design standards would minimize potential seismic hazards.

Other measures (Energy-2, On-Road-2, Water-4, and Wastewater-2) would not directly or indirectly result in physical changes to facilities or structures that would be susceptible to seismic hazards.

Therefore, implementation of the Regional Reduction Plan would not expose people or structures to groundshaking-related seismic hazards, and the impact would be *less than significant*. No mitigation is required.

Threshold	Would the project result in substantial soil erosion or the loss of topsoil?
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The City is relatively flat resulting in a low potential for soil erosion. The remaining agricultural lands are not valued for topsoil. However, the Blue Mountain area is susceptible to soil erosion during rain. None of the Regional Reduction Plan reduction measures (e.g., Energy-1 [Incentives], Energy-2 [Outdoor Lighting], On-Road-2 [Smart Bus Technology], Water-4 [Water Conservation], and Wastewater-2 [Energy Efficiency Upgrades]) would directly result in the disturbance of soils in the City or on Blue Mountain.

With PS-1, the installation of energy-saving features (e.g., indoor energy-efficient appliances, roof-mounted equipment, or small-scale energy-generating facilities for a new individual development project) would be within the footprint of that development. Similarly, solar installation in housing within new housing developments (Energy-4) would also be within the footprint. As such, potential impacts related to erosion would not be an indirect effect of implementing the Regional Reduction Plan in Grand Terrace. If there are elements of new development that could cause erosion, at the time individual development applications are submitted, the City will assess development proposals for potential impacts. Policies in the Open Space and Conservation Element (Policy 4.8.2 and related actions) and the Public Health and Safety Element (Policy 5.1.4 and related actions) that require the preparation of grading and erosion control plans, adherence to RWQCB regulations including compliance with NPDES requirements to minimize soil erosion, along with policies that recommend that portions of Blue Mountain be designated as open space, would mitigate erosion impacts.

Therefore, implementation of the Regional Reduction Plan would not result in substantial soil erosion or the loss of topsoil, and 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?
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The majority of the City has been urbanized. Due to the construction of homes and businesses, slopes throughout the urban area have been stabilized using modern engineering. However, undeveloped slopes are still present on the slopes of Blue Mountain, which poses a landslide risk. Additional slopes occur along the Santa Ana River floodplain.

The Regional Reduction Plan does not confer development approvals in areas that could be vulnerable to unstable slopes. None of the Regional Reduction Plan reduction measures (e.g., Energy-1, Energy-2 On-Road-2, Water-4, and Wastewater-2) would involve projects on areas susceptible to landslide hazard.

As described above, the installation of energy-saving features (e.g., indoor energy-efficient appliances, roof-mounted equipment, or small-scale energy-generating facilities for a new individual development project) that could occur with PS-1 would be within the footprint of that development. Similarly, solar installation in housing within new housing developments (Energy-4) would also be within the footprint.

As such, potential impacts related to landslide hazard would not be an indirect effect of implementing the Regional Reduction Plan in Grand Terrace. If there are elements of new development that could be at risk of landslide hazard, at the time individual development applications are submitted, the City will assess development proposals for potential impacts. Policies in the Public Health and Safety Element (Policies 5.1.2, 5.2.1, and 5.2.2 and related actions) that require the preparation of require investigation and mitigation of hazards, along with policies that recommend that portions of Blue Mountain be designated as open space, would mitigate geologic or soil instability impacts.

Therefore, implementation of the Regional Reduction Plan would not result in substantial hazards related to unstable geologic units or soils, and 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?
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The City's General Plan and General Plan EIR have not identified expansive soils as a potential hazard on a citywide level. However, if expansive soils are present where new development is proposed, which could include GHG Performance Standard for New Development (PS-1) measures, the City would require appropriate design and construction to address expansive soils. None of the other Regional Reduction Plan measures would involve the development of facilities or structures that would be susceptible to expansive soil hazards.

Therefore, implementation of the Regional Reduction Plan would not result in substantial hazards related to expansive soils, and the impact would be *less than significant*. No mitigation is required.

Threshold	Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?
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None of the reduction measures are related to or require the need for septic tanks or alternative wastewater disposal systems. There would be *no impact*.

## ■ Cumulative Impacts

Most of the City of Grand Terrace has been urbanized. Future growth envisioned in the General Plan would result in development of vacant and underutilized parcels, which could be affected by seismic hazards or other geotechnical conditions, or could cause erosion. Geologic and soils hazards and erosion are typically site-specific and do not combine to produce cumulative effects. Policies in the General Plan and related Actions and adherence to CBC and City standards for development would reduce impacts of new development to the extent required by law.

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

## ■ References

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## 4.7.7 Greenhouse Gas Emissions

This section of the EIR analyzes the potential environmental effects on greenhouse gas (GHG) emissions in the City of Grand Terrace from implementation of the Regional Reduction Plan. Data for this section were taken from the Grand Terrace General Plan (2010a) and General Plan Update EIR (2010b), and 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.

In 2008, the City of Grand Terrace emitted approximately 86,075 MT CO<sub>2</sub>e. 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 transportation (53.1 percent), followed by emissions from electricity and natural gas use in buildings (39.0 percent). Table 4.7.7-1 (2008 Net Total Emissions) summarizes the City's net 2008 emissions of CO<sub>2</sub>e 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<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), ozone (O<sub>3</sub>), 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 4.7.7-1 2008 Net Total Emissions**

<i>Category</i>	<i>Metric tons of CO<sub>2</sub>e</i>
Energy	33,593
On-Road Transportation	41,756
Off-road Equipment	3,909
Water and Wastewater	2,838
Solid Waste	3,863
Agriculture	116
<b>Total</b>	<b>86,075</b>
Excluded Stationary Sources under Title V Permits <sup>a</sup>	7,348

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<sub>2</sub> 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<sub>2</sub> emissions.

CO<sub>2</sub> is removed from the atmosphere (or sequestered) when it is absorbed by plants as part of the biological carbon cycle. Natural sources of CO<sub>2</sub> occur within the carbon cycle where billions of tons of atmospheric CO<sub>2</sub> are removed by oceans and growing plants and are emitted back into the atmosphere through natural processes. When in balance, total CO<sub>2</sub> 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<sub>2</sub> 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<sub>4</sub> 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<sub>4</sub> emissions are related to human activities. Natural sources of CH<sub>4</sub> include wetlands, gas hydrates,<sup>6</sup> permafrost, termites, oceans, freshwater bodies, nonwetland soils, and wildfires. CH<sub>4</sub> 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<sub>4</sub> emissions from both human and natural sources. Also, the implementation of technologies to capture and utilize CH<sub>4</sub> 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<sub>2</sub>O.

## **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<sub>4</sub> (carbontetrafluoride) and SF<sub>6</sub> (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<sub>4</sub>, SF<sub>6</sub>, 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

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<sup>6</sup> 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 Grand Terrace, 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, potentially effecting 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<sup>7</sup> 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

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<sup>7</sup> 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<sub>2</sub> emissions (and thus substantial increases in atmospheric concentrations). In 1994, atmospheric CO<sub>2</sub> 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<sub>2</sub>. Thus, GHG emissions are typically measured in terms of pounds or tons of CO<sub>2</sub> equivalents (CO<sub>2</sub>e), and are often expressed in metric tons (MT CO<sub>2</sub>e) or millions of metric tons of CO<sub>2</sub> equivalents (MMT CO<sub>2</sub>e).

- **Global Emissions**—Worldwide emissions of GHGs in 2004 were nearly 30 billion tons of CO<sub>2</sub>e per year (including both on-going emissions from industrial and agricultural sources, but excluding emissions from land-use changes) (United Nations 2007).
- **U.S. Emissions**—In 2004, the United States emitted 7.1 billion tons of CO<sub>2</sub>e. 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<sub>2</sub>e, 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<sub>2</sub>e, 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<sub>2</sub>e, 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<sub>2</sub> 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 (MTCO<sub>2</sub>e) 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<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), perfluorinated carbons (PFCs), sulfur hexafluoride (SF<sub>6</sub>), 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 Control Technology (BACT) if the source has a potential to emit (PTE) at least 75,000 MT/year carbon dioxide equivalents (CO<sub>2</sub>e). 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<sub>2</sub>e/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<sub>2</sub>e. 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 2010). The MPOs will prepare their first SCS according to their respective regional transportation plan (RTP) update schedule; to date, no region has adopted an SCS. The first of the RTP updates with SCS strategies are expected in 2012.

### **Senate Bill (SB) 97**

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

### **Executive Order S-13-08**

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

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

### **California Code of Regulations (CCR) Title 24**

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

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

### **Greenhouse Gas Cap-and-Trade Program**

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

## **Regional**

### **Southern California Association of Governments (SCAG)**

SCAG is the designated Metropolitan Planning Organization for six Southern California counties (Los Angeles, Ventura, Orange, San Bernardino, Riverside, and Imperial), and is federally mandated to develop plans for transportation, growth management, hazardous waste management, and air quality. 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<sub>10</sub>, PM<sub>2.5</sub>, 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 subregional and local efforts to institute measures aimed at mitigating the adverse air pollution impacts from transportation activities. These measures are known as transportation control measures (TCMs). The RTP links the goal of sustaining mobility with the goals of fostering economic development, enhancing the environment, reducing energy consumption, promoting transit-friendly development patterns, and encouraging fair and equitable access to residents affected by socio-economic, geographic, and commercial limitations. The Regional Transportation Implementation Plan (RTIP) is the vehicle used to implement the RTP and SCS. The RTIP also provides the schedule and framework for the timely implementation of the Region's TCM strategies.

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

### *SCAG Compass Growth Visioning*

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

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

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

### **South Coast Air Quality Management District**

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

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

under CEQA and projects that are within the jurisdiction of and subject to the policies of a GHG Reduction Plan as less than significant.

### **Air Quality Management Plan**

The SCAQMD and the SCAG are the agencies responsible for preparing the Air Quality Management Plan (AQMP) for the Basin. The most recent comprehensive plan is the 2012 AQMP adopted on December 7, 2012. The 2012 AQMP is designed to meet the state and federal CAA planning requirements and focuses on new federal ozone and PM<sub>2.5</sub> 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

### Grand Terrace General Plan

The Grand Terrace General Plan policies that are applicable to GHG emissions and reductions<sup>8</sup> are as follows:

- Policy 2.1.6** Mixed use development which can demonstrate superior use of land, more efficient utilization of public facilities, and more effective conservation of natural resources shall be strongly encouraged by the City of Grand Terrace.
- Policy 2.4.1** The City shall promote the development of employment generating, light, nonpolluting industry, within the present land use pattern.
- Policy 2.4.2** The City shall promote the development of light, non-polluting industrial uses within the City.
- Policy 2.5.3** Energy efficiency shall be encouraged in all future development.
- Policy 3.1.4** Coordinate with transportation planning, programming and implementation agencies.
- Policy 3.4.1** Develop a system of continuous and convenient bicycle routes designed to connect schools, residential areas, shopping centers, parks, and employment areas.
- Policy 3.4.2** The City shall promote and facilitate the use of bicycles as an alternative mode of transportation through the development of a City-wide network of bikeways.
- Policy 3.4.3** The City shall seek grants and other available funding sources to construct additional segments of the Bikeway Plan.
- Policy 3.4.4** The City shall develop a public relations program, in concert with other local and regional agencies, to promote bicycle usages.
- Policy 3.4.5** The City shall work with the San Bernardino County Parks Department to provide connections within the City to the Santa Ana River Trail.
- Policy 3.4.6** The City shall require the provision of bike racks at all new commercial and industrial developments.
- Policy 3.5.1** Promote measures which reduce reliance on single occupant vehicle usage by enforcement of the Traffic Control Measures (TCM) ordinance which addresses development standards, land use patterns, employer based ride share programs and bicycle/pedestrian facilities.
- Policy 3.5.2** The City shall participate in local and regional public transit programs.
- Policy 3.5.3** The City shall encourage and facilitate pedestrian movement by creating environments that are conducive to walking and maintaining a "human scale" of development.
- Policy 3.5.4** The City shall work closely with the regional transit agencies to ensure convenient and the affordable bus service continues to be available to local residents.

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

- Policy 3.5.5** The City shall work with OmniTrans and SANBAG to implement a public transit system that meets the City's need for internal circulation as well as connections to regional activity centers and inter-urban transit routes.
- Policy 3.5.6** The City shall encourage Transit Oriented Development (TOD) to provide housing that is in close proximity to designated public transit facilities and routes.
- Policy 3.5.7** The City shall provide amenities along the Barton Road corridor that promote pedestrian and bicyclist use, such as a continued system of pedestrian paths and bikelanes to connect the City Center with schools, parks, and residential areas.
- Policy 4.1.4** The City shall evaluate the possibility of developing the Gage Canal as a linear park including a pedestrian/bike trail which would connect with the proposed regional trail along the Gage Canal in Riverside County.
- Policy 4.1.5** The City will establish guidelines and standards for the establishment of a linkage system among the City's parks and open space areas. In residential areas, the feasibility of utilizing sidewalks shall be made. These sidewalks will be part of the "Pedestrian Sidewalk Master Plan" called for in the Circulation Element and "safe routes" to schools plan. In addition, consideration will be given to the placement of appropriate signage along the sidewalk identifying them as part of a designated trail system.
- Policy 4.1.6** The City will work with other public agencies and private entities to coordinate its trail planning and development to tie into the regional trails systems, including the California Recreational Trail System, connecting neighboring cities and counties. These trails may be used for pedestrian, equestrian, or biking. Such efforts will include a connection with the Santa Ana River Trail as shown in the "Plan of Open Space and Trails for the County of San Bernardino" and with the trail system of the County of Riverside including the proposed regional trail along the Gage Canal in Riverside County.
- Policy 4.1.7** The City will explore various means to fund the construction and maintenance of its trail system.
- Policy 4.4.2** The City shall evaluate the feasibility of extending bike lanes and pedestrian paths to allow people to walk to the public plaza area in the Town Square project on Barton Road.
- Policy 4.4.4** The City shall continue to implement the City's Bike Trail Master Plan as funds are available.
- Policy 4.6.1** The City shall establish an energy conservation policy and implementation program for all City facilities.
- Policy 4.6.2** The City shall implement a public outreach program to provide the public with information regarding energy conservation practices and programs.
- Policy 4.6.3** The City shall encourage energy and environmentally sustainable design in new land development projects using the standards of LEED
- Policy 4.6.4** The City shall work with its franchised solid waste collection company to implement recycling programs designed to reduce the per capita waste generation

within the City while responding to the requirements of the California Integrated Waste Management Act of 1989.

- Policy 4.7.1** The City shall evaluate and implement traffic flow improvements and construction management practices that reduce locally generated vehicle emissions.
- Policy 4.7.2** The City shall encourage the use of public transportation through coordination with local and regional transit providers.
- Policy 4.7.3** The City shall encourage land use planning and urban design that reduces vehicle trips through mixed use development, consolidation of commercial uses along arterial highways, and pedestrian connection between residential and commercial uses.
- Policy 4.7.5** The City shall encourage employers to develop and implement trip reduction plans including alternate work schedules, rideshare programs, telecommuting, and employee education programs.
- Policy 4.7.7** The City shall promote energy conservation efforts in new and existing residences and businesses.
- Policy 7.2.3** Work with Riverside Highland Water Company to promote water conservation and education programs.
- Policy 7.4.3** Work with the County and the City's waste hauler to implement effective recycling programs to reduce the total amount of waste requiring disposal.
- Policy 8.1.3** Promote and encourage infill housing development and more intensive use of underutilized land for residential construction.
- Policy 8.1.9.** Amend the Barton Road Specific Plan to promote a village atmosphere in the downtown that will encourage a mix of residential and commercial activity.
- Policy 8.1.10** Promote mixed use development with senior citizen housing in the Barton Road Specific Plan areas.
- Policy 8.2.4** Support the development of cost saving and energy-conserving construction techniques.
- Policy 8.3.5** Encourage the use of rehabilitation assistance programs to make residences more energy efficient
- Policy 9.1.1** The City shall work with Southern California Edison to promote energy conservation at residences and businesses.
- Policy 9.1.2** The City shall incorporate energy conservation measures into conditions of approval for new development projects.
- Policy 9.2.1** The City shall reduce the use of disposable products at all City facilities.
- Policy 9.2.2** Require all new development projects to recycle construction and demolition wastes.
- Policy 9.2.3** The City shall work with its franchise waste collection company to expand current recycling programs.

- Policy 9.3.1** Incorporate “green” building practices into the review of all new or renovated development projects.
- Policy 9.3.2** Site and building design in new developments should maximize opportunities for efficient energy performance.
- Policy 9.5.2** The City shall encourage the creation of local jobs designed to reduce commuter mileage and fuel consumption.
- Policy 9.5.3** The City shall encourage new and rehabilitation projects that support alternative transportation modes.
- Policy 9.6.1** The City shall discourage the use of volatile and hazardous materials at municipal facilities.
- Policy 9.7.1** The City shall work with Riverside Highland Water Company to reduce water consumption throughout the City.
- Policy 9.7.2** The City shall incorporate water conservation into the development review Process
- Policy 9.8.1** The City shall support green development standards for new or rehabilitated public buildings and facilities.
- Policy 9.8.2** The City shall actively reduce greenhouse gas emissions from public facilities throughout the community.

These policies are also listed in the Grand Terrace chapter of the Regional Reduction Plan and list the policies that apply to each reduction measure chosen by the City of Grand Terrace 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 is participating in this Regional Reduction Plan. Additional details of the City’s portion of the Regional Reduction Plan are provided in Section 4.7.0 (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 Grand Terrace for the following scenarios: 2008, 2020 business-as-usual (BAU), and 2020 reduced. The 2008 inventory is the baseline; this was the most recent year for which adequate data was available and uniform to all the Partnership Cities. The baseline emissions inventory was also used to establish the reduction target for the year 2020.

The 2020 BAU scenario represents the forecasted emissions for the City without the incorporation of recently adopted measures to reduce GHG emissions. The 2020 reduced scenario demonstrates the effects of the Regional Reduction Plan reduction measures and their ability to reduce Grand Terrace's emissions to levels at or below the reduction target. The City 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 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<sub>2</sub>e 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<sub>2</sub>. Thus, GHG emissions in this analysis are measured in terms of metric tons of CO<sub>2</sub> equivalents (MT CO<sub>2</sub>e).

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 devices 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 Grand Terrace totaled 7,348 MT CO<sub>2</sub>e 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?
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Implementation of the Regional Reduction Plan in the City of Grand Terrace would result in the reduction of GHG emissions over the long term, which would be a beneficial effect. Area source reduction strategies such as 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 4.7.7-2 (GHG Emission Inventories and Reductions in the City of Grand Terrace) 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 4.7.0 of this EIR. Regional Reduction Plan Chapter 4 has additional details of these reduction measures.

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

The proposed project will result in a reduction of GHG emissions. Therefore, this impact would be *less than significant*. No 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?
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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 4.7.7-2 (GHG Emission Inventories and Reductions in the City of Grand Terrace) summarizes the 2008 GHG emissions for the City. The emissions in 2008 totaled 86,075 MT CO<sub>2</sub>e. 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 the Grand Terrace 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 4.7.7-2 summarizes the 2020 BAU emissions inventory. The emissions are an estimated at 88,201 MT CO<sub>2</sub>e, an increase of 2,135 MT CO<sub>2</sub>e (or 2.42 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 15,046 MT CO<sub>2</sub>e. This is the amount the City must reduce in order to reach their target. Implementation of the Regional Reduction Plan reduces 30,045 MT CO<sub>2</sub>e of emissions in 2020, which exceeds the reduction goal by approximately 14,999 MT CO<sub>2</sub>e. This is a reduction of approximately 34.1 percent in 2020. Therefore the Regional Reduction Plan exceeds its own GHG reduction planning goals.

**Table 4.7.7-2 GHG Emission Inventories and Reductions in the City of Grand Terrace**

Category	Metric tons of CO <sub>2</sub> e				
	2008	2020 BAU	Plan Reductions	2020 with Plan	% Reduction
Emission Source					
Energy	33,593	35,395	14,780	20,615	41.8%
On-Road Transportation	41,756	41,436	11,791	29,645	28.5%
Off-road Equipment	3,909	3,922	350	3,572	8.9%
Wastewater Treatment	3,863	3,895	2,685	1,210	68.9%
Water Conveyance	116	59	0	59	0.0%
Solid Waste	476	474	45	429	9.5%
Agriculture	2,362	3,029	388	2,641	12.8%
GHG Performance Standard for New Development	—	—	6	—	—
<b>Total</b>	<b>86,075</b>	<b>88,210</b>	<b>30,045</b>	<b>58,165</b>	<b>34.1%</b>
<b>Reduction Target</b>	—	—	15,046	73,164	17.1%
Does the Plan Meet the Reduction Target?	—	—	Yes	Yes	Yes
<b>Reductions Beyond Target</b>	—	—	<b>14,999</b>	—	—
Excluded Stationary Sources under Title V Permits <sup>b</sup>	7.3	7.6	—	5	—

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).

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 (solar installation for new housing), shown in the reduction measures of the Regional Reduction Plan, provide additional renewable energy sources beyond what was contemplated in the AB 32 Scoping Plan.

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 Grand Terrace chapter of the Regional Reduction Plan demonstrates that the City exceeds that level of reduction. All of the reduction measures in the Grand Terrace 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 4.7.0 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 Grand Terrace includes On Road Transportation-2—Smart Bus Technologies. This reduction measure helps implement the SCS within Grand Terrace.

- **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 Grand Terrace General Plan policies that correlate with these two reduction measures implementing the SCS within the City of San Bernardino:

On-Road Transportation-2 (Smart Bus Technologies)

**Policy 3.5.2** The City shall participate in local and regional public transit programs.

**Policy 3.5.4** The City shall work closely with the regional transit agencies to ensure convenient and the affordable bus service continues to be available to local residents.

The Regional Reduction Plan provides the GHG reductions contemplated by SB 375 by implementing SCAG's SCS strategy in Grand Terrace. 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.

## ■ References

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## 4.7.8 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 Grand Terrace from implementation of the Regional Reduction Plan. Geologic and flood hazards are addressed separately in Section 4.7.6 (Geology/Soils) and Section 4.7.9 (Hydrology/Water Quality), respectively. Data for this section were taken from the Grand Terrace General Plan (2010a) and General Plan Update EIR (2010b). 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***

Currently, there are a variety of existing business operations in the City use, store, or transport hazardous substances, as well as generate hazardous waste. The City anticipates that with implementation of the adopted General Plan, there would be a decrease in the amount of hazardous materials used, generated, and transported in the City because less land is designated for industrial and commercial uses and would be replaced with public, general commercial, and mixed-use land use designations.

#### **Hazardous Materials and Waste Sites**

There are two sites in Grand Terrace, both in developed areas along Main Street, that are included on the a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, commonly referred to as the “Cortese” list. Past uses at both sites resulted in soil and/or groundwater contamination. The California Department of Toxic Substances Control is providing oversight of cleanup at both locations.

#### **Hazardous Materials Transportation**

Interstate 215 traverses the northwest portion of the City and is a major route for transporting hazardous materials.

#### ***Airport Hazards***

The City is not located within an airport land use plan or within 2 miles of a public airport. There are no public or private airports within the City limits. The closest public airports are San Bernardino International Airport located approximately 6.5 miles northeast and Los Angeles/Ontario International Airport located 20 miles west of the City.

#### ***Emergency Response Plans and Evacuation Routes***

The San Bernardino County General Plan identifies potential evacuation routes in and around the City. These include Interstate 10 (I-10), I-215, and I-15. Major evacuation routes within the City include

Barton Road, La Cadena Avenue, and Mount Vernon Avenue. Specific evacuation routes depend upon the type of emergency, its location, and any damage caused to the circulation system.

### **Wildland Fire Hazard**

The primary location for wildland fires in the City is the steep hillsides of Blue Mountain. Wildfires may also occur in the native areas along the Santa Ana River. Wildland-urban fires may occur along the wildland-urban interface along the foot of Blue Mountain. The California Department of Forestry and Fire Protection (CALFIRE) has identified a Very High Fire Hazard Severity Zone within the City. Residential uses have been constructed along these areas that back up to an area of natural vegetation that is highly susceptible to fires. The City requires construction in Very High Fire Hazard Severity Zone to meet specific Fire Code standards.

## **■ Regulatory Framework**

There are numerous federal, state, and local programs that regulate the use, storage, and transportation of hazardous materials and hazardous waste. Federal and state statutes, as well as local ordinances and plans, regulate hazardous waste management. These regulations can reduce the danger hazardous substances may pose to people and businesses under normal daily circumstances and as a result of emergencies and disasters.

### **Federal**

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

### **State**

California Department of Toxic Substances Control (DTSC) is a department of California Environmental Protection Agency (Cal/EPA), which authorizes DTSC to carry out the RCRA program in California. DTSC regulates hazardous waste, cleans up existing contamination, and looks for ways to control and reduce the hazardous waste produced in California primarily under the authority of RCRA

and in accordance with the California Hazardous Waste Control Law (California Health and Safety Code Division 20, Chapter 6.5) and the Hazardous Waste Control Regulations (California Code of Regulations [CCR] Title 22, Divisions 4 and 4.5). The State Water Resources Control Board (SWRCB), under the umbrella of Cal/EPA, provides assistance to local agencies enforcing underground storage tank (UST) requirements, and it also regulates groundwater cleanup programs.

## **Regional**

### **San Bernardino Fire Protection District**

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

## **Local**

The City of Grand Terrace is actively involved in the regulation of land uses using hazardous materials. The City may also regulate the transportation of hazardous materials within the City limits. The City has also adopted a City Hazardous Waste Management Plan (HWMP) in accordance with state law. The HWMP regulates all businesses that use or generate hazardous materials within the City and requires them to inventory amounts and types of hazardous materials used by their business. The CUPA requires businesses meeting requirements, pursuant to California Health and Safety Code Section 25503.5, to establish and implement a Hazardous Materials Business Plan in accordance with the section.

### **City of Grand Terrace Municipal Code**

There are no hazardous materials use regulations that are directly applicable to implementation of the Regional Reduction Plan local reduction measures in Grand Terrace.

### **Grand Terrace General Plan**

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

## **■ 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 reduction measures selected by Grand Terrace in the Regional Reduction Plan were reviewed to determine if they would include elements that would directly or indirectly result in impacts associated with the use or storage of hazardous materials, expose people or structures to fire hazards, or interfere with emergency response plans or evacuation routes.

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

Threshold	Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?
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There are four public schools in Grand Terrace. Implementation of the reduction measures in Grand Terrace would not involve processes or operations that would generate hazardous air emissions or involve the use of acutely hazardous materials, as defined in California Health and Safety Code Section 25316 and 22 CCR Section 66260. Installation of energy-saving retrofits in existing homes (Energy-1) and solar installation in new housing (Energy-4) would not involve the use of such materials. Treatment process upgrades at the Colton WRF to achieve energy reduction would not be the responsibility of the City of Grand Terrace; further, newer processes involve less hazardous materials use. There would be **no impact**.

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?
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There are two “Cortese list” sites in Grand Terrace, both in developed areas along Main Street. None of the reduction measures selected by Grand Terrace would directly or indirectly result in ground disturbance for construction or occupied uses at those locations, as the Regional Reduction Plan does not confer land uses or approvals. Therefore, there would be **no impact**.

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?
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The City is not located within an airport land use plan or within 2 miles of a public airport. There would be **no impact**.

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?
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There are no private airports in the Grand Terrace. There would be **no impact**.

Threshold	Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?
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Emergency response plans have been prepared at the regional and local level. There are numerous evacuation routes within the City. None of the reduction measures selected by Grand Terrace would involve changes in land use or population, roadway configurations or capacity, or other changes in the environment that would directly or indirectly affect emergency response plans or evacuation routes. There would be *no impact*.

Threshold	Would the project expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?
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The primary location for wildland fires in the City is the steep hillsides of Blue Mountain. Wildfires may also occur in the native areas along the Santa Ana River. Wildland-urban fires may occur along the wildland-urban interface along the foot of Blue Mountain. None of the reduction measures that could be implemented by Grand Terrace would involve the construction or operation of structures or development of new occupied uses that would be vulnerable to wildland fire hazard. There would be *no impact*.

## ■ Cumulative Impacts

The City anticipates a decrease in industrial and commercial land uses will result in a decrease in the amount of hazardous materials used, generated, and transported citywide. Implementation of the proposed project would involve minimal hazardous materials use, which would be associated only with the installation of energy-saving features in existing and planned housing. This would not represent a cumulatively considerable contribution to routine hazardous materials use impacts, and the cumulative impact would be *less than significant*.

There would be no cumulative impacts related to upset or accident conditions, use of hazardous materials near schools, Cortese list sites, airports, emergency response/evacuation, or wildland fire hazard because the proposed project would result in no impacts at the project level.

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

## 4.7.9 Hydrology/Water Quality

This section of the EIR analyzes the potential environmental effects on hydrology/water quality, including flood hazards, in the City of Grand Terrace from implementation of the Regional Reduction Plan. Data for this section were taken from the Grand Terrace General Plan (2010a) and General Plan Update EIR (2010b). 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

#### **Hydrology**

Grand Terrace is within the Santa Ana River Watershed, which includes portions of San Bernardino, Orange, and Riverside Counties and covers approximately 2,800 square miles. The Santa Ana River is the main surface drainage course in the region, and the largest river in the basin. It 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 forms the northern boundary of the City. The Gage Canal, which was constructed to convey water from the river in the 1880s, runs through the City and is mostly covered.

#### **Groundwater**

The Riverside Highland Water Company (RHWC) provides water service for the City of Grand Terrace. RHWC extracts water from four groundwater basins: San Bernardino Basin, Colton Basin, Riverside North Basin, and Riverside South Basin. The RHWC 2010 Urban Water Management Plan (UWMP) analysis of water demand and supply projections for the RHWC, including expected growth, demonstrates that projected water supplies exceed demand through the year 2035.

#### **Flood Hazards**

The Federal Emergency Management Agency (FEMA) has designated an area along the Santa Ana River as 100-year floodplain. In addition to the Santa Ana River, flood hazards may exist due to intense rainfall on steep slopes. The majority of the City is located on the alluvial fan of Blue Mountain. There is a general grade of 7 percent from the base of Blue Mountain to the southwest corner of the City. During times of heavy rainfall, the potential for runoff from the slopes of Blue Mountain increases. Urban development of the City has also greatly increased the amount of impermeable surface (i.e., roof tops and paved streets) that has greatly increased the amount of runoff from the urban areas of the City. These two major sources of runoff combined with steep slopes may result in a potential for flooding within the City.

There are no major dams located within the City. The only major dam that could impact the City is the Seven Oaks Dam located northeast of the City of Highland. In the event that this dam failed, it would eventually enter the Santa Ana River floodplain as it passes Grand Terrace. This increased water volume could potentially flood the lower elevations of the northwest corner of the City along the river's course.

## ■ Regulatory Framework

### **Federal**

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 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. 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.

### *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.

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

As described in more detail, below, California has adopted a general NPDES permit that applies to construction. The MS4 permit in effect in the City of Grand Terrace is Order R8-2010-0036 issued by

the Santa Ana Regional Water Quality Control Board in January 2010. The City is the local enforcing agency of the MS4 NPDES permit.

### **Safe Drinking Water Act**

The federal Safe Drinking Water Act (SDWA) provides regulations on drinking water quality in Grand Terrace. 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. The California Department of Public Health, Division of Drinking Water and Environmental Management, is responsible for implementation of the SDWA in California.

### **National Flood Insurance Program**

The National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973 mandate the 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.

The Flood Disaster Protection Act requires owners of all structures in identified special flood hazard areas to purchase and maintain flood insurance as a condition of receiving federal or federally related financial assistance, such as mortgage loans from federally insured lending institutions. Community members in designated areas are able to participate in the National Flood Insurance Program afforded by FEMA. The program is required to offer federally subsidized flood insurance to property owners in those communities that adopt and enforce floodplain management ordinances that meet minimum criteria established by FEMA.

The most recent study and FIRM were completed and published for Grand Terrace on August 28, 2008. The City of Grand Terrace, under the National Flood Insurance Program, has created standards and policies to ensure flood protection. These policies address development and redevelopment, compatibility of uses, required predevelopment drainage studies, compliance with discharge permits, among other items, and are codified in City Municipal Code Chapter 12.

## **State**

### **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 State Water Resources Control Board (SWRCB) has ultimate control over state water rights and water quality policy.

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 Grand Terrace is

in the Santa Ana River Basin, Region 8, in the Upper Santa Ana Watershed. 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.

### *Construction NPDES Permit*

Construction site runoff is regulated statewide through a statewide NPDES General Permit for Storm Water Discharges Associated with Construction Activity (Construction General Permit) (Order No. 2009-0009-DWQ, NPDES No. CAR000002), adopted by the State Water Resources Control Board (SWRCB) September 2, 2009. To obtain coverage under the Construction General Permit, project proponents must file Permit Registration Documents (PRDs) prior to the commencement of construction activity, which include a Notice of Intent (NOI), Storm Water Pollution Prevention Plan (SWPPP), and other documents required by the Construction General Permit. The SWPPP has two major objectives: (1) to help identify the sources of sediment and other pollutants that affect the quality of stormwater discharges; and (2) to describe and ensure the implementation of BMPs to reduce or eliminate sediment and other pollutants in stormwater, as well as non-stormwater discharges.

The Construction General Permit requires specific minimum BMPs, depending upon the project sediment risk (Risk Levels 1 through 3). Risk Level 1 projects are subject to minimum BMP and visual monitoring requirements; Risk Level 2 projects are subject to numeric actions levels (NALs) and some additional monitoring requirements; and Risk Level 3 projects are subject to numeric effluent limitations (NELs) and more rigorous monitoring requirements, such as receiving water monitoring and, in some cases, bioassessment. The risk is a calculated value that is determined when the SWPPP is prepared. The SWPPP will identify the appropriate risk level and related BMPs and other requirements. The results of monitoring and corrective actions, if any, must be reported annually to the SWRCB. This permit also specifies minimum qualifications for SWPPP developers and construction site inspectors.

## **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, adopted in 1995 and 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 SARWQCB 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.

### **Santa Ana River Integrated Watershed Management Plan**

This plan address resources in the Santa Ana River Watershed including hydrogeology, land use, biological resources, water supply, water quality, flood control, and demographics. The plan also presents regional watershed management practices including water storage, water quality improvements, water recycling, flood control, wetlands and sensitive habitat protection, recreational opportunities, and water conservation.

### **Local**

#### **City of Grand Terrace Municipal Code**

The Grand Terrace Municipal Code (Chapter 13.20) regulates stormwater runoff quality. It addresses non-permitted discharges to the municipal separate storm sewers, controlling the discharge to municipal separate storm sewers from spills, dumping or disposal of materials other than stormwater, and reducing pollutants in stormwater discharges to the maximum extent practicable.

#### **Grand Terrace General Plan**

The Grand Terrace General Plan policies that are applicable to hydrology/water quality<sup>9</sup> are as follows:

##### Open Space and Conservation Element

- Policy 4.8.2** Comply with the requirements of the National Pollutant Discharge Elimination System (NPDES)

##### Public Service Element

- Policy 7.2.3** Work with Riverside Highland Water Company to promote water conservation and education programs.

##### Sustainable Development Element

- Policy 9.7.1** The City shall work with Riverside Highland Water Company to reduce water consumption throughout the City.
- Policy 9.7.2** The City shall incorporate water conservation into the development review process.

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<sup>9</sup> 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 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**

Measures selected by the City of Grand Terrace were reviewed to determine which actions could result in physical changes that could pose drainage, water quality, or flood risk concerns. For those measures that could result in land disturbance or development of new features, potential effects were assessed by considering the magnitude of potential change in view of the City's General Plan policies and implementing actions in combination with existing laws and regulations.

### **Effects Not Found to Be Significant**

Threshold	Would the project violate any water quality standards or waste discharge requirements?
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Implementation of the Regional Reduction Plan in Grand Terrace would include water conservation strategies, such as low flow toilets, and more efficient water using appliances such as dishwashers in new

residential and commercial buildings to conserve water use. These water conservation strategies would reduce the amount of wastewater going to the Colton WRF, which operates in accordance with an NDPEs permit issued by the RWQCB. The proposed project would not change the chemical or physical characteristics of wastewater flows requiring treatment or the treatment process at that plant. Therefore, there would be *no impact*.

Measure Wastewater-2 (Regional Equipment Upgrades) would involve upgrading and replacing wastewater treatment and pumping equipment with more energy-efficient equipment, as financially feasible, which could involve other treatment processes that provide additional wastewater treatment for future potable water use to ensure water quality standards are achieved. However, this measure would not be implemented by Grand Terrace and would be the responsibility of the City of Colton, which operates the Colton WRF.

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)?
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The Riverside Highland Water Company (RHWC) provides water service for the City of Grand Terrace. RHWC extracts water from four groundwater basins: San Bernardino Basin, Colton Basin, Riverside North Basin, and Riverside South Basin. The 2010 UWMP analysis of water demand and supply projections for the RHWC, including expected growth, demonstrates that projected water supplies exceed demand through the year 2035.

Demand for water is based on population and land use changes that increase the demand on supplies. None of the measures selected by Grand Terrace in the Regional Reduction Plan would increase resident or commercial population in the City; therefore, there would be no increased demand for groundwater as a result of implementing the Regional Reduction Plan in Grand Terrace. Implementation of measures such as Water-4 and PS-1 would further Sustainable Development Element Goal 9.7 of the General Plan by reducing the demand for water through water conservation practices, which would be a benefit of the Regional Reduction Plan. Therefore, there would be *no impact*.

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?
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Under the GHG Performance Standard-1, the City expects project proponents to include energy-efficiency and alternative energy strategies to help reduce their GHG emissions. Such measures could include more efficient building design, rooftop solar or small-scale photovoltaic or wind energy, but these would be within the footprint of the proposed new development and would not result in new or additional drainage effects beyond those associated and mitigated, as necessary, for that particular project. Energy retrofits in existing housing (Energy-1) and solar installations in new homes (Energy-4 and PS-1) would occur within existing or planned development footprints and would not change drainage patterns. The remaining measures would not involve the placement of structural features that would alter drainage patterns. Therefore, there would be *no impact*.

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?

As described above, the proposed project would not alter drainage patterns. Therefore, there would be **no impact**.

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?

Generation of runoff and demand for storm drain facilities is a function of changes in drainage patterns and development of impervious surfaces of existing or planned land uses, including roadways, in the City. None of the measures selected by Grand Terrace in the Regional Reduction Plan would directly result in such changes. Therefore, there would be **no impact**.

Threshold      Would the project otherwise substantially degrade water quality?

For the reasons described above, the proposed project would not otherwise substantially degrade water quality. There would be **no impact**.

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 the development of housing. 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?

There is a 100-year flood hazard along the Santa Ana River. There are no reduction measures in the Regional Reduction Plan that would be implemented by Grand Terrace that would involve placing structures in a 100-year flood hazard area. Energy retrofits in existing housing (Energy-1) and solar installations in new homes (Energy-4 and PS-1) would occur within existing or planned development footprints. The remaining measures would not involve structural features. There would be **no impact**.

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?

There are no major dams with the City, but the Seven Oaks Dam northeast of the City of Highland poses an inundation risk via the Santa Ana River. There are no reduction measures in the Regional Reduction Plan that would be implemented by Grand Terrace that would involve placing structures along the Santa Ana River or locations that could be flooded in the event of dam failure. Energy retrofits in existing housing (Energy-1) and solar installations in new homes (Energy-4 and PS-1) would occur

within existing or planned development footprints. The remaining measures would not involve structural features. There would be *no impact*.

Threshold	Would the project be subject to inundation by seiche, tsunami, or mudflow?
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Grand Terrace is not susceptible to seiche or tsunami. The steep slopes of Blue Mountain could pose a mudflow risk; however, none of the reduction measures that would be implemented in Grand Terrace would involve the development of structures or new occupied land uses citywide. Therefore, there would be *no impact*.

## ■ Cumulative Impacts

Implementation of the Regional Reduction Plan reduction measures in Grand Terrace would not result in any significant impacts at the project level. Therefore, there would be no cumulative contribution, and there would be *no cumulative impact*.

## ■ References

Grand Terrace, City of. 2010a. *City of Grand Terrace General Plan*.

———. 2010b. *City of Grand Terrace General Plan Update and Amendment No. 6 to the Redevelopment Plan for the Revised Grand Terrace Community Redevelopment Project Program EIR*.

Riverside Highland Water Company. 2011. *2010 Urban Water Management Plan*.

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

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## 4.7.10 Land Use/Planning

This section of the EIR analyzes the potential environmental effects on land use/planning in the City of Grand Terrace from implementation of the Regional Reduction Plan. Data for this section were taken from the Grand Terrace General Plan (2010a) and General Plan Update EIR (2010b). 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 Grand Terrace is in the southwestern corner of San Bernardino County and surrounded by the City of Colton to the north, east and west. The County of Riverside's unincorporated community of Highgrove lies immediately south of Grand Terrace. Grand Terrace encompasses an area of 3.6 square miles with no external sphere of influence. The City is situated between two mountain ridges, Blue Mountain to the east and La Loma Hills to the west. Interstate 215 (I-215) passes through the western portion of the City in a general north/south direction. An interchange at Barton Road provides regional access to the City with secondary access available at La Cadena Drive. I-215 provides links to other regional highways including I-10 to the north and State Route 60 (SR-60) and SR-91 to the south. Figure 4.7-1 (Vicinity Map) in Section 4.7.0 (Introduction to the Analysis) shows the location of the Grand Terrace corporate boundary and regional location.

Grand Terrace is predominantly a residential community. Approximately 43 percent of existing development is residential. Commercial and industrial land uses comprise approximately 10 percent. The majority of undeveloped land in the City (approximately 27 percent of existing land use) is on Blue Mountain, in the Santa Ana River floodplain, or adjacent to I-215. Institutional, public, and streets/rail right-of-way account for approximately 20 percent.

Figure 4.7.10-1 (General Plan Land Use Map) shows the adopted land use plan for Grand Terrace. Little change in developed land use acreage is planned for residential uses. However, the approved General Plan slightly reduces the acreage for commercial and industrial use by replacing some acreage with a new mixed-use designation and designating more land for public uses.

### ■ 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:

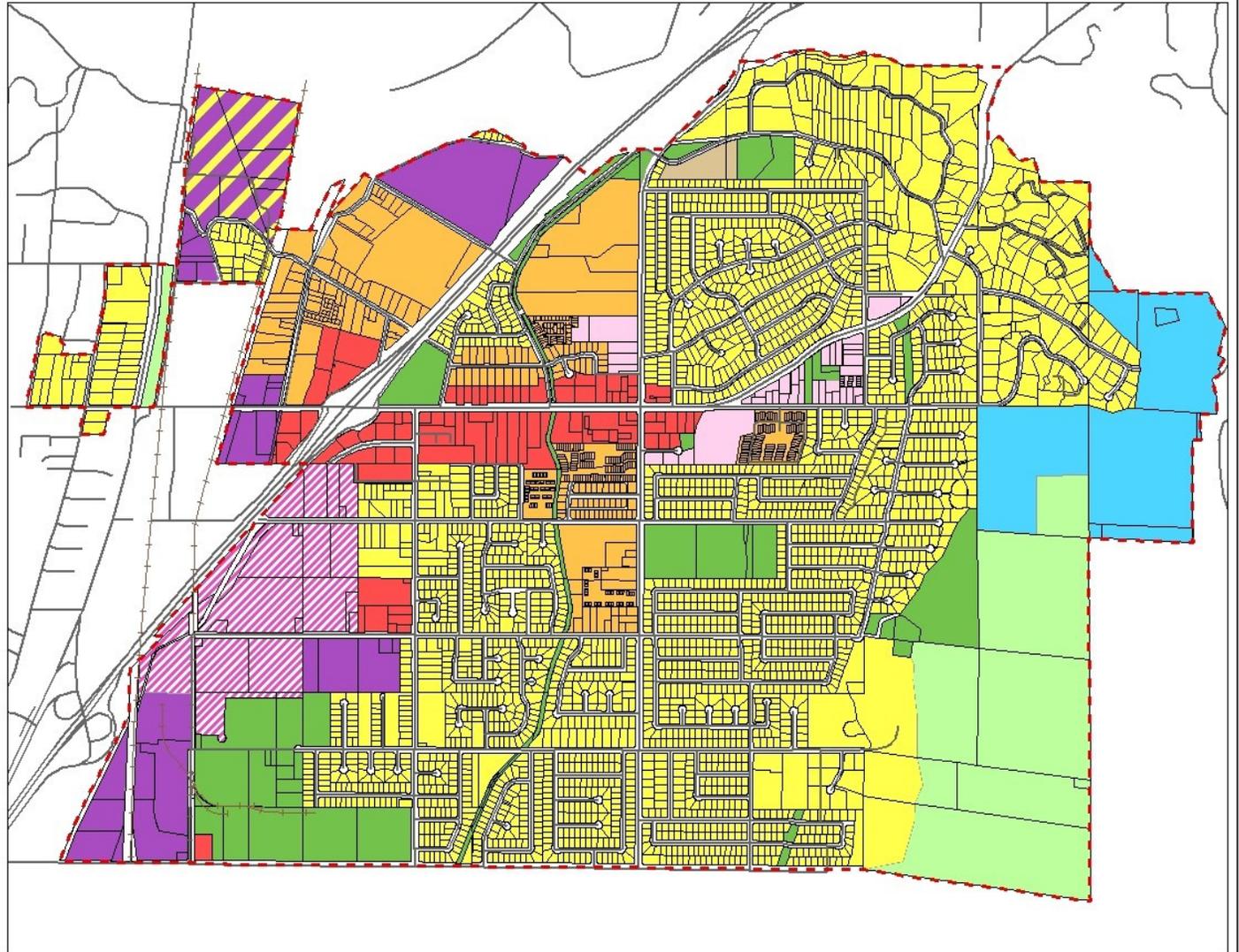
- By 2010, California shall reduce GHG emissions to 2000 levels
- By 2020, California shall reduce GHG emissions to 1990 levels
- By 2050, California shall reduce GHG emissions to 80 percent below 1990 levels

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 nonprofessional servicing of motor vehicle air conditioning



Source: City of Grand Terrace General Plan, Adopted April 27, 2010.



Figure 4.7.10-1  
General Plan Land Use Map



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<sub>2</sub>e).

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<sub>2</sub>e. 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<sub>10</sub>, PM<sub>2.5</sub>, 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 Grand Terrace 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 Grand Terrace Municipal Code**

Grand Terrace Municipal Code Title 18 is the City's Zoning Code that contains regulations to promote the growth of the city in an orderly manner and to promote and protect the public health, safety, comfort and general welfare.

## Grand Terrace General Plan

The Grand Terrace General Plan policies that are applicable to land use and planning<sup>10</sup> are as follows:

### Land Use Element

**Policy 2.5.3** Energy efficiency shall be encouraged in all future developments.

### Open Space and Conservation Element

**Policy 4.6.1** The City shall establish an energy conservation policy and implementation program for all City facilities.

**Policy 4.6.3** The City shall encourage energy and environmentally sustainable design in new land development projects using the standards of Leadership in Energy and Environmental Design (LEED).

**Policy 4.7.7** The City shall promote energy conservation efforts in new and existing residences and businesses.

### Sustainable Development Element

**Policy 9.1.2** The City shall incorporate energy conservation measures into conditions of approval for new development projects.

**Policy 9.3.1** Incorporate “green” building practices into the review of all new or renovated development projects.

**Policy 9.8.1** The City shall support green development standards for new or rehabilitated public buildings and facilities, as feasible.

## ■ 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

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<sup>10</sup> 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.

2012 Air Quality Management Plan, SCAG's Regional Comprehensive Plan and Guide (RTP and Compass Growth Visioning), the Grand Terrace General Plan, and the City's Zoning and Development Code.

### Effects Not Found to Be Significant

Threshold	Would the project physically divide an established community?
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The City of Grand Terrace is a highly urbanized area with well-established communities integrated into the land use plan. Implementation of the Regional Reduction Plan measures selected by Grand Terrace would not physically divide an established community. The GHG Reduction Performance Standard for New Development (PS-1) includes measures that the City would require of new development, as would Energy-4 (Solar Housing in New Development) which would be integral to the projects, which would not divide an established community. The remaining measures (those that encourage incentives/funding for energy-efficiency retrofits [Energy-1], outdoor lighting performance standards [Energy-2], and Smart Bus technologies, for example) would have no physical effects on land use planning. Therefore, there would be *no impact*.

Threshold	Would the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?
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Several regionally and locally adopted land use plans, policies, and regulations would be applicable to development of infrastructure and renewable generation under the proposed Regional Reduction Plan. These include the 2012 Air Quality Management Plan, SCAG's Regional Comprehensive Plan and Guide, 2012 RTP and SCS, City Zoning Code, and the Rialto Municipal Airport Land Use Plan.

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 Grand Terrace community GHG emissions to a level that is 15 percent below its 2008 emission level.
- 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 (~68 percent) and local (~32 percent) efforts. The City actually exceeds the goal with only state/county level actions (136 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 Grand Terrace's on-road and building energy sectors in 2020. An additional reduction of 9,645 MT CO<sub>2</sub>e will be achieved primarily through the following local measures, in order of importance: Implement SBX 7-7 (Water-4); Smart Bus Technologies (On-Road Transportation-2); and Equipment Upgrades at

Wastewater Treatment Plants (Wastewater-2). Grand Terrace's Plan has the greatest impacts on GHG emissions in the solid waste management, building energy, and on-road transportation sectors.

Figure 4.7-2 (Emissions Reduction Profile for Grand Terrace) in Section 4.7.0 shows Grand Terrace'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 the 2008 emissions level). The contribution of state/county and local reductions are overlaid on the 2020 BAU emissions forecast total ("2020 Plan"), representing the total emissions reductions achieved in 2020. As stated above, state/county reductions account for the majority (~68 percent) of the total reductions needed to achieve the 2020 target.

Figure 4.7-3 (Emissions by Sector for Grand Terrace) in Section 4.7.0 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 emissions sectors.

Table 4.7-3 (Emission Reduction by Sector for Grand Terrace) in Section 4.7.0 summarizes the 2008 inventory, 2020 BAU forecast, and GHG reduction (Regional Reduction Plan) results by sector. It shows the percent reduction in each sector's emissions in 2020 and demonstrates that Grand Terrace exceeds its emissions reduction goal. Emissions sectors with the greatest percent reduction include the solid waste management, building energy, and on-road transportation sectors.

Figure 4.7-4 (Emission Reductions by Control and Sector for Grand Terrace) in Section 4.7.0 presents emission reductions by sector and by control (i.e., state/county control versus local or city control). As stated previously, the majority of emissions reductions are due to state/county measures. Of the state/county measures, the majority of reductions are in the building energy and on-road transportation sectors. Of the local measures, the majority of reductions are in the building energy sector due to the implementation of SBX 7-7 (Water-4).

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 subregional 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 Grand Terrace General Plan Sustainable Development Element promote sustainability.

The proposed project furthers the goals and policies in the identified land use plans by providing specific measures and programs that reduce greenhouse gas emissions through energy-efficiency design.

While a separate document, the Regional Reduction Plan will be utilized as a companion document to the Grand Terrace General Plan to provide a more comprehensive and detailed framework for land-based policy decisions to reduce greenhouse gas emissions from existing and future development. The Regional Reduction Plan will further the goals and policies of the General Plan with regard to energy conservation and sustainable development by implementing, in addition to City programs already in place, measures and programs to reduce greenhouse gas emissions and facilitate transit-oriented development. All of the Land Use Element policies, as well as the others listed above, in the General Plan seek to maximize efficient use of resources, maintain a high quality of life, enhance job opportunities, promote sustainability, and facilitate access to transportation facilities. Policies related to historic resources are designed to protect and preserve recognized historic resources, and any facilities constructed pursuant to the Regional Reduction Plan would be required to be consistent with those policies.

The Regional Reduction Plan does not propose any specific development. Under the GHG Performance Standard for New Development (PS-1) component the Regional Reduction Plan, the City could require new projects to quantify project-generated GHG emissions and adopt feasible reduction measures to reduce project emissions to a level that is a certain percent below BAU project emissions. PS-1 does not require project applicants to implement a pre-determined set of measures. It is anticipated such measures could include energy-efficient appliances and alternative energy sources, water conservation, landscaping, and site design. Any energy-efficiency or energy-generating facilities that would be constructed in new development would require consistency with the applicable specific plans. Thus, there would be no inconsistency with implementation of the Regional Reduction Plan.

Therefore, because the proposed Regional Reduction Plan furthers the goals of the identified land use plans and would not conflict with those plans, including the City’s General Plan, it is consistent with these plans. This impact would be *less than significant*. No mitigation is required. Implementation of the proposed project would also ensure compliance with AB 32, which would be a benefit of the project.

Threshold	Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?
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There are no adopted HCPs or NCCPs that apply to development in Grand Terrace. There would be *no impact*.

## ■ Cumulative Impacts

The geographic context for land use impacts with respect to consistency with applicable land use plans is San Bernardino County, which assumes buildout to a horizon year of 2030 in the County General Plan. While the County is part of the larger SCAG region, compliance with SCAG policies is voluntary, and individual municipalities are not required, although they aim to, conform to SCAG policies. In addition, land use decisions are subject to the jurisdiction of the SCAQMD, which implements the AQMP for the South Coast Air Basin, of which the County is a part. All development in this geographic context is required to be consistent with the applicable General Plan, and any inconsistencies with the AQMP must be identified as impacts in the environmental analysis. The Regional Reduction Plan with respect to consistency with land use plans would be *less than significant*.

## ■ References

- Grand Terrace, City of. 2010a. *City of Grand Terrace General Plan*.
- . 2010b. *City of Grand Terrace General Plan Update and Amendment No. 6 to the Redevelopment Plan for the Revised Grand Terrace Community Redevelopment Project Program EIR*.
- San Bernardino Associated Governments (SANBAG). 2012. *San Bernardino County Regional Greenhouse Gas Reduction Plan*. Draft. Prepared by ICF International, December.

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## 4.7.11 Mineral Resources

This section of the EIR analyzes the potential environmental effects on mineral resources in the City of Grand Terrace from implementation of the Regional Reduction Plan. Data for this section were taken from the Grand Terrace General Plan (2010a) and General Plan Update EIR (2010b). 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

There are no areas within the City limits that are classified as being used for the managed production of mineral resources, and the General Plan does not identify lands for mineral resource protection.

### ■ Regulatory Framework

#### ***Federal***

There are no federal regulations that are applicable to mineral resources in the context of the Regional Reduction Plan reduction measures.

#### ***State***

#### **Surface Mining and Reclamation Act**

The California Department of Conservation regulates mining of mineral resources through the Office of mining Reclamation (OMR), which enforces the Surface Mining and Reclamation Act of 1975 (SMARA) (Public Resources Code, Sections 2710–2796). SMARA 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. Public Resources Code 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. Under SMARA, the State Geologist is also responsible for classifying mineral resources areas as one of four Mineral Resource Zones (MRZs), Scientific Resource Zones (SZ), or Identified Resource Areas (IRAs).

#### ***Regional***

There are no regional regulations that are applicable to mineral resources in the context of the Regional Reduction Plan reduction measures.

## Local

### Grand Terrace General Plan

The Grand Terrace General Plan recognizes the potential for managed production of mineral resources in open space areas. However, it does not contain any specific policies concerning mineral resources, and it does not include any maps showing the locations of MRZs classified by the State.

## ■ 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

There are no lands managed for mineral resources in Grand Terrace, and implementation of the Regional Reduction Plan in Grand Terrace would not result in the need for mineral resource production. There would be no impact; therefore, detailed analysis is not required.

### Effects Not Found to Be Significant

Threshold	Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?
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There are no lands currently being managed or protected for mineral resource production in Grand Terrace. There would be *no impact*.

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?
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There are no lands currently being managed or protected for mineral resource production in Grand Terrace. There would be *no impact*.

## ■ Cumulative Impacts

Implementation of the Regional Reduction Plan in Grand Terrace would not result in any impacts at the project level. Therefore, there would be *no cumulative impact*.

## ■ References

- Grand Terrace, City of. 2010a. *City of Grand Terrace General Plan*.
- . 2010b. *City of Grand Terrace General Plan Update and Amendment No. 6 to the Redevelopment Plan for the Revised Grand Terrace Community Redevelopment Project Program EIR*.
- San Bernardino Associated Governments (SANBAG). 2012. *San Bernardino County Regional Greenhouse Gas Reduction Plan*. Draft. Prepared by ICF International, December.

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## 4.7.12 Noise

This section of the EIR analyzes the potential environmental effects on noise in the City of Grand Terrace from implementation of the Regional Reduction Plan. Data for this section were taken from the Grand Terrace General Plan (2010a) and General Plan Update EIR (2010b). 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 commonly defined as unwanted sound. Sound pressure magnitude is measured and quantified using a logarithmic ratio of pressures, the scale of which gives the level of sound in decibels (dB). Sound pressures in the environment have a wide range of values and the sound pressure level was developed as a convenience in describing this range as a logarithm of the sound pressure. To be consistent throughout the world, the sound pressure level is the logarithm of the ratio of the unknown sound pressure to an agreed upon reference quantity of the same kind. To account for the human ear's sensitivity to the pitch of different sounds, the raw sound pressure level is adjusted with an A-weighting scheme based on frequency that is stated in units of decibels (dBA). Because of the nature of the human ear, a sound must be about 10 dBA greater than the reference sound to be judged as twice as loud. In general, a 3 dBA change in community noise levels is perceivable, while 1 to 2 dBA changes generally are not perceived.

A given level of noise may be more or less tolerable depending on the sound level, duration of exposure, character of the noise sources, the time of day during which the noise is experienced, and the activity affected by the noise. For example, noise that occurs at night tends to be more disturbing than that which occurs during the day because sleep may be disturbed. Additionally, rest at night is a critical requirement in the recovery from exposure to high noise levels during the day. In consideration of these factors, different measures of noise exposure have been developed to quantify the extent of the effects anticipated from these activities. For example, some indices consider the 24-hour noise environment of a location by using a weighted average to estimate its habitability on a long-term basis. Other measures consider portions of the day and evaluate the nearby activities affected by it as well as the noise sources.

The most commonly used indices for measuring community noise levels are the Equivalent Energy Level ( $L_{eq}$ ), and the Community Noise Equivalent Level (CNEL). The CNEL weights the average noise level for the evening hours (from 7:00 PM to 10:00 PM) by 5 dB, and the late evening and early morning hours (from 10:00 PM to 7:00 AM) by 10 dB. The un-weighted daytime noise levels are combined with these weighted levels and averaged to obtain a CNEL value.

#### Noise Sources

Grand Terrace is subject to typical urban noises such as noise generated by traffic, heavy machinery, and day-to-day outdoor activities. The City also has several transportation-related noise sources railroad

operations, major arterials, and Interstate 215 (I-215). Noise levels from the Union Pacific and Burlington Northern Santa Fe railroads and traffic on the I-215 reach or exceed the 65 dB CNEL. Freeway traffic volumes are expected to increase due to rapid development of the Inland Empire in general, as well as planned freeway expansion projects. The additional traffic on freeways would increase noise levels along its extent. Residential uses along or in close proximity to freeways are impacted by vehicle noise.

Noise sources that are not directly related to transportation include noise from commercial and industrial centers, construction, and property maintenance activities.

## **Airports**

The Federal Aviation Administration establishes a 65 dBA CNEL as the noise standard associated with aircraft noise. According to the San Bernardino Airport Authority's Draft Existing and Ultimate Noise Contour Map, the Ultimate 65 dBA CNEL noise contour for the airport does not encroach into the City.

## **Noise-Sensitive Land Uses**

A series of land uses have been deemed sensitive by the State of California. These land uses require a serene environment as part of the overall facility or residential experience. Many of these facilities depend on low levels of sound to promote the well-being of the occupants. These uses include, but are not limited to schools, hospitals, rest homes, long-term-care facilities, mental care facilities, residential uses, places of worship, libraries, and passive recreation areas. Activities conducted in proximity to these facilities and/or the placement of new sensitive facilities must consider the noise output, and to ensure that they do not create or expose sensitive uses to unacceptable noise levels. Commercial and industrial uses are not considered noise- and vibration-sensitive uses.

## **■ Regulatory Framework**

### **Federal**

#### **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. 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 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.

### **Local**

#### **City of Grand Terrace Municipal Code**

The City regulates noise through the City's Municipal Code Noise Ordinance (Ordinance No. 99). The City recognizes that the control of construction noise is difficult and provides exemption for this type of noise. Noise sources associated with or vibration created by construction, repair or remodeling or grading of any real property or during authorized seismic surveys, provided said activities must not take place between the hours of 8:00 PM and 7:00 AM on weekdays, including Saturdays, or on any give time on Sunday or a national holiday are exempt from the noise ordinance (Section 8.108.040). The Zoning Code section of the Municipal Code also establishes development guidelines and review procedures for noise-generating land developments.

#### **Grand Terrace General Plan**

There are no General Plan policies concerning noise that are directly applicable to the implementation of local reduction measures in Grand Terrace.

The Regional Reduction Plan encourages alternative transportation modes to help reduce greenhouse gas emissions, and the Grand Terrace General Plan Sustainable Development Element (Policy 9.5.1) recognizes the importance of alternative transportation in the City. There are no measures selected by Grand Terrace that would result in a change in bus or train service that could result in a change in noise levels that would be subject to the City's noise standards. However, it should be noted that Noise Element Policy 6.3.4 seeks to ensure that where bus routes are established that noise impacts in residential areas are minimized. In addition, transit projects would also have to be evaluated against FTA criteria.

**Policy 6.3.4** The City shall work with Riverside and San Bernardino counties to establish bus routes that meet public transportation needs and minimize noise impacts in residential areas.

**Interior and Exterior Noise Standards**

The City has established interior and exterior noise standards for land uses (Table 4.7.12-1 [Noise Standards]).

<b>Table 4.7.12-1 Noise Standards</b>		
<i>Land Use</i>	<i>CNEL</i>	
	<i>Interior<sup>a</sup></i>	<i>Exterior<sup>b</sup></i>
Residential—Single family, multi-family, duplex, mobile home	45 db	65 dB
Residential—Transient lodging, hotels, motels, nursing homes	45 dB	65 dB
Private offices, church sanctuaries, libraries, conference rooms, theaters, auditoriums, concert halls, meeting halls	45 dB	—
School	45 dB	65 dB
General offices, reception/clerical areas		—
Bank lobbies, retail stores, restaurants	50 dB	—
Manufacturing, kitchens, warehouses	65 dB	—
Parks, playgrounds	—	65 dB
Golf courses, outdoor spectator sports, amusement parks	—	65 dB

SOURCE: City of Grand Terrace, *City of Grand Terrace General Plan (2010)*, Table 6.2.

CNEL = Community Noise Equivalent Level

- a. Standard applies to all habitable interior areas. Standard to be achieved with windows and doors closed. Mechanical ventilation shall be provided as required by the Uniform Building Code.
- b. Standard applies to all habitable exterior living areas including private yards, private patios and balconies, common recreation.

The City’s General Plan also establishes the compatibility of land uses with different noise levels. Noise levels in the 55 to 60 dB CNEL range are considered normally acceptable to all land use types, while higher levels in the 70 to 80 dB CNEL ranges are typically unacceptable to certain land use types.

**■ 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 reduction measures selected by Grand Terrace in the Regional Reduction Plan were reviewed to determine if they would include elements that would directly or indirectly result in environmental effects on the noise environment in Grand Terrace.

### **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?
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The City of Grand Terrace has adopted interior and exterior noise standards that apply to specific land uses (Table 4.7.12-1), and it has established noise/land use compatibility criteria. The Municipal Code exempts construction noise.

Implementation of the Regional Reduction Plan measures selected by Grand Terrace would not result in any increases in vehicle traffic volumes or rail services that could be a source of transportation-related noise that would affect interior or exterior noise levels. Energy-efficiency retrofits (Energy-1), solar energy in new housing (Energy-4), and energy-saving features in new development (PS-1) would not be expected to generate noise, and, therefore, would not conflict with adopted standards. The remaining measures (Energy-2, Wastewater-2, and Water-4) would not involve noise-generating operations. Installation of energy-saving features at existing or new development would be expected to generate some noise, but such noise is exempt. The proposed project would not involve the construction and occupancy of structures that would result in noise/land use compatibility impacts. Therefore, applicable noise standards would not be exceeded, and there would be *no impact*.

Threshold	Would the project result in the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?
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Energy-efficiency retrofits (Energy-1) and installation of solar in new housing (Energy-4) would involve some limited construction-type activities. Vehicles delivering items to the locations and the use of heavy equipment to install the features could result in vibration, but this would be temporary and intermittent and most likely not readily discernible. Solar arrays on structures or energy-retrofits would not be a source of vibration. Installation of energy-saving features on building exteriors in new development that would be associated with implementation of the GHG performance standard (PS-1) would be within the footprint of each individual new development. Any vibration associated with installing those features would occur at the time that project is constructed, and there would not be groundborne vibration or

groundborne noise levels associated with those features. The other measures (Energy-2, Wastewater-2, and Water-4) would not be a source of vibration. 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?
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As explained above, implementation of the Regional Reduction Plan measures in Grand Terrace would not be a permanent source of transportation-related or stationary-source noise. There would be *no impact*.

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?
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Energy-efficiency retrofits (Energy-1) and installation of solar in new housing (Energy-4) would involve some limited construction-type activities. Construction noise may result in temporary substantial increases in noise levels at those locations. Installation of energy-saving features on building exteriors in new development that would be associated with implementation of the GHG performance standard (PS-1) would be within the footprint of each individual new development. Any noise associated with installing those features would occur at the time that project is constructed.

Adherence to Municipal Code Section 8.108.040, which prohibits construction activities between the hours of 8:00 PM and 7:00 AM on weekdays, including Saturday, or at any time on Sunday or a national holiday would reduce impacts. 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?
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The San Bernardino Airport is the closest public airport to Grand Terrace. According to the San Bernardino Airport Authority's Draft Existing and Ultimate Noise Contour Map, the Ultimate 65 dBA CNEL noise contour for the airport does not encroach into the City. There would be *no impact*.

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?
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There are no private airstrips in Grand Terrace or immediate vicinity. There would be *no impact*.

## ■ Cumulative Impacts

Implementation of the Regional Reduction Plan in Grand Terrace would not result in any permanent increase in ambient noise levels or exceed the City's noise standards. There could be minor noise impacts associated with construction activities, but those activities are exempt from noise standards. Construction noise would be site-specific, temporary, and intermittent and would not combine with other projects to produce a cumulative effect. The proposed project's contribution would, therefore, not be cumulatively considerable, and this would be a *less-than-significant cumulative impact*.

## ■ References

- Grand Terrace, City of. 2010a. *City of Grand Terrace General Plan*.
- . 2010b. *City of Grand Terrace General Plan Update and Amendment No. 6 to the Redevelopment Plan for the Revised Grand Terrace Community Redevelopment Project Program EIR*.
- San Bernardino Associated Governments (SANBAG). 2012. *San Bernardino County Regional Greenhouse Gas Reduction Plan*. Draft. Prepared by ICF International, December.

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## 4.7.13 Population/Housing

This section of the EIR analyzes the potential environmental effects on population/housing in the City of Grand Terrace from implementation of the Regional Reduction Plan. Data for this section were taken from the Grand Terrace General Plan (2010a) and General Plan Update EIR (2010b). 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***

The population of Grand Terrace in 2010 was 12,040, up from 11,768 in 2008. Population in Grand Terrace has grown at a slower pace relative to other cities in San Bernardino County, approximately 6 percent per decade as opposed to 20 percent on average for the county. Population in 2020 is expected to be 11,644, a slight decrease since 2008.

Table 4.7.13-1 (Socioeconomic Data for Grand Terrace) presents socioeconomic data for Grand Terrace, including population, housing (single family and multifamily), and employment (agricultural, industrial, retail, and nonretail).

<b>Table 4.7.13-1 Socioeconomic Data for Grand Terrace</b>		
<i>Category</i>	<b>2008</b>	<b>2020</b>
Population	11,768	11,644
Housing (du)	4,303	4,554
Single-Family (du)	2,689	2,842
Multifamily (du)	1,614	1,712
Employment (jobs)	3,019	3,160
Agricultural (jobs)	0	0
Industrial (jobs)	626	704
Retail Commercial (jobs)	533	552
Non-Retail Commercial (jobs)	11,768	11,644
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 California housing element law (Government Code Sections 65580–65589) requires that each City and County identify and analyze existing and projected housing needs within its jurisdiction and prepare goals, policies, and programs to further the development, improvement, and preservation of housing for all economic segments of the community commensurate with local housing needs. State law recognizes the vital role local governments play in the supply and affordability of housing.

#### **Senate Bill 375**

Senate Bill 375 (SB 375), which establishes mechanisms for the development of regional targets for reducing passenger vehicle greenhouse gas emissions, was adopted by the State on September 30, 2008. These regional targets are met within each region through the drafting, adoption, and implementation of

a sustainable community strategy (SCS). The SCS outlines the region's plan for combining transportation resources, such as roads and mass transit, with a realistic land use pattern, in order to meet a state target for reducing greenhouse gas emissions. The strategy must take into account the region's housing needs, transportation demands, and protection of resource and farm lands. The Metropolitan Planning Organization (MPO) for each region is responsible for drafting, adoption and implementation of the SCS for that region. SB 375 also modified Housing Element Law to achieve consistency between the land use pattern outlined in the SCS and Regional Housing Needs Assessment allocation. The legislation also substantially improved cities' and counties' accountability for carrying out their housing element plans. After submitting the SCS to the California Air Resources Board, the MPO allocates the Regional Housing Needs Assessment numbers to localities, based on the development pattern shown in the SCS and the existing allocation factors in housing element law. SB 375 extended the duration of housing elements from 5 to 8 years in order to align them with RTP deadlines. One housing element will be completed for every two RTPs. The bill also set the housing element due date at 18 months after the MPO estimates it will adopt the SCS. The MPO for this region is the Southern California Association of Governments (SCAG).

## **Regional**

### **Southern California Association of Governments (SCAG)**

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

### **Regional Transportation Plan**

On May 8, 2012, the Regional Council of SCAG adopted the 2012 Regional Transportation Plan (RTP) and SCS for the SCAG area aimed at attaining the reduction targets of an 8 percent per capita reduction in GHG emissions from passenger vehicles by the year 2020 and a 13 percent reduction by 2035. There are transportation-related reduction measures included in this Regional Reduction Plan that coordinate with efforts in SCAG's SCS. The 2012 RTP strives to provide a regional investment framework to address the region's transportation and related challenges, and looks to strategies that integrate land use and housing into transportation planning with an emphasis on transit and other nonvehicle transportation modes.

### **SCAG Compass Growth Visioning**

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

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

■ **Sustainability**—Preserving natural surroundings

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

**Local**

**Grand Terrace General Plan**

The Grand Terrace General Plan policies that would be applicable to population and housing<sup>11</sup> are as follows:

Land Use Element

**Policy 2.2.2** All residential developments shall comply with the goals and policies of the Housing Element of the General Plan.

Housing Element

**Policy 8.1.3** Promote and encourage infill housing development and more intensive use of underutilized land for residential construction.

**Policy 8.1.4** Encourage the use of innovative land use techniques and construction methods to minimize housing costs without compromising basic health, safety, and aesthetic considerations.

**Policy 8.1.5** Strive to provide incentives for and otherwise encourage the private development of new affordable housing for low- and moderate-income households.

**Policy 8.2.4** Support the development of cost saving and energy conserving construction techniques.

**Policy 8.3.5** Encourage the use of rehabilitation assistance programs to make residences more energy efficient.

Sustainable Development Element

**Policy 9.3.1** Incorporate “green” building practices into the review of all new or renovated development projects.

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<sup>11</sup> These policies are not a complete listing of all policies contained in the General Plan; those policies that would be most applicable to the proposed project are included here.

## ■ Project Impact Evaluation

### **Thresholds of Significance**

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

- Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)
- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere

### **Analytic Method**

The programs and measures contained in the Regional Reduction Plan were compared to applicable housing policies to determine if any inconsistency exists.

### **Effects Not Found to Be Significant**

Threshold	Would the project induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?
-----------	--

Implementation of the Regional Reduction Plan would not induce substantial population growth that could exceed local and regional growth projections either directly or indirectly. The project would not result in an increased demand for housing and contains no housing component. There would be ***no impact***.

Threshold	Would the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?
-----------	--

The Regional Reduction Plan does not propose development that would displace existing housing. Regional Reduction Plan reduction measure Energy-1 seeks to promote energy efficiency in existing residential buildings and commercial buildings, and remove funding barriers to energy-efficiency improvements. This could include partnering with community services agencies, utilities, nonprofits, and other entities to incentivize energy-efficiency projects, including HVAC, lighting, water heating equipment, insulation, and weatherization for low income residents, which could be considered a benefit of the project. There would be ***no impact***.

Threshold	Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?
-----------	--

The Regional Reduction Plan would not involve the development of any structures or facilities that would displace people. All proposed measures would occur at existing locations or within planned future development subject to discretionary approvals by the City. There would be *no impact*.

## ■ Cumulative Impacts

Because the Regional Reduction Plan would not result in significant impacts on population and housing at a project level, implementation of the Regional Reduction Plan would not create impacts that are cumulatively considerable. Therefore, there would be *no impact*.

## ■ References

Grand Terrace, City of. 2010a. *City of Grand Terrace General Plan*.

———. 2010b. *City of Grand Terrace General Plan Update and Amendment No. 6 to the Redevelopment Plan for the Revised Grand Terrace Community Redevelopment Project Program EIR*.

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

## 4.7.14 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 Grand Terrace from implementation of the Regional Reduction Plan. Park services are addressed in Section 4.7.15 (Recreation). Public and private utilities and service systems, including water, wastewater, and solid waste services and systems, are addressed in Section 4.7.17 (Utilities/Service Systems). Data for this section were taken from the Grand Terrace General Plan (2010a) and General Plan Update EIR (2010b). 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***

Fire protection services are provided by the San Bernardino County Fire Protection District, which includes structural and wildland fire response, emergency medical services, hazardous materials incident response, and various administrative functions.

#### ***Police Protection Services***

The City contracts with the San Bernardino County Sheriff to provide general patrol services as well as all necessary management and support services.

#### ***Schools***

All public schools within the City are owned and operated by the Colton Joint Unified School District (CJUSD). Presently, there are two elementary schools, one middle school, and one high school operated by CJUSD within the City limits.

#### ***Libraries***

The San Bernardino County Library System operates a branch in Grand Terrace.

### ■ Regulatory Framework

#### ***Federal***

There are no federal regulations applicable to public services as it relates to implementation of the Regional Reduction Plan in Grand Terrace.

#### ***State***

There are no state regulations applicable to public services as it relates to implementation of the Regional Reduction Plan in Grand Terrace.

## **Regional**

There are no regional regulations applicable to public services as it relates to implementation of the Regional Reduction Plan in Grand Terrace.

## **Local**

### **City of Grand Terrace Municipal Code**

Municipal Code Chapter 15.18 regulates site and building development in accordance with applicable building and fire codes. Chapter 15.36 contains regulations concerning solar water heating systems.

### **Grand Terrace General Plan**

There are no General Plan policies concerning the provision of public services that are directly applicable to implementation of the Regional Reduction Plan local reduction measures in Grand Terrace. However, consistent with the goals of the Regional Reduction Plan, Policy 3.4.1 seeks to develop a system of continuous bicycle routes designed to connect schools, residential areas, shopping centers, parks, and employment areas.

## **■ Project Impact Evaluation**

### **Thresholds of Significance**

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

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or in the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:
  - > Fire protection and emergency medical response
  - > Police protection
  - > Schools
  - > Libraries

### **Analytic Method**

The reduction measures selected by Grand Terrace in the Regional Reduction Plan were reviewed to determine if they would include elements that would directly or indirectly result in adverse environmental effects related to the provision of fire protection, emergency medical response, and police protection services or schools or libraries.

## Effects Not Found to Be Significant

Threshold	Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or in the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection and emergency medical response, police protection, schools, and libraries?
-----------	--

Demand for fire protection, emergency medical response, and police protection services is generally based on population and land use changes that increase the number of facilities and structures requiring these services. None of the measures selected by Grand Terrace in the Regional Reduction Plan would increase resident population in the City; therefore, service ratios, response times, or performance objectives would not be affected. Implementation of the measures would not result in new or expanded facilities requiring fire protection, emergency medical response, and police protection services; therefore, there would be no demand for new or altered fire or police facilities, the construction of which could result in environmental impacts.

Similarly, demand for schools and libraries is population-based. None of the measures selected by Grand Terrace in the Regional Reduction Plan would increase resident population in the City, requiring the need for new or expanded schools or libraries, the construction of which could result in environmental impacts.

There would be *no impact*.

### ■ Cumulative Impacts

Implementation of the Regional Reduction Plan measures in Grand Terrace would not result in any project-level impacts. Therefore, there would be *no cumulative impacts*.

### ■ References

Grand Terrace, City of. 2010a. *City of Grand Terrace General Plan*.

———. 2010b. *City of Grand Terrace General Plan Update and Amendment No. 6 to the Redevelopment Plan for the Revised Grand Terrace Community Redevelopment Project Program EIR*.

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

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## 4.7.15 Recreation

This section of the EIR analyzes the potential environmental effects on public parks and other recreational facilities in the City of Grand Terrace from implementation of the Regional Reduction Plan. Data for this section were taken from the Grand Terrace General Plan (2010a) and General Plan Update EIR (2010b). 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

#### Local Parks

Approximately 100 acres of developed and undeveloped parks and recreation areas are currently available throughout the City. The City has six public parks for a total 41.2 acres that include facilities for baseball, soccer, basketball, jogging, playgrounds, picnicking, and casual activities. Richard Rollins Park, Pico Park, and Susan Petta Park are developed; Griffin Park and TJ Austin Park are partially developed; Grand Terrace Fitness Park is under construction; and Grand Terrace Wilderness Park is undeveloped.

Local schools play an integral part in providing active recreational facilities to city residents. The three local schools (two elementary and one middle) provide 19 acres of playgrounds and sports field. In addition, Grand Terrace High School adds approximately 40 acres of improved recreational facilities for use by City residents. The City and the Colton Joint Unified School District maintain joint use agreements at all schools within the City.

#### Regional Recreation Opportunities

The San Bernardino National Forest (SBNF) is the nearest maintained national recreational area within the region. California State Parks within the region includes the Silverwood Lake and Chino Hills State Recreational Areas. 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.

### ■ Regulatory Framework

#### Federal

There are no federal regulations that are applicable to recreation in the context of the Regional Reduction Plan reduction measures.

#### State

There are no state regulations that are applicable to recreation in the context of the Regional Reduction Plan reduction measures.

## **Local**

### **City of Grand Terrace Municipal Code**

There are no regulations in the Municipal Code that are directly applicable to the implementation of local reduction measures in Grand Terrace.

### **Grand Terrace General Plan**

There are no General Plan policies concerning recreation facilities that are directly applicable to the implementation of local reduction measures in Grand Terrace. However, in response to the NOP comment, it should be noted that the General Plan (Policy 4.1.6) encourages regional pedestrian/bicycle linkages by working with other public agencies and private entities to coordinate its trail planning and development to tie into the regional trails systems, including the California Recreational Trail System, connecting neighboring cities and counties. These trails may be used for pedestrian, equestrian, or biking. Such efforts will include a connection with the Santa Ana River Trail as shown in the "Plan of Open Space and Trails for the County of San Bernardino" and with the trail system of the County of Riverside including the proposed regional trail along the Gage Canal in Riverside County. Under Policy 4.1.5, the City intends to establish standards for the establishment of a linkage system among the City's parks and open space areas. Policies 3.4.1 and 3.4.2 encourage bicycle route connections throughout the City and connections to regional trails.

## **■ Project Impact Evaluation**

### **Thresholds of Significance**

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

- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated
- Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment

### **Analytic Method**

The reduction measures selected by Grand Terrace in the Regional Reduction Plan were reviewed to determine if they would include elements that would directly or indirectly result in environmental effects on existing recreation facilities or through construction of new facilities.

## Effects Not Found to Be Significant

Threshold	Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?
-----------	---

The City presently has six designated public parks totaling 41.2 acres. All parks are improved except for Grand Terrace Fitness Park, which is under construction and the Wilderness Park that is proposed for hillside open space recreational uses. There are several regional and state parks that are available to city residents.

Demand for parks and recreational facilities are based on population. The Regional Reduction Plan would not increase resident population in the City. The nature of the project would not affect the demand for recreational facilities. Therefore, there would be *no impact*.

Threshold	Would the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?
-----------	--

The Regional Reduction Plan reduction measures in Grand Terrace do not include recreational facilities or measures that could result in the development of recreational trails to promote connectivity. Therefore, there would be *no impact*. However, it should be noted that the General Plan (Policy 4.1.6) encourages regional pedestrian/bicycle linkages by working with other public agencies and private entities to coordinate its trail planning and development to tie into the regional trails systems, including the California Recreational Trail System, connecting neighboring cities and counties. These trails may be used for pedestrian, equestrian, or biking. Such efforts will include a connection with the Santa Ana River Trail as shown in the "Plan of Open Space and Trails for the County of San Bernardino" and with the trail system of the County of Riverside including the proposed regional trail along the Gage Canal in Riverside County. Under Policy 4.1.5, the City intends to establish standards for the establishment of a linkage system among the City's parks and open space areas. Policies 3.4.1 and 3.4.2 encourage bicycle route connections throughout the City and connections to regional trails.

## ■ Cumulative Impacts

Because the Regional Reduction Plan does not create significant impacts on recreation facilities at a project level, implementation of the Regional Reduction Plan would not create impacts that are cumulatively considerable. Therefore, there would be *no cumulative impact*.

## ■ References

Grand Terrace, City of. 2010a. *City of Grand Terrace General Plan*.

———. 2010b. *City of Grand Terrace General Plan Update and Amendment No. 6 to the Redevelopment Plan for the Revised Grand Terrace Community Redevelopment Project Program EIR*.

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

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## 4.7.16 Transportation/Traffic

This section of the EIR analyzes the potential environmental effects on transportation/traffic in the City of Grand Terrace from implementation of the Regional Reduction Plan. Data for this section were taken from the Grand Terrace General Plan (2010a), the General Plan Update EIR (2010b), the Southern California Association of Governments (SCAG) Regional Transportation Plan and SCS (2012), the SCAG Regional Comprehensive Plan (2009), the San Bernardino Associated Governments (SANBAG) Congestion Management Program (2012), the SANBAG Passenger Rail Short-Range Transit Plan (2007), and the San Bernardino County Non-Motorized Transportation Plan (2011). Full reference-list entries for all cited materials are provided at the end of this section.

One comment letter stating that the Regional Reduction Plan should include a comprehensive regional bicycle path master plan was received in response to the notice of preparation (NOP) circulated for the Regional Reduction Plan.

### ■ Environmental Setting

#### ***Existing Transportation Network***

The City's circulation system includes one freeway and a system of arterial and local streets.

#### **Roadway Network**

The City of Grand Terrace has the following roadway classifications for local roadways within the City:

- **Major Highways** accommodate four lanes of traffic, with or without median. They are designed to carry high volumes of traffic. These facilities provide access to major destinations in the City, and serve as links between the divided arterials and the collector streets. The City has three different cross-sections for Major Highways, although the purpose is the same for each.
- **Secondary Highways** are two to four-lane roadways that connect major highways to collector streets. These facilities are also designed to carry high volumes of traffic and allow travel between areas of the City.
- **Collector Streets** are two- to four-lane roadways that connect local streets to highways. 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.

Figure 4.7.16-1 (Functional Roadway Classification Plan) shows the various roadway classifications.

## **Transit**

### **Bus Transit**

Omnitrans Transit Agency provides local transit service throughout San Bernardino County, including the City. Omnitrans provides countywide bus service and currently has one bus route in the City that provides connections between, major employment and shopping centers, and residential areas.

- **Route 325**—Grand Terrace—Loma Linda (via Barton Road)

### **Non-Motorized Transportation**

#### **Bikeways System**

The City provides for bicycle transportation through its bikeway system. The existing and proposed bikeway system is depicted on Figure 4.7.16-2 (Existing and Proposed Bikeways). Existing bikeways are provided along Main Street, Mount Vernon Avenue and Barton Road from east of Michigan Avenue to the northerly City limits.

The Santa Ana River Trail also traverses the northwest area of the City. Future bikeways are planned along Commerce Way, Barton Road from Michigan Avenue to the easterly City limits and along La Cadena Drive and Terrace Avenue (providing a connection to the Santa Ana River Trail).

## ■ **Regulatory Framework**

### **Federal**

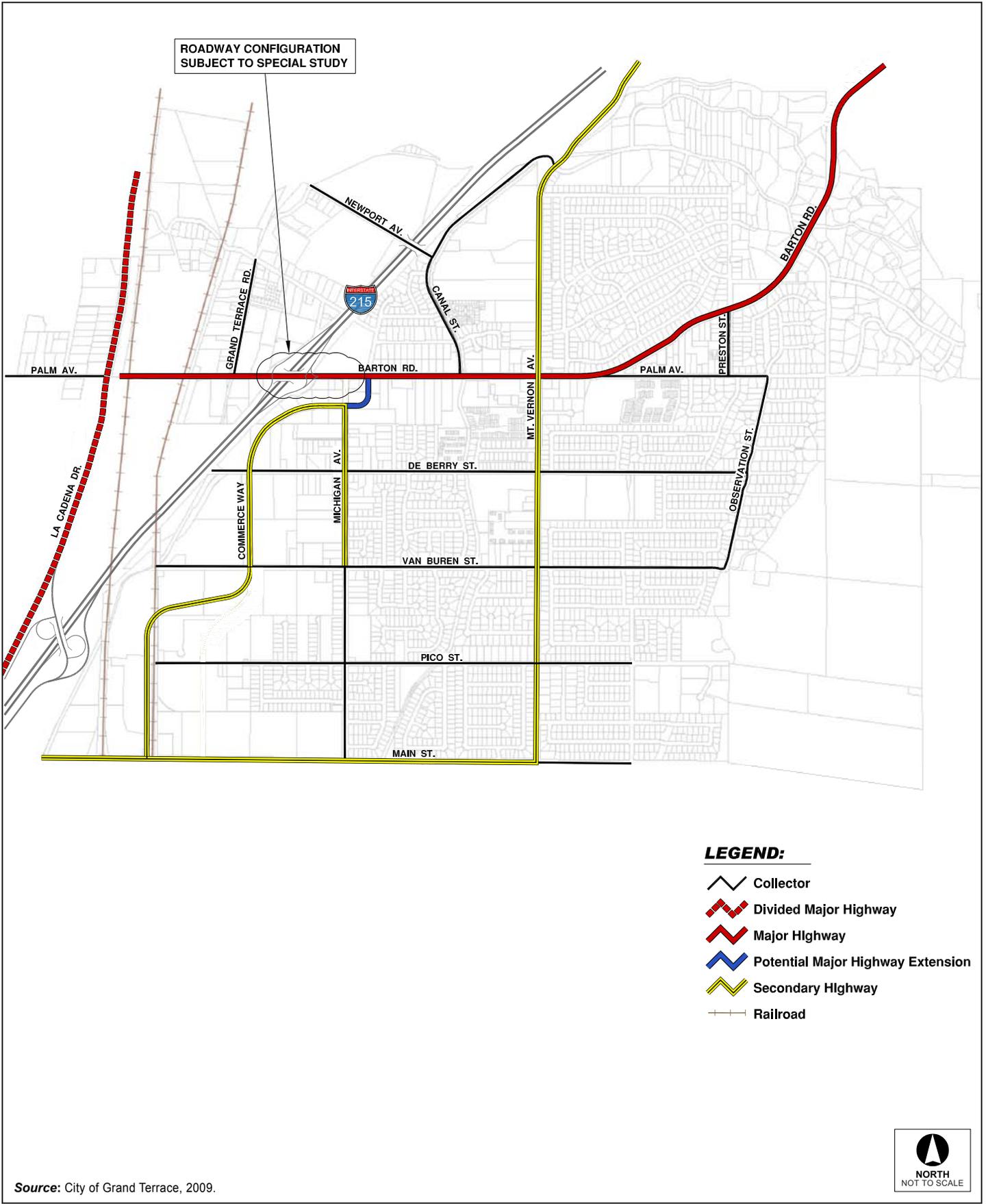
#### **United States Department of Transportation**

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.

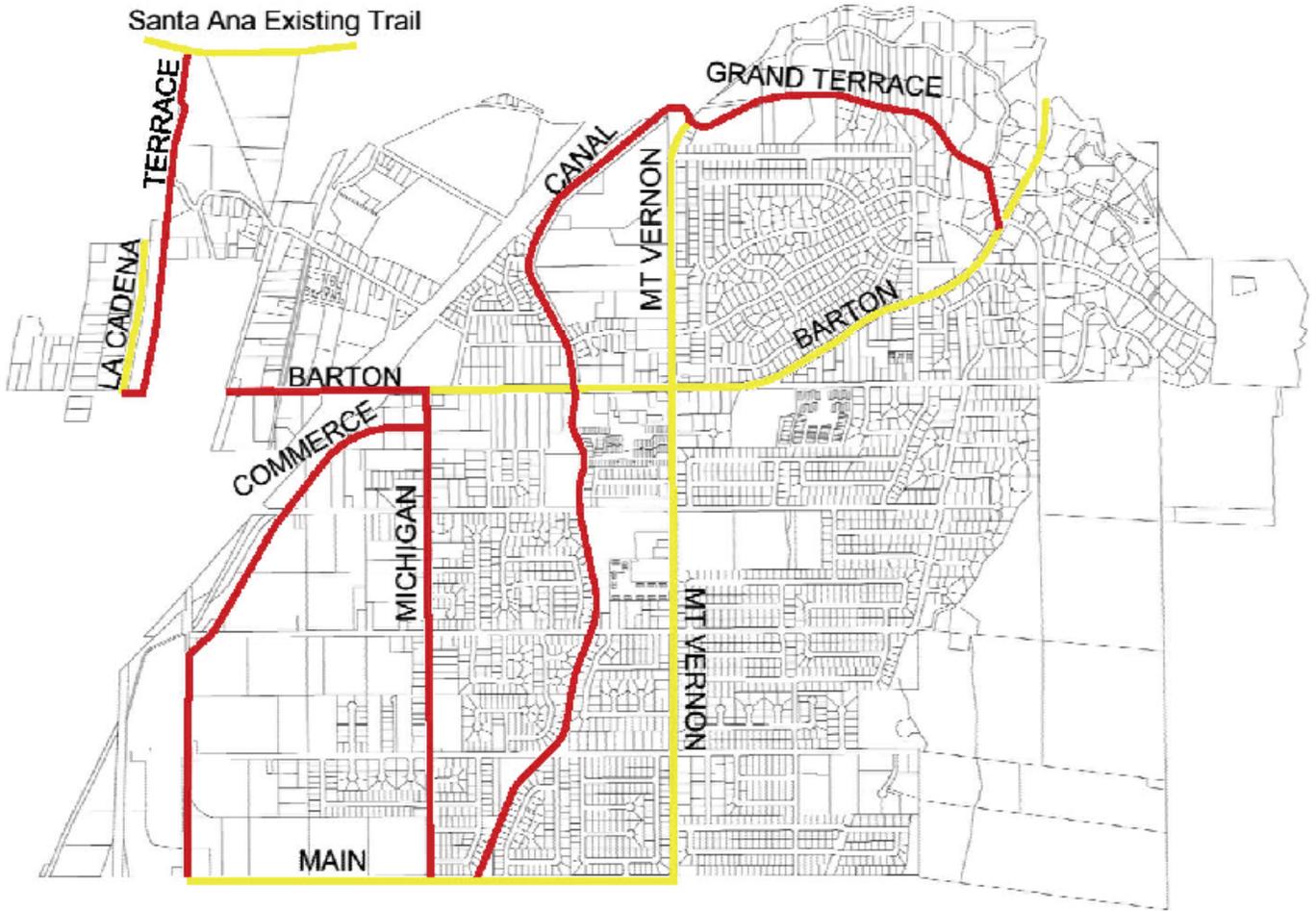


Source: City of Grand Terrace, 2009.



Figure 4.7.16-1  
Functional Roadway Classification Plan





**LEGEND:**

-  Proposed Bikeways
-  Existing Bikeways
-  Parcels

Source: City of Grand Terrace, 2008.



Figure 4.7.16-2  
Existing and Proposed Bikeways



## **State**

### **California Department of Transportation**

The California Department of Transportation (Caltrans) manages the State Highway system and freeway lanes, provides intercity rail services, permits of public-use airports and special-use hospital heliports, and works with local agencies. Caltrans carries out its mission of improving mobility across California with six primary programs: Aeronautics, Highway Transportation, Mass Transportation, Transportation Planning, Administration, and the Equipment Service Center.

### **California Air Resources Board**

The California Air Resources Board, a part of the California EPA (Cal/EPA) is responsible for the coordination and administration of both federal and state air pollution control programs within California. With respect to transportation the California Air Resources Board reviews and approves Metropolitan Planning Organizations (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<sub>10</sub>, PM<sub>2.5</sub>, 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.

### **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**

#### **City of Grand Terrace Municipal Code**

The City of Grand Terrace Municipal Code contains regulations regarding traffic:

- Title 18 (Development Code), Chapter 18.73 (General Standards), requires land use development to provide roadway improvements on all roadways fronting the development.
- City of Grand Terrace Development Impact Fee Calculation and Nexus Fee Schedules

#### **Grand Terrace General Plan**

The Grand Terrace General Plan contains the following policies regarding transportation, mobility and traffic<sup>12</sup>:

- Policy 3.1.4** Coordinate with transportation planning, programming and implementation agencies such as SCAG, Caltrans, SANBAG, and the cities of San Bernardino County, as well as neighboring jurisdictions in Riverside County on various studies relating to freeway, high occupancy vehicle/high occupancy toll lanes and transportation corridor planning, construction, and improvement in order to

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<sup>12</sup> 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.

facilitate the planning and implementation of an integrated circulation system in accordance with regional planning goals.

- Policy 3.1.5** New development projects shall be analyzed in accordance with SANBAG congestion management Program (CMP) Traffic Impact Analysis (TIA) Guidelines.
- Policy 3.1.7** The maximum acceptable Level of Service for streets identified in the City Master Plan of Streets and Highways during peak hours shall be LOS "D".
- Policy 3.3.5** The City shall evaluate and, when appropriate, implement traffic calming measures on residential local residential streets.
- Policy 3.4.1** Develop a system of continuous and convenient bicycle routes designed to connect schools, residential areas, shopping centers, parks, and employment areas.
- Policy 3.4.2** The City shall promote and facilitate the use of bicycles as an alternative mode of transportation through the development of a City-wide network of bikeways.
- Policy 3.4.3** The City shall seek grants and other available funding sources to construct additional segments of the Bikeway Plan.
- Policy 3.4.5** The City shall work with the San Bernardino County Parks Department to provide connections within the City to the Santa Ana River Trail.
- Policy 3.4.6** The City shall require the provision of bike racks at all new commercial and industrial developments.
- Policy 3.5.1** Promote measures, which reduce reliance on single occupant vehicle usage by enforcement of the Traffic Control Measures (TCM) ordinance, which addresses development standards, land use patterns, employer based ride share programs and bicycle/pedestrian facilities.
- Policy 3.5.2** The City shall participate in local and regional public transit programs.
- Policy 3.5.3** The City shall encourage and facilitate pedestrian movement by creating environments that are conducive to walking and maintaining a "human scale" of development.
- Policy 3.5.4** The City shall work closely with the regional transit agencies to ensure convenient and the affordable bus service continues to be available to local residents.
- Policy 3.5.5** The City shall work with OmniTrans and SANBAG to implement a public transit system that meets the City's need for internal circulation as well as connections to regional activity centers and inter-urban transit routes.
- Policy 3.5.6** The City shall encourage Transit Oriented Development (TOD) to provide housing that is in close proximity to designated public transit facilities and routes. All projects will be reviewed in relationship to their proximity to existing and future transit systems.
- Policy 3.5.7** The City shall provide amenities along the Barton Road corridor that promote pedestrian and bicyclist use, such as a continued system of pedestrian paths and bike lanes to connect the City Center with schools, parks, and residential areas.

### City of Grand Terrace Intersection Analysis Criteria

The City of Grand Terrace 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 4.7.16-1 (Intersection Level of Service [LOS] Definitions) summarizes the LOS definitions in the HCM.

<b>Table 4.7.16-1 Intersection Level of Service (LOS) Definitions</b>		
<b>LOS</b>	<b>Interpretation</b>	<b>Volume to Capacity (V/C) Ratio</b>
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 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?
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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 transit and non-motorized transportation. The General Plan Policies 3.5.5 (Transit System implementation) and 3.5.6 (Transit-Oriented Development) ensure VMT reduction through greater transit opportunities and ridership. The Regional Reduction Plan reduction measure Transportation-2 (Smart Bus Technologies) requires the City of Grand Terrace to work with Omnitrans in implementing the Smart Bus Technologies along the route within the City, which correlates with General Plan Policy 3.5.2 (Participate in Regional Transit Programs) and General Plan Policy 3.5.4 (Work with Transit Agencies), 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 promotes nonmotorized travel by focusing on a pedestrian and bicycle path network connecting land uses within the City, which correlates with General Plan Policies 3.4.1 (Bikeway Plan), 3.4.2 (Bicycle System), and 3.5.3 (Pedestrian Walkways). 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 via OmniTrans, and nonmotorized transportation infrastructure built on all roadways, including CMP-designated roadways, require review by City Planning and Traffic Engineering staff for approval to ensure that the improvements do not negatively impact the traffic flow on these major arterials. 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?
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The CMP defines a network of state highways and arterials, level of service standards and related procedures, a process for mitigation of the impacts of new development on the transportation system, and technical justification for the approach. The last update of the CMP was completed by SANBAG in 2012. Implementation of the Regional Reduction Plan may require transit or nonmotorized transportation infrastructure to be built on some CMP roadways. Transit and nonmotorized transportation infrastructure built on all roadways, including CMP designated roadways, require review by City Planning and Traffic Engineering staff for approval to ensure that the improvements do not negatively impact the traffic flow on these major arterials.

The City of Grand Terrace has a level of service standard of LOS D or better at all intersections within the City. The Regional Reduction Plan measures chosen by Grand Terrace do not include any changes in roadways that would negatively impact CMP arterials or any roadway LOS value. 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?
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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)?
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The proposed project does not include facilities that would substantially increase hazards, nor would it construct incompatible uses. Energy-producing facilities needed for implementation of the Regional Reduction Plan would consist of solar arrays on rooftops of new or renovated buildings. This would not

increase in hazards to vehicles as a result of implementation of the proposed project. There would be **no impact**.

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, and water conservation programs. None of the reduction measures would alter emergency access or evacuation plans. Improvements to transit, bicycle, and pedestrian infrastructure along roadways that would serve as emergency access and evacuation within the City would be reviewed by the City Planning Department to ensure adequate ingress and egress along these roadways. Therefore, the impact would be **less than significant**. No mitigation is required.

Threshold	Would the project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?
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As described above, the Regional reduces transportation-related GHG emissions by furthering the policies, plans and programs for public transit, bicycle and pedestrian facilities. In particular the Regional Reduction Plan furthers the General Plan Policies 3.4.1 through 3.4.6 meant to improve the bicycle and pedestrian circulation system; and furthers to goals of the San Bernardino County Non-Motorized Transportation Plan. Nonmotorized transportation infrastructure built on all roadways requires review by City Planning and Traffic Engineering staff review and approval to ensure that performance standards and safety are not impacted negatively. Therefore, the impact would be **less than significant**. No mitigation is required.

## ■ Cumulative Impacts

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

## ■ References

- Grand Terrace, City of. 2010a. *City of Grand Terrace General Plan*.
- . 2010b. *City of Grand Terrace General Plan Update and Amendment No. 6 to the Redevelopment Plan for the Revised Grand Terrace Community Redevelopment Project Program EIR*.
- . n.d. *City of Grand Terrace Municipal Code*.
- San Bernardino Associated Governments (SANBAG). 2007. *Passenger Rail Short Range Transit Plan: Fiscal Year 2008–2012*, May.
- . 2011. *San Bernardino County Non-motorized Transportation Plan*, March.
- . 2012a. *Congestion Management Program*. [www.sanbag.ca.gov/planning/subr\\_congestion.html](http://www.sanbag.ca.gov/planning/subr_congestion.html).

———. 2012b. *San Bernardino County Regional Greenhouse Gas Reduction Plan*. Draft. Prepared by ICF International, December.

Southern California Association of Governments (SCAG). 2004. *Southern California Compass Growth Visioning*.

———. 2009. *2008 Regional Comprehensive Plan*.

———. 2012. *Regional Transportation Plan/SCS*, April.

## 4.7.17 Utilities/Service Systems

This section of the EIR analyzes the potential environmental effects on utilities/service systems (water supply, storage, and distribution; wastewater collection, transmission, and treatment; solid waste; and energy) in the City of Grand Terrace from implementation of the Regional Reduction Plan. Data for this section were taken from the Grand Terrace General Plan (2010a), the General Plan Update EIR (2010b), and the 2010 Riverside Highland Water Company Urban Water Management Plan. Full reference-list entries for all cited materials are provided at the end of this section.

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

### ■ Environmental Setting

#### ***Potable Water Supplies and Service Systems***

The Riverside Highland Water Company (RHWC) provides water service for the City of Grand Terrace. The company maintains water main transmission lines, wells, reservoirs, and service laterals throughout the City and is directly responsible for their ongoing maintenance. RHWC extracts water from four groundwater basins: San Bernardino Basin, Colton Basin, Riverside North Basin and Riverside South Basin. The RHWC optimizes its' water supply through an integrated resource approach, utilizing available programs and projects. The RHWC receives its water from groundwater; however, non-potable water is used in place of potable water whenever the possibility arises, conserving potable water.

The RHWC 2010 Urban Water Management Plan (UWMP) addresses changes in the availability of water and the provision of water services to the Water Company's customers. The UWMP discusses historic and future water demand, existing and planned sources of water, groundwater basin management, water conservation and education programs, and the reliability of water supplies. The 2010 UWMP analysis of water demand and supply projections for the RHWC, including expected growth, demonstrates that projected water supplies exceed demand through the year 2035. The RHWC has additional opportunities to increase water supply through imported surface water and developing a recycled water supply for non-potable water users should recycled water become available. The company has implemented several water demand management programs including leak detection, in-home water use audits, water conservation education, and tiered water rates.

#### ***Wastewater Collection and Treatment***

Sanitary sewer service is provided by the City of Grand Terrace. The City maintains all collection lines within the City limits. The City contracts with the City of Colton for wastewater treatment. The Colton Water Reclamation Facility (WRF) operates under a National Pollutant Discharge Elimination System (NPDES) Permit No. CA0105236 issued by the Santa Ana Regional Water Quality Control Board (Order No. R8-2010-050). Treated effluent is discharged to the Santa Ana River.

Recycled water is currently not available to RHWC. A joint project between the San Bernardino Valley Water District and the City of San Bernardino could generate reclaimed water for groundwater recharge,

which could be available to RHWC should it choose to participate in this project. RHWC future projections for water supply do not include recycled water.

## **Solid Waste**

The City of Grand Terrace maintains a franchise agreement with Burrtec for the collection and disposal of municipal solid wasters and recyclable materials generated by residences and businesses within the City. All municipal solid waste collected in the City is taken to the San Bernardino County landfill system for disposal. The City primarily uses the Colton Landfill and San Timoteo Landfill for waste disposal. In 2011, the City disposed of approximately 5,300 tons at the Colton Landfill and approximately 1,700 tons at the San Timoteo Landfill. Numerous measures to reduce solid waste that are available to the City to help achieve residential and non-residential per capita disposal rate targets of 4.9 pounds per day and 24.8 pounds per day, respectively.

## **■ Regulatory Framework**

### **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.

### **State**

#### **California Health and Safety Code Article 1 (Pure and Safe Drinking Water)**

California Health and Safety Code Article 1, Section 116270, established a drinking water regulatory program within the Department of Public Health 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.

## **California Water Code Sections 10610–10656**

The Urban Water Management Planning Act (Water Code Sections 10610–10656) states that every urban water supplier that provides water to 3,000 or more customers, or that provides over 3,000 acre-feet of water annually, should make every effort to ensure the appropriate level of reliability in its water service to meet the needs of its various categories of customers during normal, dry, and multiple dry years. Both SB 610 and SB 221 repeatedly identify the UWMP as a planning document that, if properly prepared, can be used by a water supplier to meet the standards set forth in both statutes. The Riverside Highland Water Company 2010 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.

## **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**

### **City of Grand Terrace Municipal Code**

Grand Terrace has adopted the state Green Building Standards (Chapter 15.17, Ordinance No. 254), which addresses water conservation. Chapter 15.56 sets forth the City's water efficient landscape regulations (Ordinance No. 247, adopted 2010). Chapter 15.36 addresses solar water heating systems. Water conservation for non-residential uses is addressed in Chapter 15.04. Municipal Code Chapter 15.18 contains provisions regulating recycling at construction sites.

## Grand Terrace General Plan

The Grand Terrace General Plan policies that are applicable to utilities and service systems<sup>13</sup> are as follows:

### Public Services Element

- Policy 7.2.3** Work with Riverside Highland Water Company to promote water conservation and education programs.
- Policy 7.2.4** Work with the County and the City's waste hauler to implement effective recycling programs to reduce the total amount of waste requiring disposal.

### Sustainable Development Element

- Policy 9.2.1** The City shall reduce the use of disposable products at all City facilities.
- Policy 9.2.2** Require all new development projects to recycle construction and demolition wastes.
- Policy 9.2.3** The City shall work with its franchise waste collection company to expand current recycling programs.
- Policy 9.7.1** The City shall work with Riverside Highland Water Company to reduce water consumption throughout the City.
- Policy 9.7.2** The City shall incorporate water conservation into the development review process.

## ■ Project Impact Evaluation

### ***Thresholds of Significance***

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

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which would cause significant environmental effects
- Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which would cause significant environmental effects
- Not have sufficient water supplies available to serve the project from existing entitlements and resources, or need new or expanded entitlements
- Result in a determination by the wastewater treatment provider that serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments

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<sup>13</sup> These policies are not a complete listing of all policies contained in the Grand Terrace General Plan; those policies that would be most applicable to the proposed project are included here.

- 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**

Local reduction measures identified in the Regional Reduction Plan for Grand Terrace were reviewed to determine if there would be elements that would increase the demand for water, wastewater, storm drainage, or solid waste services that would, in turn, result in the need to construct new conveyance or treatment facilities or require new sources of water. The reduction measures were also evaluated to determine consistency with adopted General Plan policies and local ordinances.

### **Effects Not Found to Be Significant**

Threshold	Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?
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Implementation of the Regional Reduction Plan in Grand Terrace would include water conservation strategies, such as low flow toilets, and more efficient water using appliances such as dishwashers in new residential and commercial buildings to conserve water use. These water conservation strategies would reduce the amount of wastewater going to the Colton WRF, and would not change the chemical or physical characteristics of wastewater flows requiring treatment or the treatment process at that plant. Therefore, there would be *no impact*. Measure Wastewater-2 (Regional Equipment Upgrades) would involve upgrading and replacing wastewater treatment and pumping equipment with more energy-efficient equipment, as financially feasible, which could involve other treatment processes that provide additional wastewater treatment for future potable water use. However, this measure would not be implemented by Grand Terrace and would be the responsibility of the City of Colton, which operates the Colton WRF.

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?
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Demand for water and wastewater treatment is a function of the provision of water and wastewater services, which is based on population and land use changes that increase the demand for these services. None of the measures selected by Grand Terrace in the Regional Reduction Plan would increase resident or commercial population in the City; therefore, there would be no increased demand for water and wastewater treatment facilities or services. Further, implementation of measures such as Water-4 and PS-1, in combination with the City's water conservation ordinances, would reduce the demand for treated water through water conservation practices, which would likely reduce sewer flows requiring treatment. Energy-efficiency upgrades at the Colton WRF (Wastewater-2), although not a City project, would be within the plant itself and would not be expected to result in any adverse environmental effects. Therefore, there would be *no impact*.

Threshold	Would the project require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which would cause significant environmental effects?
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Demand for storm drain facilities is a function of changes in drainage patterns and development of impervious surfaces of existing or planned land uses, including roadways, in the City. None of the measures selected by Grand Terrace in the Regional Reduction Plan would directly result in such changes. Therefore, there would be *no impact*.

Threshold	Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or need new or expanded entitlements?
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The Riverside Highland Water Company (RHWC) provides water service for the City of Grand Terrace. The 2010 UWMP analysis of water demand and supply projections for the RHWC, including expected growth, demonstrates that projected water supplies exceed demand through the year 2035. Demand for water is based on population and land use changes that increase the demand on supplies. None of the measures selected by Grand Terrace in the Regional Reduction Plan would increase resident or commercial population in the City; therefore, there would be no increased demand for water services as a result of implementing the Regional Reduction Plan in Grand Terrace. Implementation of measures such as Water-4 and PS-1 would further General Plan policies such as Policies 7.2.3, 9.7.1, and 9.7.2 and water conservation ordinances by reducing the demand for treated water through water conservation practices, which would be a benefit of the Regional Reduction Plan. Therefore, there would be *no impact*.

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?
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The City contracts with the City of Colton for wastewater treatment, which is provided at the Colton WRF. Demand for wastewater conveyance and treatment is based on population and land use changes that increase the demand for this service. None of the measures selected by Grand Terrace in the Regional Reduction Plan would increase resident or commercial population in the City; therefore, there would be no increased flows to the Colton WRF that would affect capacity. Further, implementation of measures such as Water-4 and PS-1 would reduce the demand for treated water through water conservation practices, which would likely reduce sewer flows, which would be a benefit of the Regional Reduction Plan. Therefore, there would be *no impact*.

Threshold	Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?
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All municipal solid waste collected in the City is taken to the San Bernardino County landfill system for disposal. The City currently uses the Colton Landfill and San Timoteo Landfill for waste disposal. Generation of solid waste and demand for solid waste services is based on population and land use changes that increase the demand for this service, and General Plan policies encourage recycling. None of the measures selected by Grand Terrace in the Regional Reduction Plan would increase resident or commercial population in the City; therefore, solid waste would not be generated directly. Energy-

efficiency retrofits that may be facilitated by funding incentives in Energy-1 could generate a small amount of solid waste (from packaging, for example), which would be an indirect effect; however, the amount requiring disposal would be negligible, and likely some materials would be recyclable. Solid waste resulting from installation of new energy-saving features in new development (PS-1) would not be a direct effect of implementing the Regional Reduction Plan in Grand Terrace. There would be ***no impact***.

Threshold	Would the project comply with federal, state, or local statutes and regulations related to solid waste?
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The proposed project would not generate solid waste. There would be no inconsistency with statutes and regulations, and therefore, ***no impact***.

## ■ Cumulative Impacts

Implementation of the reduction measures in Grand Terrace would result in no impact on water, wastewater, and storm drain utilities, or solid waste facilities. Therefore, there would be ***no cumulative impact***.

## ■ References

California Integrated Waste Management Board. 2013. Jurisdiction Diversion and Disposal Rate Data Reports. <http://www.calrecycle.ca.gov/lgcentral/>.

Grand Terrace, City of. 2010a. *City of Grand Terrace General Plan*.

———. 2010b. *City of Grand Terrace General Plan Update and Amendment No. 6 to the Redevelopment Plan for the Revised Grand Terrace Community Redevelopment Project Program EIR*.

Riverside Highland Water Company. 2011. *2010 Urban Water Management Plan*.

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

Santa Ana Regional Water Quality Control Board. 2012. *City of Colton, Water Reclamation Facility, Order No. R8-2012-0050, NPDES Permit No. CA0105236, Colton, San Bernardino County*.

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## 4.7.18 Mandatory Findings of Significance

Under the California Environmental Quality Act (CEQA), an EIR must be prepared when certain specified impacts might result from construction or implementation of a project. This EIR has been prepared for the San Bernardino County Regional GHG Reduction Plan to fully address all of the Mandatory Findings of Significance, as described below.

### ■ Thresholds of Significance

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

- Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory
- Have impacts that are individually limited, but cumulatively considerable (“cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)
- Have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly

### ■ Degradation of the Environment

Under CEQA Guidelines Section 15065(a), a finding of significance is required if a project “has the potential to substantially degrade the quality of the environment.” In practice, this is the same standard as a significant effect on the environment, which is defined in CEQA Guidelines Section 15382 as “a substantial or potentially substantial adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance.”

This EIR, in its entirety, addresses and discloses all potential environmental effects associated with construction and operation of the proposed project, including direct, indirect, and cumulative impacts in the following resource areas:

- Aesthetics
- Agriculture/Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology/Soils

- Greenhouse Gas Emissions
- Hazards/Hazardous Materials
- Hydrology/Water Quality
- Land Use/Planning
- Mineral Resources
- Noise
- Population/Housing
- Public Services
- Recreation
- Transportation/Traffic
- Utilities/Service Systems

As summarized in Table 2-22 (Summary of Mitigation Measures) and Table 4.7-5 (Summary of Environmental Effects of Implementing Local Reduction Measures in Grand Terrace), this EIR discloses all potential environmental impacts, the level of significance prior to mitigation, project requirements that are required by law or are incorporated as part of the project description, feasible mitigation measures, and the level of significance after the incorporation of mitigation measures.

### ■ Long-Term Impacts

As described in CEQA Guidelines Section 15065(a)(2), a lead agency shall find that a project might have a significant effect on the environment where there is substantial evidence that the project has the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals. Section 5.1 (Significant Irreversible Environmental Effects) of this document addresses the short-term and irretrievable commitment of natural resources to ensure that the consumption is justified on a long-term basis. In addition, Section 5.2 (Growth-Inducing Impacts) identifies any long-term environmental impacts caused by the proposed project with respect to economic or population growth. Lastly, Section 5.4 (Significant Environmental Effects That Cannot Be Avoided if the Proposed Project is Implemented) identifies all significant and unavoidable project-related impacts that could occur.

### ■ Cumulative Impacts

A cumulative impact analysis is only provided for those thresholds that result in a less-than-significant or significant and unavoidable impact. A cumulative impact analysis is not provided for Effects Found Not to Be Significant, which result in no project-related impacts.

Under CEQA Guidelines Section 15065, a lead agency shall find that a project might have a significant effect on the environment where there is substantial evidence that the project has potential environmental effects that are individually limited, but cumulatively considerable. As defined in CEQA Guidelines Section 15065(a)(3), cumulatively considerable means “that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.” Cumulative impacts are addressed for each of the environmental topics listed above and are provided in Sections 4.7.1 through 4.7.17 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 4.7.4 (Biological Resources) of this EIR (which is supported by a list of special-status species potentially occurring in the City 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 4.7.5 (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 significantly 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 4.7.3, 4.7.6, 4.7.8, 4.7.9, 4.7.12, 4.7.13, 4.7.14, 4.7.16, and 4.7.17 of this EIR, respectively.

## ■ References

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