

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

SCH No. 2012111046

*Volume III: Draft EIR (Section 4.2 [City of Big Bear Lake])*

*Prepared for*

**Governments**  
**SANBAG**  
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## 4.2 CITY OF BIG BEAR LAKE

### 4.2.0 Introduction to the Analysis

This section of the EIR analyzes the potential environmental effects in the City of Big Bear Lake (“Big Bear Lake” or “City”) from implementation of the Regional Reduction Plan. The City is a mountain resort community surrounded by the San Bernardino National Forest in the southwestern portion of San Bernardino County. The City of Big Bear Lake is surrounded by the unincorporated communities of Big Bear City to the east, Green Valley Lake and Running Springs to the west, Lucerne Valley to the north, and Forest Falls to the south.

The City along with the adopted sphere of influence constitutes the “planning area” and consists of a total of 4,466 acres (approximately 7 square miles), from which approximately 4,000 acres (6.5 square miles) are within the City boundaries. The City is surrounded by the San Bernardino National Forest within the San Bernardino Mountains on the easternmost of the Transverse Ranges along the south shore of Big Bear Lake; see Figure 4.2-1 (Local Vicinity). California State Route 18 runs generally east/west through the center of the City.

The primary industry in Big Bear Lake is tourism and the city’s regular population of 5,019 (2010 census) can swell by a factor of 10 or 20 on weekends. In addition to winter sports, fishing, boating, camping, and hiking, visitors come to the area for regularly scheduled annual events such as the Independence Day Fireworks, Antique Car Show and Oktoberfest. Because many of the residents in Big Bear Lake are temporary and because incoming vehicle trips originate far away, the pattern of Big Bear Lake’s GHG emissions is unique. Based on data collected by the City of Big Bear, approximately 18 percent of the residential population and 58 percent of the daily population are nonpermanent residents. Data collected by local ski resorts on vehicle occupancy and trip numbers indicate that approximately 70 percent of light and medium duty VMT is due to tourists accessing the area. Consequently, nearly 50 percent of the city’s GHG emissions is related to tourist activity. The City’s opportunities to reduce GHG emissions and the ability of state measures to reduce GHG emissions in the region are somewhat different than other Partnership cities.

Table 4.2-1 (Socioeconomic Data for Big Bear Lake) presents socioeconomic data for Big Bear Lake, including population, housing (single-family and multifamily), and employment (agricultural, industrial, retail, and nonretail). Table 4.2-1 reflects socioeconomic data for permanent residents only.

Two documents are used in reviewing the potential environmental impacts and mitigation within the City of Big Bear Lake from implementation of the Regional Reduction Plan. The first document is the Big Bear Lake General Plan (City of Big Bear Lake 1999) which is the planning document for the City and includes the required General Plan Elements and General Plan Goals and Policies. The second document is the Environmental Impact Report (EIR) for the Big Bear Lake General Plan (City of Big Bear Lake 1999), which addressed the potential environmental impacts of the General Plan. Within the Big Bear Lake General Plan and accompanying EIR 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 Big Bear Lake Chapter that describes the reduction measures and reduction targets chosen by the City of Big Bear Lake. This second document is the Proposed Project as it pertains to the City of Big Bear Lake.

<b>Table 4.2-1 Socioeconomic Data for Big Bear Lake</b>		
<i>Category</i>	<b>2008</b>	<b>2020</b>
Population	5,019	5,619
Housing (du)	2,196	2,400
Single-Family (du)	1,754	1,924
Multifamily (du)	442	476
Employment (jobs)	6,212	6,423
Agricultural (jobs)	4	7
Industrial (jobs)	845	1,079
Retail Commercial (jobs)	3,222	3,050
Non-Retail Commercial (jobs)	2,141	2,287
du = dwelling unit		

## ■ Big Bear Lake General Plan

The General Plan is the planning document for the City which consists of a vision and guiding principles, and nine elements that contain the goals and implementation policies for the City. The General Plan addresses the continuing change, growth, and development of the City of Big Bear Lake over the next two decades and provides a public policy framework for the future of the City. The General Plan serves as a foundation in making land use decisions based on goals and policies related to land use, transportation, population growth and distribution, development, open space, resource preservation and utilization, air and water quality, noise impacts, public safety, infrastructure and other related physical, social and economic factors.

The Big Bear Lake Vision describes the future community of Big Bear Lake. Its basic purpose is to improve the quality of life for the people of Big Bear Lake. It is the rationale for everything the City does.

The Guiding Principles are the foundation to guide the objectives and policies of the General Plan element. The Guiding Principles are (1) Provide and encourage proper stewardship for the lake, forest, natural environment, our heritage and recreational resources; (2) Maintain a sense of public safety in the community; (3) Encourage a year-round, well-balanced economic base while recognizing the importance of tourism in the local economy; (4) Encourage everyone within the community, including the many governmental agencies and special districts which serve the area, to work towards common goals while protecting the rights of the individual; (5) Constructively address the impacts, opportunities and constraints of tourism; (6) Address the feasibility and impact on the City of Valley-wide unification; (7) Improve the architectural and visual quality of the built environment and man-made resources;



Source: City of Big Bear Lake 2012.



Figure 4.2-1  
Local Vicinity



(8) Constructively address the transportation and circulation needs of our Valley; (9) Provide sufficient infrastructure to meet the long term needs of the community; and (10) Provide and encourage improvements to the quality of the experience of visitors.

The General Plan connects intent with action through the broad range of Goals and Policies that would guide the long term growth and development required for the City to achieve its Vision. It also satisfies the California Government Code requirement for a general plan. The Policy Plan includes the elements required by the State of California, as well as optional elements.

The elements in the General Plan include:

- Land Use Element: Guides and regulates the City's blueprint for long-range growth and development.
- Community Design Element: Establishes the goals and policies that will create to help the City shape its overall form and appearance in accordance with the community's fundamental values.
- Environmental Resources Element: Identify significant environmental resources within the planning area, to establish a plan to ensure that future development is designed to preserve these resources where feasible or provide mitigation as appropriate.
- Environmental Hazards Element: Provides policies to protect the general health, safety and welfare of the City's population.
- 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.
- Circulation Element: Development of an efficient, cost-effective, and comprehensive transportation system which is consistent with regional plans, local needs, and the City's character.
- Open Space, Parks, and Recreation Element: Address the need for the preservation of open space lands and conservation and thoughtful management of natural assets, including watershed, wildlife habitat and scenic resources.
- 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.
- Housing Element: Identify and analyze the community's housing needs and provide goals, policies, quantified objectives, financial resources, and scheduled programs for the preservation, improvement, and development of housing.

Policies in the Big Bear Lake General Plan govern the decisions of the City. For the purposes of this study, the measures that impact the environment are shown in Table 4.2-2 (Big Bear Lake General Plan Policies). Each of the elements contains maps and text setting forth goals, policies and programs for the long-range physical development within the City's planning area.

**Table 4.2-2 Big Bear Lake General Plan Policies**

<i>Policy No.</i>	<i>Policies</i>
<b>ENVIRONMENTAL RESOURCES ELEMENT</b>	
<b>Biological Resources</b>	
ER 1-1	The City shall act to reasonably conserve habitat of special-status wildlife and native plant species as environmental, economic and aesthetic assets of the community.
ER 1-2	The City shall promote public awareness of biological resource issues and encourage good landscaping and construction practices to mitigate impacts to this resource.
ER 1-3	The City shall proactively assist in regional efforts to maintain the ecological integrity of Big Bear Lake.
ER 1-4	Collect available data on biological resources within the planning area to maintain an accurate and regularly updated map and information base on sensitive plant and animal species and habitat occurring in the planning area.
ER 1-5	Encourage the maintenance of natural drainage channels in a manner which allows passage of wildlife and, if appropriate, the establishment of nature trails, while ensuring that these channels can accommodate flows adequately to meet flood control objectives.
<b>Cultural Resources</b>	
ER 2-1	The City shall take reasonable steps to ensure that cultural resources are located, identified and evaluated, and assure that appropriate action is taken as to the disposition of these resources.
ER 2-2	The City shall encourage and support all reasonable efforts to ensure the protection of sensitive archaeological and historic resources from vandalism and illegal collection.
ER 2-3	The City shall encourage and support the listing of properties, structures or sites as potential historic landmarks and their inclusion as local or State Historic places, or National Register of Historic Places, as deemed appropriate.
<b>Water Resources</b>	
ER 3-1	The City shall provide direction and guidelines for the development of onsite storm water retention facilities consistent with local and regional drainage plans, community design standards and the requirements of the Flooding and Hydrology Element.
ER 3-2	Evaluate all proposed land use and development plans for their potential to create groundwater contamination hazards from point and non-point sources, and cooperate with other appropriate agencies to assure appropriate mitigation.
ER 3-3	Ensure the long term balance of water supplies and growth through coordination of land use planning with infrastructure development.
ER 3-4	Encourage the use of low water-consuming, drought-tolerant landscape plantings as a means of reducing water demand, and strengthen education/public relations programs to inform residents of the full range of water-saving techniques available.
ER 4-1	Encourage the use of low water-consuming, drought-tolerant landscape plantings as a means of reducing water demand, and strengthen education/public relations programs to inform residents of the full range of water-saving techniques available.
ER 4-2	The City shall encourage and facilitate the use of water conserving appliances and fixtures in all existing development, and require it in new development.
ER 5-1	The City shall encourage the enforcement of all federal, State, and regional regulations and enforce local regulations regarding the preservation and enhancement of water quality as it relates to the Lake's watershed, and water quality within the Lake itself.
<b>Air Quality</b>	
ER 6-1	The City shall investigate the feasibility of local monitoring and management of major pollutants affecting the City and region, with particular focus on ozone and PM <sup>10</sup> , and shall cooperate with SCAQMD as needed to ensure adequate monitoring.
ER 6-2	Through the land use planning and environmental review processes, limit pollution from stationary sources and ensure mitigation of any impacts from these sources to the community.
ER 6-3	The City shall promote the development and use of alternative modes of travel to reduce dependence on motor vehicles.

<b>Table 4.2-2 Big Bear Lake General Plan Policies</b>	
<b>Policy No.</b>	<b>Policies</b>
ER 6-4	The City shall encourage the use of clean alternative energy sources for transportation, heating and cooling whenever practical.
<b>Energy and Mineral Resources</b>	
ER 7-1	Promote energy conservation in all areas of community development, including transportation, development planning, public and private sector office construction and operation, as well as in the full range of residential, commercial and industrial projects.
ER 7-2	If, in the future, any significant mineral resources are identified in the City which merit extraction, ensure that mining and processing activities can be carried out in a manner which minimizes disruption to adjacent land uses, regional infrastructure, and the environment.
ER 7-3	Identify significant mineral resources within the planning area which have the potential to be excavated, and protect these areas for future extraction while minimizing potential land use conflicts between quarries and adjacent less intensive uses, if any are found to exist.
<b>COMMUNITY DESIGN ELEMENT</b>	
CD 1-1	<p>Consider the relationship of each development project to its setting, through the following measures:</p> <ul style="list-style-type: none"> <li>a. Each project should integrate with the natural features on and adjacent to the development site, including topography and landforms, geologic and soil conditions, hydrology and drainage, views, significant trees and vegetation, solar and wind exposure, natural open space and similar environmental features.</li> <li>b. Where appropriate, site design should be oriented to a visual focal point, view corridor or other visual amenity on or near the site.</li> <li>c. The relationship of building to site to street should be appropriate for the type and intensity of development and compatible with adjacent properties.</li> <li>d. Each project should complement the character and design of the surrounding area with respect to building size, shape, massing, setbacks, orientation, architecture, colors and landscaping. Buildings which are substantially higher and/or more massive than development in the surrounding district will be strongly discouraged unless it can be found that the added height and/or bulk is necessary to provide a community benefit and will not adversely affect nearby properties.</li> <li>e. Site design should respect neighboring properties with respect to privacy, noise and view considerations, especially in locating trash, loading, service and storage areas and vents exhaust and heat ducts.</li> <li>f. Use of recognizable design elements from the surrounding neighborhood or vicinity should be incorporated into designs to create continuity within a district, where appropriate.</li> <li>g. Site design should integrate with existing and proposed infrastructure systems in the surrounding area, including street patterns, trails and open space, drainage and utility systems.</li> <li>h. The relationship of a development project to its setting should be considered for varying times and conditions, including daytime and nighttime hours, changing seasons, and anticipated changes in development conditions over the life of the project, to ensure compatibility of the development over time.</li> <li>i. View analysis of new development projects should consider views to the site and through the site to features beyond, as well as views from within the site; views from various vantage points should be addressed to ensure that project design complements rather than dominates the natural landscape.</li> </ul>
CD 1-2	<p>New development in hillside areas should be designed in consideration of the natural terrain, through the following measures:</p> <ul style="list-style-type: none"> <li>a. Project design should not substantially change the natural slope of the site.</li> <li>b. Buildings constructed on hillsides should step to follow the natural terrain.</li> <li>c. The alignment of roads and driveways should follow the contours of the site to minimize cuts and fills, preserve natural drainage patterns, and produce roads that are easier for drivers to negotiate; roads should not be constructed perpendicular to contours.</li> <li>d. Site design should not change natural drainage patterns.</li> <li>e. Abrupt grade changes at property lines and at tree drip lines should be avoided.</li> </ul>

**Table 4.2-2 Big Bear Lake General Plan Policies**

Policy No.	Policies
	<ul style="list-style-type: none"> <li>f. Every effort should be made to minimize the limits of construction and disturbance on hillside sites; stock piling of materials and equipment should occur within construction limits.</li> <li>g. Surface drainage systems such as swales are preferable to underground systems.</li> <li>h. Slopes should be no steeper than 2-to-1 unless warranted by qualified soils engineering information.</li> <li>i. Cuts and fills should have good surface drainage, be revegetated, and terraced or controlled by retaining walls, to protect against erosion and sedimentation.</li> </ul>
CD 1-3	<p>The history of Big Bear Lake should be reflected in the community's design, through the following means:</p> <ul style="list-style-type: none"> <li>a. Use of design elements which reflect the various periods of history and settlement in the Big Bear Valley should be promoted and appropriate historic architectural themes should be incorporated into buildings and public spaces, where appropriate.</li> <li>b. Unique buildings and features which are determined to be of exceptional value to the community, due to the type of architecture used or historical persons or events associated with them, should be identified and methods of preserving these sites should be evaluated. When feasible and appropriate, buildings should be preserved on site or relocated to a designated historic district. Alternatively, sites within the City which have historic or cultural significance should be identified and commemorated with plaques, monuments or other means as appropriate.</li> <li>c. New buildings located adjacent to existing historic buildings should incorporate similar historic design features in an appropriate manner which fits the architecture of the new building; such features should reflect but not mimic historical design features.</li> <li>d. The City should assist any property owners of historic buildings who wish to obtain historical designations for their property, and assist their applications for available funding for preservation and rehabilitation, to the extent feasible.</li> <li>e. The City's history should be reflected in City-installed banners, street furniture, directional signage or other features as appropriate.</li> </ul>
CD 1-4	<p>The built environment should be functional and user-friendly, through the following means:</p> <ul style="list-style-type: none"> <li>a. Site designs should function well for site users, including both pedestrian and vehicular traffic, as well as bypassing traffic.</li> <li>b. Site design should create a sense of order by orienting buildings and site features to adjacent streets and other significant site features; in general, buildings should be parallel to the streets they face.</li> <li>c. Project designs should avoid confusing, complex elements which create disorientation for users. Dead end aisles and circuitous travel paths for vehicles and pedestrians should be avoided, and pedestrian and vehicular access should be designed to provide logical connections with adjacent properties and rights of way without re-entering the public right of way, to the extent feasible.</li> <li>d. Site entry points and access ways should be emphasized to guide people to their destinations.</li> <li>e. Pedestrian walkways should be provided to connect uses within and adjacent to each development without crossing through parking spaces, and should be adequately illuminated for nighttime use.</li> <li>f. Pedestrian travel paths should be designed at a human scale and protected from wind, snow and ice.</li> <li>g. All site design shall comply with handicapped access requirements and provide a safe and convenient circulation system for people with disabilities, linking building entrances to parking areas and public sidewalks, in accordance with applicable statutes.</li> <li>h. Architectural and landscape elements should create places that are comfortable and safe for users.</li> <li>i. Site design should recognize the extremes inherent in the City's mountain environment, including snow, ice, cold and wind, and incorporate design techniques to control or mitigate these factors for site users.</li> <li>j. The use of sound attenuation features should be included in site design where appropriate to reduce noise impacts to acceptable levels as specified in the Noise Element.</li> <li>k. Parking lots should be designed for convenience of users by avoiding dead end aisles; providing sufficient back-up distance and turn radii; providing adequate illumination; providing clearly delineated pedestrian pathways to building entrances; separating vehicle drives from truck delivery drives; provision of adequate stacking at drive approaches; avoidance of four-way intersections; provision of adequate stacking for drive-through lanes and avoidance of driveway conflicts at drive-through lane exit points; and use of shared access points at driveway approaches where appropriate.</li> </ul>

<b>Table 4.2-2 Big Bear Lake General Plan Policies</b>	
<b>Policy No.</b>	<b>Policies</b>
	<ul style="list-style-type: none"> <li>l. On-site parking should be designed to avoid impacts on adjacent rights of way by vehicles backing out of parking spaces into the right of way.</li> <li>m. The design, construction techniques and materials used in new development projects should ensure durability and ease of maintenance.</li> <li>n. Location of transit stops should be considered in the site design; turnouts and pathways serving transit stops should be provided where appropriate.</li> </ul>
CD 1-5	<p>Development should encourage and facilitate interaction of people through use of functional open space and connectivity, through the following means:</p> <ul style="list-style-type: none"> <li>a. The relationship of buildings and open spaces on a site should be designed to ensure that open space is usable, rather than remnants of space left over from building orientation; space should be organized to create a setting which is functional and supportive to the needs of pedestrians and vehicles.</li> <li>b. The use of barriers within and between developments should be avoided in favor of interconnected access points, where appropriate.</li> <li>c. Development designs should create places for people to gather; open public spaces should be easily accessible, permit circulation connectivity throughout the site, and foster interaction of users. Pedestrian open spaces and amenity areas should be designed at a human scale and should be furnished with comfortable seating, shade and wind protection, oriented around a focal point, and provided with landscaping or architectural features for visual interest. In this context, human scale means a distance at which faces are distinguishable from one side of the open space to the other. Smaller, interconnected open space areas are more effective in encouraging outdoor use than large expanses of space, where people feel less secure.</li> </ul>
CD 2-1	<p>Create a sense of arrival and identity in Big Bear Lake to reinforce a unified sense of place, through the following measures:</p> <ul style="list-style-type: none"> <li>a. Enhance major entry points to the community to create distinctive “gateways” to the city, including entrances to the City along State Route 18 (Big Bear Boulevard) and at Stanfield Cutoff.</li> <li>b. Enhance major features and intersections which are or will be significant focal points for the City or district in which they are located, including Boulder Bay, Stanfield Marsh, Rotary/Pine Knot Park, Rotary/Knickerbocker Park, and entrances to the Village along Pine Knot and Village Drive.</li> <li>c. Use cohesive design features to promote a sense of identity at gateways and focal points, including distinctive and identifiable welcome and identification signs for the City; thematic landscape treatment, including hardscape, trees and plant material; lighting; street furniture; banners; public art or other similar features.</li> </ul>
CD 2-2	<p>Protect and enhance significant views, where appropriate, through the following measures:</p> <ul style="list-style-type: none"> <li>a. Prohibit the erection of any new billboard within the City.</li> <li>b. Ensure that new development in locations which are highly visible from hillside areas, the lake and/or scenic roadways maintains a high quality of design and construction.</li> <li>c. Promote the use of view fencing instead of solid fencing to protect views, to the extent feasible.</li> </ul>
CD 2-3	<p>Enhance and unify elements within the public realm through use of unified, cohesive design features, as follows:</p> <ul style="list-style-type: none"> <li>a. Enhance the appearance of streets through undergrounding of utility lines, where feasible and appropriate.</li> <li>b. On new development projects, require landscaping which enhances the perimeter streets through use of street trees, plant materials and hardscape.</li> <li>c. Beautify the appearance of Big Bear Boulevard through installation of street trees and landscaping emphasizing deciduous trees for fall color; a uniform directional sign program; thematic, decorative banners; and other means as appropriate.</li> <li>d. Improve and maintain the City’s public recreational areas adjacent to the Lake and Big Bear Boulevard, including Boulder Bay, the Civic Center, Rotary-Pine Knot Park, and a new park between the lake and Big Bear Boulevard at Knickerbocker Road, to provide for public access to the lake, preservation of lake views from the highway, highway beautification, and creation of attractive and usable public open spaces at these locations.</li> <li>e. Use distinctive thematic designs and logos for City facilities which may be incorporated into benches and street furniture, banners, landscaping, lighting, directional signs and entryways, where appropriate.</li> </ul>

**Table 4.2-2 Big Bear Lake General Plan Policies**

Policy No.	Policies
CD 3-1	<p>The built environment should provide a visually interesting and stimulating setting by using varied physical forms and details which contribute to Big Bear Lake’s sense of place, through the following means:</p> <ol style="list-style-type: none"> <li>a. Site and building designs should incorporate a blend of various forms, materials, colors and architectural details which are appropriate for Big Bear Lake’s setting, history and community values.</li> <li>b. Changes in form, variety and contrast of elements should be used to enhance visual interest, provided that use of diverse design techniques should achieve a balance; too much variety in architectural treatment may appear confusing or over-ornamented, while too little variety may result in a sterile or regimented appearance.</li> <li>c. Design elements should be incorporated into the architecture of the building, rather than added onto the building’s facade as trim.</li> <li>d. Architectural treatment should be included on all publicly visible sides of buildings, rather than on the front or street side only, except as otherwise permitted in industrial areas.</li> <li>e. Development projects should be visually interesting and attractive for both site users and observers from adjacent streets and properties.</li> <li>f. Use of corporate architecture prototypes will be discouraged where such designs conflict with established neighborhood character; corporate architecture should be enhanced to reflect mountain design principles, as specified in this element.</li> <li>g. Accessory structures such as trash enclosures and storage buildings should be designed and constructed using the same design theme and materials as the primary structures on the site.</li> <li>h. Design elements should be used near the ground to provide visual reference points which can be easily seen from the street or sidewalk, including windows, doors, changes in color or materials, decorative hardware, awnings, porches or other features.</li> <li>i. Architectural elements should be included on long or tall building facades in order to avoid blank walls which appear monolithic and uninviting.</li> <li>j. Where high block walls required for sound attenuation or other buffering purposes are visible to the general public, the visual impact of the wall height should be minimized through use of stepped landscape planters, decorative wall design or other similar measures.</li> </ol>
CD 3-2	<p>Buildings should be designed to provide visual interest and complement adjacent buildings by their orientation, shape and massing, through the following measures:</p> <ol style="list-style-type: none"> <li>a. Large building masses should be broken up into smaller units of scale through variation of the wall and roof planes; building facades should be broken up to lessen the mass and define individual components of the building.</li> <li>b. Developments containing more than one building, such as multiple family projects and shopping centers, shall create visual interest by varying building setbacks and orientations on the site. Long, linear building arrangements creating a continuous wall effect will not be allowed.</li> <li>c. Where larger multiple-story buildings are proposed adjacent to single-story structures, the larger buildings should be stepped back so that the portion of the building adjacent to the smaller structures is single story, with additional stories further back.</li> <li>d. Structures with facades greater than sixty (60) feet in length must exhibit a prominent shift in the facade of the structure so that no greater than seventy-five (75) percent of the length of the building facade appears unbroken. Each shift shall be in the form of either a ten foot change in building facade alignment or a ten (10) foot change in roof line height, or a combined change in facade and roof line totaling ten (10) feet. For buildings over one hundred (100) feet in length or width, additional architectural articulation may be required.</li> <li>e. Building facades should include architectural features to provide visual interest, including but not limited to bay windows, balconies, covered walkways, dormers, framing around doors and windows, and/or detailing.</li> <li>f. Blank side and end walls should be avoided; design elements should continue around all visible sides of buildings.</li> <li>g. Building height within the City should be no higher than thirty-five (35) feet, except as otherwise approved through a variance or similar process.</li> <li>h. Architectural features such as towers, cupolas, ornamental metal structures, roof projections or other similar features should be designed as an integral component of the building design, and should be in scale with the building and the surrounding neighborhood or district. Such features should not be more than twenty-five (25) percent higher than the primary structure or the average height of buildings in the vicinity.</li> </ol>

<b>Table 4.2-2 Big Bear Lake General Plan Policies</b>	
Policy No.	Policies
CD 3-3	<p>Building materials should promote a mountain design theme and a genuine character through emphasis on wood and stone elements and other compatible natural materials, and should address the following issues:</p> <ol style="list-style-type: none"> <li>a. Natural building materials such as wood, stone and brick that blend with the natural surroundings should be used; buildings should minimize the use of large expanses of reflective glazing, aluminum panels and other materials not normally found in the mountain environment.</li> <li>b. Synthetic materials that simulate the textures or patterns of other materials (for example, vinyl siding which simulates the pattern of wood grain) should be avoided.</li> <li>c. Use of wood in the following ways is encouraged: heavy-looking structural timbers, exposed rafter tails, horizontal and diagonal wood siding, decorative logs and rails, and wood trim. Particle board as a finished exterior building material will not be allowed; plywood as a finished exterior building material is discouraged unless it can be shown to integrate with the overall building design in conformance with these policies.</li> <li>d. Use of indigenous stone for veneer and wainscot treatments is encouraged, particularly rose quartz. Stone should be used at ground level for the building base and for streetscape elements. Artificial stone is discouraged in favor of natural materials.</li> <li>e. Building materials should evidence a textured quality. Use of slick or shiny materials such as metal, plastic, vinyl or other synthetic materials as a primary building material is discouraged. Metal buildings may be allowed in industrial districts or elsewhere as determined by the Planning Commission, provided that the portions of metal buildings which are visible to the general public are architecturally enhanced in conformance with this element.</li> <li>f. The use of paint colors to add variety to building facades in place of acceptable building materials should be avoided.</li> <li>g. Materials should be complementary to those of adjoining buildings.</li> <li>h. Stucco may be used where it is combined with heavy timber, wood or stone. Stucco should incorporate heavy reveals and expansion joints, and should be protected from weather exposure by deep overhanging eaves. Acrylic based stucco with an acrylic finish (as opposed to painted finish) is recommended.</li> <li>i. Exposed concrete as a primary building material should have a ribbed or textured surface; unfinished exposed concrete is not recommended. Standard concrete block should not be exposed, even on fire walls. All concrete should be properly sealed.</li> <li>j. All building materials must be sufficiently durable and detailed to withstand Big Bear Lake's climate.</li> <li>k. Other materials may be acceptable in limited areas subject to design review and technical justification.</li> </ol>
CD 3-4	<p>Roof design and materials should enhance the skyline and blend with the natural environment, through the following design considerations:</p> <ol style="list-style-type: none"> <li>a. Roof surfacing materials and colors should blend with the surroundings, to unify varying architectural features of buildings within a district; strongly contrasting roof colors and materials within a district should be avoided.</li> <li>b. Roof colors should generally be neutral or muted in order to blend with and enhance the colors of the natural landscape. Brightly colored enameled metal roofs should not be used.</li> <li>c. Roof materials should be durable in consideration of the effects of climate and snow management; standing seam metal roofs have been effective in this regard. Snow diverters and retainers should be handled as an integral part of the roof shape. Roofs, overhangs and balconies should be designed to avoid shedding snow and ice onto other buildings, pedestrians, cars, power lines and landscaping.</li> <li>d. Roof pitches should be designed so that falling snow or ice will not threaten human safety or property; roof design should consider ice damming, roof loading and snow accumulation against walls.</li> <li>e. Roof lines of buildings should be designed to be compatible with surrounding building forms, to establish a visual order for building clusters. Design of roof lines should consider coordination with adjoining eaves, peaks, gables and slopes.</li> <li>f. Roof forms should be broken up with the use of dormers or other architectural features. The ridge line should not be continuous but should be varied in height or broken with chimneys, towers or other features.</li> <li>g. Roofs should have a sloped appearance; gable style roof styles with the gable end facing the street are encouraged. Where flat roofs are necessary due to building size, the roof design should incorporate gable features at building entrances or other design features to vary the roof line.</li> <li>h. Roof flashing materials should be finished to match roof color.</li> <li>i. The use of wide roof overhangs is strongly encouraged, to protect building foundations from ice and snow buildup and to provide shadow lines and visual interest to buildings. Overhangs should be designed to protect balconies and walkways,</li> </ol>

**Table 4.2-2 Big Bear Lake General Plan Policies**

Policy No.	Policies
	<p>where appropriate. Buildings with no overhangs should be avoided. Trim and eave lines should have a substantial appearance; thin wood trim sections are discouraged.</p> <ul style="list-style-type: none"> <li>j. Satellite dishes, communications antennae and mechanical equipment should be planned as part of the roof design so they are concealed from pedestrian viewpoints, adjacent rights-of-way and any overlooking development.</li> <li>k. For any buildings over two stories, eave lines or a major cornice or trim line should be located below the third story to bring the building facade down to human scale.</li> <li>l. Skylights and solar panels should be designed in an unobtrusive manner, flush with the roof surface; reflective materials which generate glare should be avoided.</li> <li>m. Roof types and materials to be avoided include the following: dome-shaped roof shapes, including geodesic domes; use of Spanish style barrel roof tiles; and use of untreated metal with a reflective surface. If mansard roof styles are used, the mansard should wrap around all publicly visible portions of the building, rather than being attached only to the front facade.</li> </ul>
CD 3-5	<p>Building colors should enhance the community’s image as a mountain resort by blending with the natural environment and surrounding development, in accordance with the following:</p> <ul style="list-style-type: none"> <li>a. On exterior building walls the predominant color should tend toward natural and muted tones which are found in Big Bear Lake’s natural setting. Bright, brilliant, luminescent or day-glow colors are not appropriate as predominant building colors in Big Bear Lake.</li> <li>b. Selection of colors should consider the colors used on adjacent buildings, to avoid harshly contrasting colors between buildings.</li> <li>c. Accent colors are encouraged, but must complement base colors and should be limited to no more than two on any building. Harshly contrasting color combinations should be avoided on any building. The use of neighboring colors in the color wheel should be considered when using strong, deep colors as accents.</li> <li>d. The use of bright, glossy color for focal points and limited accents such as doorways, window frames, signs, graphics, storefronts or displays is encouraged for commercial areas.</li> </ul>
CD 3-6	<p>Design of doors, windows, balconies and porches should enhance the building facade and provide for maximum safety and comfort of users in consideration of the mountain climate, through the following measures:</p> <ul style="list-style-type: none"> <li>a. Location of doors should be convenient for site users; the main entrance point for the public should be clearly delineated through enhanced architectural features, landscaping, lighting and signage, as appropriate.</li> <li>b. Where possible, doors should open onto exterior areas that receive direct sunlight, to avoid ice build-up at building entrances; snow should not shed onto building entrances.</li> <li>c. Windows and doors should be of a simple, uncluttered design, using wood or other quality materials in keeping with the building’s architecture. Raw aluminum windows and door frames should be avoided; if used, aluminum should be colored or finished. Metal window frames should be finished with an accent color complementary to the building.</li> <li>d. Windows should have traditional vertical, rectangular proportions. Facades incorporating long horizontal strips of windows should be avoided in favor of windows with frames. Window size and shape should be consistent within and between buildings. Use of decorative window shapes, such as round, arched or other unusual shapes, should be done sparingly as an architectural accent, to avoid creating overly busy facades.</li> <li>e. Window placement is encouraged on south-facing walls, for solar exposure.</li> <li>f. Facade openings should be in proportion and relate to one another, to the building and to the functions of the various parts of the building. For example, first-floor retail space will have larger windows than those found on upper-story office or residential space.</li> <li>g. Reflective or heavily tinted glass should be avoided.</li> <li>h. Covered balconies and porches are encouraged and should be designed to prevent snow accumulation, interior leaks and icicle buildup, and to prevent snow or ice falling on or from them so as to endanger passersby.</li> </ul>

<b>Table 4.2-2 Big Bear Lake General Plan Policies</b>	
<b>Policy No.</b>	<b>Policies</b>
CD 3-7	<p>Site and building design shall provide for the screening of mechanical equipment, service areas, utility equipment, storage and refuse collection areas from view of the general public from adjacent properties and rights of way, through the following measures:</p> <ol style="list-style-type: none"> <li>a. Roof-mounted mechanical and communication equipment shall be screened by architectural means such as roof projections.</li> <li>b. Ground mounted equipment, utility meters, backflow devices and similar mechanical equipment shall be screened by use of building placement, decorative walls or fences, landscaping, berms or a combination of these and other appropriate devices; this equipment should not be visible on the primary facades of buildings or in the front yard areas.</li> <li>c. Mechanical equipment shall be painted to match the surrounding wall or roof color or natural terrain, as applicable.</li> <li>d. Trash enclosures shall be located behind the front setback and should be screened from view of the street through placement of the primary building, landscaping, berming or other appropriate means. Enclosures should be constructed of masonry block tall enough to screen dumpsters, architecturally enhanced to match the primary building, and fitted with solid metal or wood gates attached to steel poles embedded in concrete.</li> <li>e. Storage yards and auto service areas shall be screened through use of landscaping, fences or earth berms, or a combination of these techniques.</li> <li>f. Trash and storage areas shall be well maintained, including prompt repair and replacement of damaged gates.</li> </ol>
CD 3-8	<p>Site lighting should provide for public safety, enhance views of development during nighttime hours, limit nuisance to adjacent properties from off-site light and glare, and consider preservation of views of nighttime skies, through the following measures:</p> <ol style="list-style-type: none"> <li>a. Illumination levels should be of sufficient intensity to provide security but not over-power the nightscape. Illumination should be low level and low glare.</li> <li>b. Exterior lighting to highlight landscaped areas or architectural features is encouraged, provided that the light source is inconspicuous and that excessive glare is avoided.</li> <li>c. Exterior neon is discouraged, with the exception of window signs.</li> <li>d. Flashing, blinking or colored lighting should be avoided, except for holiday lighting.</li> <li>e. Incandescent or other warm colored lighting is preferred; light sources which produce light pollution by creating an ambient glow, or which alter the colors of objects at night, are discouraged.</li> <li>f. Exterior light fixtures should be shielded and directed downward so that the light source is not visible from beyond the property line on which the structure is located.</li> <li>g. Exterior lighting fixtures should not project above the horizontal plane of the building.</li> <li>h. Adequate illumination should be provided in parking lots to ensure user safety, and extreme variation in illumination levels throughout the lot should be avoided. The height of light fixtures should be in proportion to the building mass and should consider adjacent uses; within pedestrian districts and adjacent to residential designations or uses, light fixture height should be less than in vehicle-dominated commercial lots. Parking lots should not be illuminated by lighting fixtures affixed to structures.</li> <li>i. Adequate illumination should be provided for walkways and building entrances; changes in grade such as steps and ramps should be well-lit. The design of lighting fixtures should be decorative and compatible with the building architecture; generally, simple and functional designs are preferred over highly ornate fixtures which are more difficult to maintain.</li> <li>k. Light poles should be designed to withstand plowing and piling of snow.</li> <li>l. Light from gas station canopies, service areas, security lighting, signs and other site features should not be excessive so as to create off-site glare.</li> <li>m. The use of small decorative lights strung on trees or buildings is encouraged in pedestrian-oriented commercial areas.</li> </ol>

<b>Table 4.2-2 Big Bear Lake General Plan Policies</b>	
Policy No.	Policies
CD 4-1	<p>Site and building design should maximize opportunities for solar exposure, through the following measures:</p> <ol style="list-style-type: none"> <li>a. Habitable areas of structure should be oriented to achieve maximum exposure to sunlight.</li> <li>b. Use of south-facing windows is encouraged.</li> <li>c. Location of decks, balconies and porches should be oriented for solar exposure, to provide sunny, usable outdoor space.</li> <li>d. Site designs should preserve sunlight on outdoor public spaces, especially in the afternoon hours; outdoor spaces which are permanently shaded during winter months will be generally unusable at that time.</li> <li>e. Building placement and orientation should maintain solar exposure to adjoining buildings and sites.</li> <li>f. Solar radiation and glare should be considered in choosing building colors, particularly in areas facing public open spaces; bright whites should be avoided in these areas.</li> <li>g. Location of shade trees should consider solar exposure; trees should not permanently shade outdoor public seating areas at maturity, except where appropriate in park and recreation facilities.</li> </ol>
CD 4-2	<p>Snow must be properly managed to avoid damage to buildings, risks to pedestrians and vehicles, and to reduce maintenance and snow removal costs, through the following measures:</p> <ol style="list-style-type: none"> <li>a. Developers should consider snow management at the earliest phase of development and incorporate design features to handle snow plowing and storage.</li> <li>b. Snow and drainage from roofs should not be dumped onto adjoining streets or properties.</li> <li>c. Snow, meltwater and/or icicles should not be allowed to drop onto pedestrian areas, building entrances, walkways, porches or balconies.</li> <li>d. Snow diverters or snow retainers, roof pitch and roof materials should be designed to either shed or retain snow in a safe manner. Snow splitters may be required on roof projections. Eaves should be designed to avoid damage from snow shed.</li> <li>e. Service areas, garage entries, trash enclosures and loading areas should be located so that they are not blocked by snow or rendered inaccessible by ice accumulation.</li> <li>f. Building projections should be durable in consideration of snow loads.</li> <li>g. Stairs and ramps should be roofed or heated to avoid ice build-up.</li> <li>h. Provisions for snow storage and snow removal should be incorporated into the site design, as follows:             <ol style="list-style-type: none"> <li>(1) Snow storage areas must be designated on site; plowing snow onto public streets will not be allowed.</li> <li>(2) Snow storage should consider impacts on vegetation; snow storage areas should be planted with suitable plant materials which are low-growing and can withstand the weight of the snow. Landscape planters should have low edges to facilitate plowing. Snow storage areas should be well-drained, but should not direct meltwater onto pedestrian pathways, building entrance points or outdoor public open spaces.</li> <li>(3) Location of snow storage areas in sunny areas will hasten melting.</li> <li>(4) A sufficient number of smaller snow storage areas is preferable to one larger area.</li> <li>(5) Snow storage areas should be readily accessible to snow plows.</li> <li>(6) Outdoor open spaces and sidewalks should be designed for ease of snow plowing through locations of street furniture, planters, signs, and lighting; movable features may be preferable.</li> <li>(7) Sidewalks and pedestrian walkways may need to be widened to accommodate for snow storage.</li> </ol> </li> <li>j. Parking lots should be designed for effective snow management, as follows:             <ol style="list-style-type: none"> <li>(1) Snow storage and drainage should be incorporated into parking lot design, and can be combined with planter areas where appropriate. Larger areas of landscaping at ends of parking aisles and around the perimeter of parking lot are preferable to landscape fingers within lot, for plowing purposes.</li> <li>(2) Drainage should not be directed to traffic aisles or pedestrian walkways, where it will cause ice buildup. Surface drainage is preferred over catch basins; if catch basins are used, they should be kept clear from snow build up. Continuous curbing of parking lots should be avoided to allow better drainage.</li> <li>(3) Snow storage areas should be located at the ends of parking lot aisles, to facilitate ease of plowing.</li> </ol> </li> </ol>

<b>Table 4.2-2 Big Bear Lake General Plan Policies</b>	
<b>Policy No.</b>	<b>Policies</b>
CD 5-1	<p>Landscaping should enhance buildings and parking areas, provide screening where appropriate, and complement the natural environment, through the following measures:</p> <ol style="list-style-type: none"> <li>a. Use of plant materials should be compatible with that of neighboring properties in terms of type, size and density. Where appropriate, street trees may be of a uniform type to promote a cohesive streetscape.</li> <li>b. Landscaping should be used throughout development sites to emphasize project and building entries, contrast with or reinforce building lines, soften expanses of walls and pavement, define outdoor spaces and delineate pathways, frame attractive views, screen unattractive features and provide shade in parking areas.</li> <li>c. Plants should be selected for their year-round interest as well as their form, texture and shape; deciduous trees should be incorporated into plant palettes for fall color. A mix of evergreen and deciduous trees should be used along the street for year-round interest. Evergreen trees should be used to block winter winds and screen unsightly features. Deciduous trees should be used on southern and western exposures for summer shade and winter sun.</li> <li>d. Planting plans should incorporate existing trees and other significant native vegetation within landscaped areas where appropriate; landscape and grading plans for new development should limit removal of viable mature trees, and provide for replacement of a sufficient number of trees to safeguard the ecological and aesthetic environment. Mature trees left on site should be used as focal points in the design. Where these trees are preserved, they should be protected in place with no variation in the finish grade and no impervious materials under the drip line.</li> <li>e. Natural site features such as drainage courses, large rocks or topographic features should be incorporated into the landscape plan, where feasible and appropriate.</li> <li>f. For developments that adjoin natural open space areas having significant stands of trees or other native vegetation, landscaping should be compatible with the adjacent native vegetation.</li> <li>g. All disturbed areas should be revegetated; landscaping should be provided for erosion control where appropriate.</li> <li>h. Planting plans should include plant materials of mixed maturity throughout the site; new landscape material should include a mix of 1, 5, and 15 gallon plants and box trees.</li> <li>i. Plant palettes should consider safety and comfort of pedestrians; plants that drop fruit, pods, bark, nuts or branches should be avoided, and plants with thorns or sharp edges should be avoided in pedestrian areas.</li> <li>j. Landscape design should be coordinated with placement of site utilities, including overhead lines, transformers, meter boxes, back flow devices and similar equipment, in order to prevent obstruction of utilities while providing adequate screening.</li> <li>k. Landscaping should be maintained so as not to obstruct walkways; at least seven feet of vertical clearance should be maintained underneath a tree canopy.</li> <li>l. Where development is proposed at street intersections, a landscape focal point on the corner is recommended.</li> <li>m. The location of plant materials should not obscure signs as the plants mature.</li> <li>n. Significant views should be considered in the preparation of a landscape plan, particularly where plant material will be considerably larger at maturity.</li> <li>o. Landscaping should be used to soften the effect of long blank walls; tall retaining walls should be stepped to form benches which can be softened with landscaping.</li> <li>p. Trees and plants should be protected from snow clearing operations; plant material located in snow dump areas must be sufficiently durable to survive.</li> <li>q. Spring and summer floral displays are strongly encouraged in highly visible areas.</li> </ol>
CD 5-3	<p>Landscaping should incorporate water conservation techniques, through the following measures:</p> <ol style="list-style-type: none"> <li>a. Use of hardscape and/or natural areas along with plant materials should be included in landscaping designs as a water conservation measure.</li> <li>b. Plant materials should be suitable for the mountain environment, drought resistant, and should be grouped on the site according to their watering needs.</li> <li>c. Irrigation systems should be designed to minimize maintenance and water consumption; drip systems are preferred, where feasible and appropriate. Automatic systems should be installed for all commercial, industrial and multi-family development.</li> </ol>

**Table 4.2-2 Big Bear Lake General Plan Policies**

Policy No.	Policies
CD 6-1	<p>Development in single family residential areas should ensure that each legally-created lot is buildable, that lots and buildings are designed to ensure ease of access, privacy, fire safety and adequate parking, and that housing meets a minimum standard of construction, through conformance to applicable policies in this element in addition to the following measures:</p> <ol style="list-style-type: none"> <li>a. Adequate building setbacks should be required on residential lots to ensure privacy for each residence, while allowing for a reasonable building envelope on legal existing substandard lots.</li> <li>b. The creation of flag lots may be allowed only when it can be determined that each resulting lot will meet the minimum lot requirement of the zone exclusive of the “flag” portion of the lot; that creation of a flag lot is necessary to minimize site grading, preserve a natural feature or amenity or provide some other benefit; that the resulting lot configuration is not detrimental to the surrounding neighborhood; and that adequate emergency access may be provided to all resulting lots.</li> <li>c. Grading on single family lots should not adversely impact adjacent residential lots through creation of visually obtrusive retaining walls, diversion of drainage onto adjacent lots, obstruction of solar access or other impact.</li> <li>d. For equestrian lots, adequate setbacks should be maintained for animal enclosures to avoid adversely impacting adjacent properties.</li> <li>e. The height and bulk of single family residences should be in proportion to the size of the lot; variances for setbacks and height should not be granted simply to allow construction of houses exceeding the floor area which can suitably be supported by the lot.</li> <li>f. Single family homes on sloping lots should conform to the natural grade through multiple levels or other means as appropriate; residential development on slopes over ten (10) percent will be subject to design review.</li> <li>g. All new single family residences, including manufactured homes and mobile homes, shall be constructed on a permanent foundation and shall use roofing and siding materials similar to and compatible with other residences in the neighborhood; use of eaves is strongly recommended, and at least one covered parking space should be provided.</li> <li>h. Second units on single family lots, such as dependent housing units, should be constructed of the same materials and be similar in architecture and design to the primary unit. Colors used for homes within single family residential designations should conform to the color guidelines contained in this element.</li> </ol>
CD 6-2	<p>Multiple family housing should provide a safe and pleasant living environment for residents and should be integrated with surrounding neighborhoods to enhance a sense of community, through conformance to applicable policies in this element in addition to the following measures:</p> <ol style="list-style-type: none"> <li>a. Parking areas should be designed so that vehicle headlights are screened from adjacent on-site or off-site residences, through use of landscaping, low profile walls, grade differential or a combination of these and other factors, as appropriate.</li> <li>b. Common open space areas should be placed so as to be visible from building entrances, windows of adjacent residences and public streets, to increase visibility for security purposes.</li> <li>c. Long, unbroken parking drives or large, undivided parking lots are discouraged in favor of dispersed parking courts placed near the units they serve. Parking spaces should be visible from and conveniently located near the units which use them.</li> <li>d. An adequate number of trash enclosures should be conveniently located throughout the development and should be constructed with a walk-in entrance as well as solid metal or wood gates for ease of use by all residents.</li> <li>e. A minimum of two means of ingress and egress should be provided, except for smaller projects where emergency access is determined to be adequate.</li> <li>f. For gated communities, adequate stacking room and parking stalls should be provided outside of the gates, to eliminate queuing of vehicles onto public streets. Internal stacking should not interfere with circulation on the site. Public safety officers should be granted access to gated communities.</li> <li>g. Dwelling units should be oriented to focus on good views.</li> <li>h. Drive aisles should be treated like a streetscape, with parkway trees and landscaping provided.</li> <li>i. Private open spaces provided for individual units should be contiguous to the units they serve and screened from public views. Common use areas should be located for residents’ safety and convenience; for example, laundry areas should be located near children’s play areas, to provide for visibility by caretakers.</li> </ol>

<b>Table 4.2-2 Big Bear Lake General Plan Policies</b>	
<b>Policy No.</b>	<b>Policies</b>
CD 6-3	<p>Ensure that mobile home and manufactured housing communities meet the City's residential design goals to ensure a safe, pleasant and functional living environment for residents, by requiring adherence to applicable design policies in addition to the following criteria:</p> <ol style="list-style-type: none"> <li>a. Greenbelts with walkways should be located between rows of mobile homes to provide pedestrian access and open space.</li> <li>b. Recreational amenities and functional open spaces should be provided which are conveniently located and accessible by pedestrian pathways, with facilities for all age groups within the park.</li> <li>c. Privacy and individuality for each unit should be created by use of varied unit footprints, including varied building setbacks.</li> <li>d. Functional and defined private yard space should be provided for each dwelling unit.</li> <li>e. Curvilinear streets, short street segments, cul-de sacs or a combination of these design features should be used instead of long, narrow alley-like drives.</li> <li>f. Landscaping and street trees should be provided along private interior streets and drives.</li> <li>g. Adequate guest parking should be provided which is conveniently distributed throughout the project.</li> <li>h. Recreational vehicle storage areas should be screened and adequate buffering provided between those areas and adjacent residential uses. At least two means of access should be provided. An adequate number of trash enclosures should be conveniently located throughout the development and should be constructed with a walk-in entrance as well as solid metal gates for ease of use by all residents.</li> <li>k. For gated communities, adequate stacking room and parking stalls should be provided outside of the gates, to eliminate queuing of vehicles onto public streets. Internal stacking should not interfere with circulation on the site. Public safety officers should be granted access to gated communities.</li> <li>l. Adequate setbacks and transitional screening should be provided between the mobile home park and adjacent residential uses.</li> <li>m. Adequate provision should be made for ongoing maintenance of mobile home parks.</li> </ol>
CD 6-4	<p>Ensure that design characteristics of senior living facilities consider and accommodate the special needs of residents, through conformance with applicable design guidelines in this element as well as the following criteria:</p> <ol style="list-style-type: none"> <li>a. Senior projects should be located within reasonable walking distance of support services such as shopping and medical offices, or should be served by public transit or private shuttle service.</li> <li>b. Units should be provided with appliances designed for ease of maintenance and metering, to meet the specific needs of seniors.</li> <li>c. Adequate lighting, handrails and/or seating should be provided along any hallways, walkways, balconies or other common areas, where appropriate.</li> <li>d. Low door thresholds and door closers are recommended for unit entrances.</li> <li>e. Parking in senior housing projects may be provided at a reduced ratio, but spaces should be covered and located within a reasonable distance of the units they serve.</li> <li>f. Open space areas should be provided where solar exposure is present all year.</li> </ol>
CD 7-1	<p>Site planning and design of retail and office commercial development should be integrated with adjacent properties, provide for optimum use of the site, and enhance the visual appearance of business areas, through the following means:</p> <ol style="list-style-type: none"> <li>a. Building and parking layout should be varied to avoid a "strip commercial" appearance, in which buildings are plotted in a straight row with parking along the entire street frontage; building placement should be varied to avoid parking areas which dominate the streetscape.</li> <li>b. Where a commercial site adjoins residential development, the site design should provide a transition of use and scale; decorative building design, increased setbacks, one-story massing at the interface area, difference in grade and dense landscaping are preferred techniques. If walls are required for screening purposes, they should be of decorative construction.</li> <li>c. Development patterns which route traffic to or from commercial destinations through residential neighborhoods will not be allowed.</li> </ol>

**Table 4.2-2 Big Bear Lake General Plan Policies**

Policy No.	Policies
	<ul style="list-style-type: none"> <li>d. Consideration should be given to sharing access between adjoining commercial properties in order to limit curb cuts and provide greater efficiency of on-site circulation, where appropriate.</li> <li>e. Adequate vehicle stacking room should be provided at project entrances and exits and for all drive-through facilities.</li> <li>f. Storefront designs for shopping centers should complement the architectural style of the center and provide visual interest and variation. Suggested design elements include providing offsets or bays; using a strong base material for wainscoting; variation of storefront treatment; multi-paned windows; detail at window and door openings; overhangs and awnings; shutters; and other similar features that engage the eye.</li> <li>g. Architectural focal points are encouraged to create entry statements and provide a sense of place; towers, fountains, plazas, public art, entry treatments, trellises or other similar means are encouraged for this purpose, provided that such features are designed as an integral component of the project architecture and are of a scale and height appropriate for the building and the surrounding district.</li> <li>h. Consideration should be given to all the types of tenants and users desired and sufficient parking should be provided for these uses, rather than trying to maximize building floor area at the expense of parking and thereby limiting future tenants and uses.</li> <li>i. If not required for a specific screening or security purpose, walls should not be used. Where required for screening or security, walls should be kept as low as possible. When security fencing is needed in areas visible from public rights of way or adjacent properties, it should be of decorative construction such as a combination of solid walls with pilasters and decorative view fencing, or decorative view fencing such as wrought iron; the use of chain link fencing visible to the public in commercial areas is discouraged.</li> <li>k. Truck access and loading should occur on-site, without impacting adjacent rights of way. Truck access should be separated from vehicle access aisles used by employees and/or customers.</li> </ul>
CD 7-2	<p>In mixed use projects where retail and/or office uses are co-located with residential uses, ensure that such developments are attractive and functional while minimizing conflicts between uses of different intensity, through conformance with applicable design guidelines in this element in addition to the following:</p> <ul style="list-style-type: none"> <li>a. Design of mixed use projects should provide for attractive transitions between uses, rather than abrupt barriers or separations.</li> <li>b. Residential and commercial uses should each have an identifiable design character, provided that certain design elements should be carried throughout the project to create a sense of unity.</li> <li>c. Commercial uses should be located closer to the street, in order to provide better visibility and access; residential uses should be located in the interior of the lot or above commercial uses, separated from busy streets.</li> <li>d. Loading, service areas and trash enclosures for commercial uses should be fully screened and separated from residential uses. Separate vehicular access should be provided from the street to the commercial and residential components of the project.</li> <li>e. The nature of commercial uses permitted within a mixed use development should complement the residential portion of the project, so as to create a neighborhood environment. Commercial uses which are of an intensity not appropriate adjacent to residential uses should be avoided in mixed use projects.</li> <li>f. Parking shall be provided for residential units in conformance with development code standards for residential units in multi-family zone districts.</li> </ul>
CD 7-2	<p>Ensure that industrial uses are properly screened and that transitions between industrial areas and adjacent, less-intensive uses are provided, while ensuring that the interior portions of industrial sites function well for the user in terms of ease of operations and maintenance, through conformance with the applicable design guidelines in this element in addition to the following measures:</p> <ul style="list-style-type: none"> <li>a. Portions of industrial sites which are visible to the general public from public rights of way and adjacent, less intensively used or designated properties should conform to the applicable guidelines in this element, including but not limited to architecture, site design, lighting, landscaping and screening.</li> <li>b. Adequate transitions should be provided between industrial uses and less intensive uses, including but not limited to the provision of increased setbacks, increased landscaping, decorative walls, berming or grade differential, or other means as deemed appropriate.</li> <li>c. Loading docks, overhead roll-up doors, outdoor storage, trash collection areas and other service areas on industrial sites should be oriented to the interior of the site, away from street frontages and public views, or should be adequately</li> </ul>

<b>Table 4.2-2 Big Bear Lake General Plan Policies</b>	
<b>Policy No.</b>	<b>Policies</b>
	<p>screened by wing walls, building placement, screen walls or other means.</p> <p>d. Storage of materials on industrial sites should not extend in height above the height of screen walls or fences.</p> <p>e. In lieu of on-site landscaping and architectural upgrades within the interior portions of industrial sites, landscaping and design features should be provided around the site perimeter where they are visible to the general public.</p> <p>f. Industrial traffic should not be routed through residential neighborhoods.</p> <p>g. Industrial uses should be operated so as to mitigate operational impacts on less intensive uses, including noise, light, glare, blowing dust, odors or other potential nuisances.</p> <p>h. Truck access and loading should occur on-site, without impact to adjacent rights of way. Truck access should be separated from vehicle access used by employees and/or customers.</p>
CD 7-3	Require that public uses, including any public works projects and capital improvement projects undertaken by the City of Big Bear Lake, conform to the applicable design guidelines contained in this element.
CD 7-4	<p>The review process for commercial signs in Big Bear Lake should ensure that signs enhance, rather than detract from, the natural environment and distinctive mountain architecture, while reducing inconvenience to local businesses, through the following measures:</p> <p>a. Sign location and design should be integrated into the building architecture and site layout, reinforcing the character of the building design; sign size and dimensions should be proportional to the scale of the building and the mounting surface.</p> <p>b. The effect of sign placement on adjacent parcels and rights of way should be considered, so as to avoid obstructing views of other signs or obstructing drivers' views at intersections and driveways.</p> <p>c. Sign design, construction and installation should allow for a sign to be replaced, removed or modified without structural damage to the building.</p> <p>d. Where multiple tenants share a development, a consistent sign program is recommended to provide a coordinated project theme.</p> <p>e. Signs should be located and designed for maximum readability during both daytime and nighttime hours; simple messages, layout and color schemes make signs easier to read.</p> <p>f. Sign lighting should not be excessive so as to create off-site glare; if signs are illuminated by exterior fixtures, the light source should be concealed.</p> <p>g. Sign design should incorporate design features to reinforce mountain themes, such as use of wood, brick and/or stone. Materials should be weather-resistant.</p> <p>h. Free standing signs should have landscaping and/or decorative hardscape at the base of the sign. Fluorescent, reflective and luminescent colors should be avoided. For free-standing signs, sign supports should be architecturally enhanced by use of wood, stone or other natural materials; the appearance of metal poles should be avoided.</p> <p>k. Signs should have a clearly defined edge, provide a shadow line, and have a substantial appearance; signs painted on building facades should be avoided.</p> <p>l. Miscellaneous signs attached to primary signs should be avoided.</p> <p>m. Sign placement should not impact views of the skyline; signs extending above the roof line shall be avoided.</p> <p>n. Signs should be of good quality materials and workmanship.</p> <p>o. Sign review procedures and criteria should be clearly stated, simple and convenient; review should occur in no less than 3 working days, and all signs meeting the minimum criteria should be approved immediately. Sign review should not be required for change of copy only, and no regulation of sign content should occur.</p> <p>p. Decorative murals may be used if approved by the Planning Commission, provided that they conform to the applicable policies of the General Plan; if wording is included in a mural, it shall be considered to be a sign and shall meet the applicable requirements for area, placement and permitting within the sign ordinance.</p>

**Table 4.2-2 Big Bear Lake General Plan Policies**

Policy No.	Policies
<b>LAND USE ELEMENT</b>	
L 1-1	Adopt and maintain a land use map which depicts the type and intensity of land uses permitted in the planning area and provides for varying residential life styles, business activities, open space areas and public uses, as outlined in the following land use designations, except that in no case shall the land use map be interpreted as a guarantee that the maximum permitted density or intensity of land use specified by the map designation be allowed on any given parcel of land, regardless of site conditions, environmental impacts or development constraints. Actual permitted density or intensity on any given parcel will be evaluated at the time of project approval based upon the proposed project's compliance with all applicable General Plan policies, City codes and ordinances and State law.
L 1-2	Ensure that the zoning map, development code, specific plans and other applicable development-related ordinances are brought into conformance with the General Plan, as soon as practical after the General Plan is adopted.
L 1-3	Ensure that all new development within the City conforms to all applicable provisions of the General Plan.
L 1-4	Coordinate with other jurisdictions and agencies in the Big Bear Valley to address land planning issues of regional concern.
L 1-5	Ensure that the boundaries of the City's incorporated limits and adopted sphere of influence are appropriate to meet the goals and objectives of the community.
L 1-6	Ensure that land uses permitted within the City are developed in a manner sensitive to the natural environment, mitigating impacts on natural resources and at an appropriate level of intensity given the topography and environmental conditions of each site.
L 1-7	Ensure compatibility between land uses which have different functions, requirements and impacts.
L 1-8	<p>Preserve the scenic mountain backdrop of Big Bear Lake through adoption of guidelines for hillside development, including the following:</p> <ul style="list-style-type: none"> <li>a. Development in hillside areas should minimize grading, conform to natural topography, preserve ridgelines and exhibit sensitivity to natural landforms.</li> <li>b. Development should be restricted on natural slopes of fifty percent and greater.</li> <li>c. Visually prominent ridges and hillsides should be retained in a natural condition; where hillside grading occurs, the final graded contours should match and blend with natural contours and slopes should be finished in a manner to resemble natural topography.</li> </ul>
L 1-9	Identify areas within the City which, through deterioration of structures, high vacancy rates, vandalism or health and safety concerns, merit special attention, and develop programs to revitalize these areas.
L 2-1	Promote the Village district as the primary tourist-oriented shopping and entertainment district within the Valley, through continued implementation of the Village Specific Plan as it may be amended from time to time, and through coordinated planning and implementation of parking and infrastructure improvements to the district.
L 2-2	Promote the city's General Commercial areas as a major market center for mountain residents and visitors, by providing adequate land for regional shopping center development and ensuring that such development occurs and is maintained in an attractive and convenient manner.
L 2-3	Promote Big Bear Lake as a major resort destination for Southern California, and provide for development of visitor-oriented facilities, services, activities and attractions to enhance tourism.
L 2-4	Coordinate with other local agencies to enhance economic development opportunities for the Big Bear Valley through regional cooperation on access, circulation, infrastructure, development of major facilities, marketing and promotion.

<b>Table 4.2-2 Big Bear Lake General Plan Policies</b>	
<b>Policy No.</b>	<b>Policies</b>
L 2-5	<p>Provide information and assistance to property owners, business owners and developers to assist them in establishing or expanding businesses within the City, while ensuring that new development conforms with City policies and standards, through the following means:</p> <ol style="list-style-type: none"> <li>Provide simple, clear application forms and written explanations of City development review processes and requirements;</li> <li>Provide information on demographic and economic conditions in the City to assist the public in evaluating business opportunities;</li> <li>Work towards establishment of a geographic information data base and mapping system within the City to increase the amount of information available to the public on zoning, land use and infrastructure planning and other pertinent data;</li> <li>Expedite and simplify permit processing to the extent feasible, and provide individualized assistance to persons requesting help with City procedures;</li> <li>Maintain frequent and open communication between representatives of the City and the business community, to share ideas and resources on promoting economic development;</li> <li>Provide public information materials on City programs and processes, participate in public forums on business issues, and use City newsletters and other means to provide information to businesses and citizens.</li> </ol>
L 3-1	<p>Adopt the following policies for designating residential uses within the City to enhance the quality of residential neighborhoods:</p> <ol style="list-style-type: none"> <li>Permit a range of residential densities and housing types throughout the City, rather than concentrating higher densities in limited areas, and provide for all residential life styles ranging from equestrian and estate lots to multiple family development and mobile home parks.</li> <li>Direct the location of senior and multiple family housing to areas accessible to public transportation, supportive commercial uses, and community facilities.</li> <li>Maintain 7,200 square feet as the minimum lot size standard for new single family residential subdivisions, except that existing residential lots of record which are less than this size may be developed pursuant to the requirements of the applicable land use designation and zone district.</li> <li>Consider underlying topography, existing parcelization, existing land uses, infrastructure availability and relationship between uses in designating residential land uses.</li> </ol>
L 3-2	<p>Ensure that residential development provides an attractive living environment and creates long-term value for residents as well as the community, through the following measures:</p> <ol style="list-style-type: none"> <li>Multiple-family development should create a safe, convenient, attractive environment with adequate open space and on-site amenities.</li> <li>Single-family subdivisions should integrate with existing development and community facilities.</li> <li>During development review, building intensity as well as density should be considered; building mass and coverage should be proportional to the size of parcel being developed, and should be in scale with the neighborhood.</li> <li>Mobile home parks and subdivisions should provide sufficient open space and recreational amenities to adequately serve their residents and assure consistency with surrounding development.</li> <li>Residential development should be designed to be sensitive to the mountain environment; building orientation and design should consider and complement the natural characteristics of the site.</li> <li>The primary use of residentially-designated property shall be residential uses; such property shall not be primarily used for storage, parking, accessory structures, or other non-residential uses.</li> <li>Residential development on substandard lots should maintain adequate setbacks to ensure conformity and compatibility with adjacent development.</li> <li>Density transfers may be approved for larger residential projects, where appropriate to provide additional open space, green belts, play areas or other amenities, preserve natural or cultural resources or mitigate natural hazards.</li> </ol>
L 3-3	<p>Maintain the integrity, safety and attractiveness of residential neighborhoods by pursuing compliance with applicable codes and ordinances to ensure maintenance of residential areas.</p>

<b>Table 4.2-2 Big Bear Lake General Plan Policies</b>	
<b>Policy No.</b>	<b>Policies</b>
L 3-4	<p>Provide for visitor lodging in residential areas with certain restrictions which are designed to preserve residential character, through the following measures:</p> <ol style="list-style-type: none"> <li>Within residential designations primarily allowing single family dwelling units, permit establishment of bed and breakfast uses with five or fewer guest rooms only with approval of a conditional use permit.</li> <li>Within multiple family residential districts, allow commercial lodging facilities only with a conditional use permit provided that the project density does not exceed 12 guest and dwelling units per acre.</li> <li>Within all residential designations, allow rental of dwelling units for short-term vacation use, provided that such rentals are operated pursuant to City ordinances and regulations.</li> </ol>
L 3-5	<p>Provide for keeping of a reasonable number of domestic animals in residential districts and for the keeping of horses within designated areas of the City, and enforce animal-keeping provisions to ensure that residential neighborhoods are protected from excessive odors or other nuisances from animals.</p>
L 3-6	<p>Provide for accessory uses in residential neighborhoods as permitted by State law and to meet the needs of City residents, which may include but are not limited to family day care facilities, dependent housing units and home occupations, while ensuring that such accessory uses do not adversely affect the surrounding neighborhood.</p>
L 3-7	<p>To support the provision of affordable housing in the City, provide incentives for development of these units through measures which may include but are not limited to the following:</p> <ol style="list-style-type: none"> <li>Provide for fast-tracking of application review, plan check and inspection processes;</li> <li>Consider approving a density bonus of no greater than 50 percent over the base permitted density for projects providing affordable units to low-to-moderate income families and households, and consider approving a density bonus of no greater than 100 percent for projects providing affordable units to senior citizens, based on the merits and amenities provided within each project, on a case-by-case basis.</li> </ol>
L 4-1	<p>Adopt the following policies for designating commercial uses within the City:</p> <ol style="list-style-type: none"> <li>Commercial development should be located in areas free from major topographic variation, except that the Commercial-Recreation designation may be appropriate in hillside areas for winter sports uses.</li> <li>Commercial uses should be located so as to minimize interface conflicts with existing and planned residential neighborhoods. Primary access to a commercial site should not be provided through a residential neighborhood.</li> <li>Commercial sites should have visibility from a public street and should have adequate access and infrastructure reasonably available to support the intensity of the use.</li> </ol>
L 4-2	<p>Ensure that commercial development provides an attractive environment for business, lodging, entertainment, shopping and working, and creates long-term value for the community, through the following measures:</p> <ol style="list-style-type: none"> <li>Commercial development should create a safe, convenient, attractive environment with adequate landscaping, parking, lighting, setbacks, height restrictions, architectural design, and pedestrian access linking to off-site walkways and transit stops, where appropriate.</li> <li>Commercial development should be designed to be internally cohesive and to integrate with adjacent commercial development, which may include but not be limited to consolidation of contiguous lots, use of shared driveways, use of reciprocal parking and access, provision of convenient pedestrian pathways between businesses, use of complementary site plans, building designs and landscape palettes, and other site features as appropriate.</li> <li>Commercial development should be designed to minimize impacts on less intensive uses in the vicinity, which may include but not be limited to provision of adequate building and parking setbacks, use of landscaped areas and plant materials, location of trash and loading areas, and techniques to mitigate light, glare, noise, odors or other nuisances.</li> <li>Commercial development should be designed to complement and enhance the mountain environment through use of architectural styles and materials, retention of mature trees and installation of new landscaping, signs, and other design features as deemed appropriate by the reviewing authority.</li> </ol>

<b>Table 4.2-2 Big Bear Lake General Plan Policies</b>	
<b>Policy No.</b>	<b>Policies</b>
L 4-3	<p>Adopt regulations for location, design and operation of commercial uses which, by the intensity of the proposed use or potential secondary land use effects, may have special requirements, including but not limited to the following uses:</p> <ul style="list-style-type: none"> <li>a. Uses proposed to be operated 24 hours per day;</li> <li>b. Adult-oriented uses;</li> <li>c. Automobile service stations and repair facilities;</li> <li>d. Convenience stores;</li> <li>e. Nightclubs, dance halls, or other establishments using amplified sound.</li> </ul>
L 5-1	<p>Provide a sufficient amount of industrially-designated land to accommodate activities supporting local needs based upon the following criteria:</p> <ul style="list-style-type: none"> <li>a. Industrial development should be located in areas free from environmental and topographic constraints and served by appropriate infrastructure.</li> <li>b. Industrial development should be located so as to minimize interface conflicts with existing and planned residential neighborhoods and less intensive commercial districts. Primary access to an industrial site should not be provided through a residential neighborhood.</li> <li>c. Encroachment of incompatible uses into or adjacent to designated industrial land should be discouraged when it can be shown that such uses may ultimately impede development or expansion of industrial uses, and that such uses may be established elsewhere in the planning area.</li> </ul>
L 5-2	<p>Work with the San Bernardino County Department of Planning and other agencies as needed to cooperate on location of sufficient industrially-designated land to meet the long-term needs of the Valley, and assist with providing incentives, if appropriate, to encourage new industrial development which serves the entire Valley.</p>
L 5-3	<p>Ensure that industrial development provides an attractive environment for business and working and creates long-term value for the community, through the following measures:</p> <ul style="list-style-type: none"> <li>a. Industrial development should create a safe, convenient, attractive environment with adequate landscaping, parking, lighting and pedestrian access linking to off-site walkways and transit stops, where appropriate.</li> <li>b. Industrial development should be designed to be internally cohesive and to integrate with adjacent industrial development, which may include but not be limited to use of shared driveways, use of reciprocal parking and access, provision of convenient pedestrian pathways between businesses, use of complementary site plans, building designs and landscape palettes, and other site features as appropriate.</li> <li>c. Industrial development should be designed to minimize impacts on less intensive uses in the vicinity, which may include but not be limited to provision of adequate building and parking setbacks, use of landscaped areas and plant materials, location of trash and loading areas, techniques to mitigate light, glare, noise, odors or other nuisances, and requirement for a conditional use permit for certain uses adjacent to less intensive uses.</li> <li>d. Industrial development should be designed to complement and enhance the mountain environment through use of architectural features, materials, retention of mature trees and installation of new landscaping, use of signs, screening of outdoor storage, loading and refuse disposal areas, building height and bulk, impervious surface area, and other design features as deemed appropriate by the reviewing authority.</li> </ul>
L 6-1	<p>Ensure that adequate land is available for uses serving or providing benefit to the general public through the Public and Open Space designations on the land use map, in accordance with the following criteria:</p> <ul style="list-style-type: none"> <li>a. Designate open space areas where appropriate for resource conservation, passive and/or active open space, recreation, mitigation of natural hazards and/or aesthetic benefit to the community.</li> <li>b. Consider acceptance of natural open space dedications to the City if such dedication is consistent with City plans for an open space/greenbelt network or other needed public use. Lands proposed for dedication which lack potential for linkage with an overall system or which lack valuable natural or cultural resources may not be suitable for acceptance by the City.</li> <li>c. Allow the location of public and quasi-public uses within other land use designations than Public, as allowed by the underlying zoning and provided that such locations are consistent with applicable General Plan policies and meet a general community need.</li> </ul>

**Table 4.2-2 Big Bear Lake General Plan Policies**

Policy No.	Policies
L 6-2	Ensure that any City-owned facility and/or open space area is designed, constructed, maintained and operated so as to minimize adverse effects on surrounding properties, and that projects of the City or its subsidiary districts adhere to the same development standards as would privately-owned projects of a similar use and intensity.
<b>CIRCULATION ELEMENT</b>	
C1-1	<p>Adopt and implement a street and highway plan designed to meet existing and future circulation needs, including but not limited to the following:</p> <ul style="list-style-type: none"> <li>a. Street widths and design standards shall be established to accommodate the projected traffic to be generated by build-out of the land use plan;</li> <li>b. Roadways within the planning area shall be designated as major arterial, secondary arterial, collector or local streets, with all streets other than local streets shown on the Circulation Plan as depicted on Exhibit C-1;</li> <li>c. All roadways shall be required to be designed and constructed in accordance with the adopted Circulation Plan (Exhibit C-1), to ensure appropriate capacity and level of service for each roadway;</li> <li>d. The circulation system should be designed so as to protect existing neighborhoods and/or significant environmental resources, wherever feasible.</li> </ul>
C1-2	<p>Adopt standards for roadway design and level of service which promote public safety, convenience and efficiency, including the following:</p> <ul style="list-style-type: none"> <li>a. Strive to maintain a Level of Service E or better on all intersections and roadway segments within the City during peak traffic times, and a Level of Service D or better during weekdays and off-peak times, to the extent practical;</li> <li>b. Require that streets be constructed and maintained in accordance with standard cross sections as shown on Exhibit C-2, except as modified by adopted specific plans or as otherwise approved by the City Engineer, when it can be demonstrated that deviating from these cross sections will not impair public safety;</li> <li>c. Require installation of curb, gutter, match-up paving and sidewalks within public rights-of-way or where deemed necessary to protect public safety and enhance public convenience, except that these requirements may be deferred by the City Engineer in cases where adjacent streets are not otherwise improved and assurance of future participation in improvements is provided;</li> <li>d. Require that public streets be designed with a maximum grade of ten (10) percent, except for short distances as approved by the City Engineer when it is determined that the street design provides for public safety. On private driveways, grades should not exceed fourteen (14) percent and adequate landing areas should be provided at driveway approaches;</li> <li>e. Require that clear sight distance be maintained at all intersections and driveway approaches. This requirement may necessitate the removal or relocation of landscaping, signs or other visual obstructions which may impair drivers' views of oncoming traffic;</li> <li>f. Allow on-street parking on City streets, except for State Route 18 or where otherwise restricted for snow removal or as determined by the City Council;</li> <li>g. Where a roadway changes designations, the higher designation should be carried through the intersection where the change occurs. A transition of at least 600 feet should be anticipated where this occurs;</li> <li>h. Avoid the use of one-way streets unless traffic analysis warrants their use and other alternatives to achieving mobility and capacity of the affected streets have been evaluated and found to be infeasible;</li> <li>i. Require a minimum 26-foot wide paved access from an improved public street to all developments other than single family residences on existing lots; access roads should be increased to 28 feet in width within 200 feet of an intersection with a public street. The City Engineer may approve a reduction of these standards when it can be determined that site grading would be minimized and that adequate public safety and emergency access can be otherwise provided.</li> <li>j. Roadways should be designed to function safely and effectively, without the subsequent need for excessive traffic control devices;</li> <li>k. Private streets, other than driveways and alleyways typically associated with multiple family development, should be constructed to City standards for public rights-of-way, and should be used only for gated communities.</li> <li>l. Require provision of secondary access for new development to provide emergency ingress and egress when deemed necessary to protect public health and safety, which may include provision of a 24-foot paved or all-weather surface secondary access roadway or other improvements as determined by the City Engineer and Fire Chief.</li> </ul>

<b>Table 4.2-2 Big Bear Lake General Plan Policies</b>	
<b>Policy No.</b>	<b>Policies</b>
C1-3	<p>Intersections shall be designed and located to promote safe and efficient circulation, through application of the following policies:</p> <ul style="list-style-type: none"> <li>a. Local to local street intersections and local to collector street intersections should be spaced at least 150 feet apart, from centerline to centerline, unless additional room is needed for queuing in a left turn lane. Intersections on arterial streets should be spaced at least 300 feet apart;</li> <li>b. Intersections, including knuckles, should generally be perpendicular. Public streets should intersect at a 90 degree angle plus or minus five degrees. Knuckles should be constructed at a 90 degree angle, plus or minus 10 degrees;</li> <li>c. Excessive grade variations, curves or other features which impair sight distance at intersections should be avoided;</li> <li>d. For intersections of collector or larger streets, four-way intersections are preferable to offset or "T" intersections.</li> </ul>
C1-4	<p>Ensure that the City street system is adequately maintained to promote safety and extend the useful life of roadways, through the following measures:</p> <ul style="list-style-type: none"> <li>a. Pro-actively maintain City streets, and include appropriate funding for this in the City's annual budgeting process;</li> <li>b. Require assurance of long-term maintenance for any private streets constructed within the City;</li> <li>c. Improve the existing street network through implementation of the Capital Improvement Program and through requirements placed upon new development approvals;</li> <li>d. Identify and mitigate existing areas of deficiency within the street system and provide mitigation and improvements to the extent practical;</li> <li>e. Periodically monitor levels of service, traffic accident patterns and physical conditions of the existing street system, and upgrade roadways as needed through the Capital Improvement Program;</li> <li>f. Establish and maintain a pothole repair program which emphasizes timely response;</li> <li>g. Establish and maintain a roadway pavement management program that sets forth budgeting, timelines and schedules for maintenance of existing roadways in the City;</li> <li>h. Regularly evaluate snow-plowing services provided in the City to ensure that providers minimize damage to streets.</li> </ul>
C1-5	<p>Seek to maintain and improve the capacity and service levels of arterial streets and highways within the City to enhance mobility, through the following measures:</p> <ul style="list-style-type: none"> <li>a. Provide for turn lanes at arterial intersections and along roadway segments where needed to achieve acceptable levels of service;</li> <li>b. Assure safe and efficient arterial operations through control of access points, signal spacing and other design considerations;</li> <li>c. Discourage direct residential driveway access onto arterials, except where no other feasible access is available;</li> <li>d. Encourage use of shared access points for non-residential development to limit the number of driveways along arterial streets;</li> <li>e. Arterial streets should be designed so as to eliminate jogs and discontinuities and facilitate regional traffic flow;</li> <li>f. Investigate and evaluate the use of alternate east-west access routes to serve intra-city trips, so as to reduce congestion on SR-18 from local traffic.</li> </ul>
C1-6	<p>Ensure that the local street system provides safe and convenient access to residential neighborhoods while protecting the character of these areas, through the following measures:</p> <ul style="list-style-type: none"> <li>a. Limit the use of local residential streets by through traffic, except along designated collector streets. To discourage excessive speed and through traffic, street width should not exceed that required for the level of use;</li> <li>b. Cul-de-sac length should not exceed six hundred (600) feet, and "dog-leg" cul-de-sacs with one or more turns between the bulb and the outlet should be avoided;</li> <li>c. Direct driveway access should be onto local streets rather than collectors, where feasible;</li> <li>d. Local streets should be designed to create logical and understandable travel paths for the user;</li> <li>e. Local street patterns should provide access between neighborhoods, with the exception of through traffic which should be directed onto collectors and arterial streets.</li> </ul>

<b>Table 4.2-2 Big Bear Lake General Plan Policies</b>	
<b>Policy No.</b>	<b>Policies</b>
C1-7	<p>Ensure that traffic impacts resulting from new development in the City are adequately evaluated and that applicants are required to construct or provide a fair share contribution towards the improvements needed to mitigate impacts to the local and regional circulation system which are attributable to each development project, through the following measures:</p> <ol style="list-style-type: none"> <li>Development proposals with the potential to generate traffic volumes or other impacts not adequately evaluated in the Circulation Element and General Plan Environmental Impact Report may be required to prepare and submit a traffic study or traffic impact analysis, as determined by the City Engineer;</li> <li>Projects will be conditioned to ensure that right-of-way is reserved wherever needed to implement the Circulation Plan;</li> <li>All development projects will be evaluated to ensure their conformance with the Circulation Plan;</li> <li>New development will be required to pay a fair share contribution towards the cost of needed regional improvements;</li> <li>In reviewing new development projects, the issue of connectivity will be evaluated as well as roadway capacity, in order to achieve an efficient overall circulation system;</li> <li>Cumulative and regional impacts of new development on the circulation system will be required to be mitigated to the extent feasible, concurrent with development;</li> <li>Ensure that new developments are required to provide improvements or mitigation necessary to maintain the existing or recommended level of service, whichever is less, which may include construction of improvements or payment of in-lieu fees.</li> </ol>
C1-8	<p>Plan for the development of streetscapes on arterials which present an aesthetically pleasing appearance, promote ease of use for pedestrians and bicycles, and provide for maximum public safety through their design features, including the following measures:</p> <ol style="list-style-type: none"> <li>Encourage use of landscaping and construction materials which discourage graffiti on walls adjacent to public rights-of-way.</li> <li>Encourage the use of street furniture such as seating, light standards, trash receptacles and other similar features to establish design themes on arterial streets and provide amenities for pedestrians, where appropriate.</li> <li>Promote unified landscape treatment on arterial streets, where appropriate. Where a design theme has been established on a street, promote the extension of that theme along other portions of the street, where feasible and appropriate.</li> </ol>
C1-9	<p>Participate in multi-jurisdictional efforts to upgrade and expand the regional street and highway network, and to plan for feasible alternate modes of transportation connecting the Big Bear Valley with other areas, through the following measures:</p> <ol style="list-style-type: none"> <li>Cooperate with other agencies and jurisdictions, including Caltrans, SANBAG, San Bernardino County and the U.S. Forest Service, regarding regional transportation issues relating to the City which may include but are not be limited to the SR-18 bridge project and improvements to State Highways 38, 18 and 330;</li> <li>Support local, regional, state and federal agencies in identifying and implementing funding alternatives to upgrade the circulation system within the City;</li> <li>Communicate regularly with Caltrans to obtain advance notice of construction schedules, road closures, winter road conditions, alternative routes and other conditions which affect the City's residents and visitors;</li> <li>Cooperate and coordinate with Big Bear Airport District regarding issues affecting the City.</li> </ol>
C1-10	<p>Ensure adequate access within the planning area for trucks while protecting incompatible uses from through truck traffic, by designating SR-1S throughout the City limits as a truck route and by restricting through truck routes within residential neighborhoods.</p>
C2-1	<p>Continue to participate in provision of public transit services for City and Valley residents, and expansion of transit service to meet growth when warranted and feasible.</p>
C2-2	<p>Ensure compliance with the County's Congestion Management Plan (CMP).</p>
C2-3	<p>Evaluate the feasibility of providing shuttle service within the City for special events, to reduce congestion and provide more convenient access between parking and such events.</p>
C3-1	<p>Enhance accessibility and convenience for bicyclists and pedestrians, and plan for provision of scenic recreational trails in the City where practical.</p>
C3-2	<p>Expand opportunities for pedestrian access within the community by providing for sidewalks where needed for public safety and convenience.</p>

<b>Table 4.2-2 Big Bear Lake General Plan Policies</b>	
<b>Policy No.</b>	<b>Policies</b>
<b>OPEN SPACE, PARKS, AND RECREATION ELEMENT</b>	
OPR 1-1	To encourage and, if necessary, construct appropriate, high quality public park and recreational facilities that improve and expand the range of recreational activities available within the valley.
OPR 1-2	<p>Explore various means of acquiring or facilitating additional park and recreation facilities and seek creative and flexible techniques to accomplish City goals, which may include but are not limited to the following strategies:</p> <ul style="list-style-type: none"> <li>a. Where appropriate, remodel or recycle existing vacant buildings, such as large retail or industrial buildings, for recreation uses.</li> <li>b. Where feasible, encourage the joint use of park and recreation facilities with flood control facilities, school facilities, or other joint public use to maximize benefits and share costs of infrastructure, parking and access.</li> <li>c. Consider developing park and recreational facilities jointly with non-profit incorporated recreation organizations and service clubs, to assist in meeting City residents' needs for recreational opportunities.</li> <li>d. Seek opportunities to help develop regional parks or recreational facilities which provide recreational benefits to a wide range of residents and visitors through cooperation with other agencies.</li> <li>e. Consider non-traditional types of parks such as linear parks along drainage courses and utility easements where appropriate, which may include pedestrian paths, bikeways or fitness courses, and improvements to lake-front public access points.</li> <li>f. Consider inclusion of tot lots or pocket parks within larger residential developments and multi-family developments to provide neighborhood recreation amenities.</li> <li>g. Facilitate development and/or expansion of specialty parks such as an amphitheater or nature center.</li> <li>h. In cooperation with other public agencies and private developers, investigate sources of land and funding from private and public sources to expand recreation facilities and programs.</li> <li>i. Evaluate alternatives for coordinated provision of park and recreation services throughout the Valley.</li> <li>j. Consider adoption of an in-lieu park impact fee program to allow major development projects to contribute fees for park mitigation in lieu of land dedication, pursuant to the Quimby act and/or City ordinance.</li> </ul>
OPR 1-3	Encourage and cooperate with the development of appropriate, high-quality private recreational facilities in the City that improve and expand the activities available for residents and visitors, while maintaining the City's image as a family-oriented vacation destination.
OPR 1-4	<p>Ensure that City park, recreation and cultural facilities are accessible to all citizens, through the following measures:</p> <ul style="list-style-type: none"> <li>a. Incorporate design features required by the Americans With Disabilities Act which improve access to facilities for handicapped citizens;</li> <li>b. Where necessary, retrofit existing facilities to achieve compliance with the provisions of the Americans With Disabilities Act for parking and access;</li> <li>c. To the extent practical, provide playground equipment which provides recreational opportunities to handicapped children within City playgrounds and provide features such as trails and signs for persons who are visually impaired and park structures which accommodate persons confined to wheelchairs;</li> <li>d. Where appropriate, provide park facilities which meet the recreational needs of senior residents;</li> <li>e. Ensure that park and recreation facilities are designed to promote the safety of all park users by incorporating features which discourage crime.</li> </ul>
OPR 1-5	<p>Seek public input on design of new parks and recreational facilities in the City, through the following means:</p> <ul style="list-style-type: none"> <li>a. Prior to construction of new facilities provide opportunities for public input, including but not limited to informal meetings with neighborhood groups, coordination with community organizations and final approval by the City Council;</li> <li>b. Consult with non-profit incorporated recreation organizations to ensure that park designs incorporate, to the extent feasible, facilities which meet the goals of these recreation providers;</li> <li>c. Coordinate with local business organizations, including the Chamber of commerce and the Resort Association, to inform them of proposed City actions.</li> </ul>

**Table 4.2-2 Big Bear Lake General Plan Policies**

Policy No.	Policies
OPR 1-6	<p>Consider the following criteria when evaluating future sites for acquisition or improvement as park and recreation facilities:</p> <ol style="list-style-type: none"> <li>Access. Community park facilities should have access from major or secondary arterial roadways. Neighborhood parks should have access from secondary or collector roadways. Mini-parks or pocket parks and tot lots may be accessed from local streets or cul-de-sacs. Park sites shall be located to provide maximum accessibility from the areas to be served.</li> <li>Infrastructure availability. Park sites should be located in proximity to utility connections.</li> <li>Size. Park sites should be of adequate size to accommodate the facilities needed within the area to be served, along with adequate setbacks and parking.</li> <li>Suitable Terrain. Natural terrain of the proposed site should be such that the site can be developed without requiring extensive grading or recontouring of the natural topography.</li> <li>Land Use. Sites should be compatible with surrounding land uses and in conformance with adopted local and regional plans.</li> <li>Neighborhood acceptance. The proposed park shall be compatible with the existing neighborhood in that it should provide recreational amenities which are suitable to and acceptable to a consensus of the neighborhood.</li> <li>Cost. The cost and method of acquisition shall be evaluated, including cost of construction and long-term maintenance, if applicable.</li> </ol>
OPR 1-7	<p>Establish a desired service level of active parkland to serve the needs of the permanent resident population of the City, of 3 acres per 1000 population (assuming a 50 percent occupancy rate for residential structures), which may be met by a combination of facilities provided by the City, Big Bear Valley Recreation and Park District, and other agencies provided that facilities are accessible to the general public.</p>
OPR 1-8	<p>The City shall preserve and enhance public access to Big Bear Lake, while protecting adjacent neighborhoods from intrusive and incompatible uses and maximizing the use of City resources, through the following means:</p> <ol style="list-style-type: none"> <li>Review and evaluate the 33 existing public lake access points within the City to determine the feasibility and cost of improving these areas;</li> <li>Design lake access point improvement projects to serve the largest number of users in the most appropriate locations;</li> <li>Restrict vehicular parking at lakefront access points within residential neighborhoods;</li> <li>Provide pedestrian and bicycle access to lakefront access points through the Master Plan for Trails or other means as appropriate;</li> <li>Evaluate and install improvements in these locations as appropriate, which may include but not be limited to benches, trash receptacles, bicycle racks, lighting, informational signs or other similar features;</li> <li>Dispose of surplus property as appropriate.</li> </ol>
OPR 2-1	<p>The City shall develop, adopt and implement a Master Plan for Trails which incorporates the following features:</p> <ol style="list-style-type: none"> <li>Bikeways. The Master Plan for Trails shall address bicycle transportation both as an alternate travel mode and for recreational purposes, including both on-street bike lanes (striped or unstriped) and separated bicycle paths. In particular, the plan shall evaluate the feasibility of creating a bicycle trail which passes as close as possible to Big Bear Lake, which may include both the lake frontage or parallel surface streets to create the most feasible route. Additionally, this portion of the Master Plan for Trails shall evaluate the feasibility of providing a bikeway in or adjacent to Big Bear Boulevard throughout the City limits, in cooperation with Caltrans.</li> <li>Hiking, Mountain Biking and All-Purpose Trails, excluding motorized off-load vehicles. The Master Plan for Trails shall include design standards and locations for all-purpose recreational trails, which need not be paved but should be properly graded and compacted for erosion control and maintenance purposes. However, it is not the City's intent to develop a trail system for motorized vehicles within the City limits.</li> <li>Equestrian Trails. The Master Plan for Trails should delineate routes appropriate to convey riding horses from the commercial stables within the City to equestrian trails within adjacent non-urbanized areas, including those within the U. S. Forest Service boundaries; however, it is not the City's intent to provide a network of equestrian trails within the urbanized portions of the City.</li> <li>Connectivity. The Master Plan, when developed, shall ensue that trails are interconnected with other City, County and regional trails to the extent practical, to create a trail network providing the maximum flexibility for users.</li> </ol>

<b>Table 4.2-2 Big Bear Lake General Plan Policies</b>	
<b>Policy No.</b>	<b>Policies</b>
	<p>e. Public Input. Input from local recreation user groups such as bicycle and hiking associations and other interested parties shall be solicited in preparation of the Master Plan, either through formation of an advisory committee or through public workshops.</p> <p>f. Review of Existing Plans. The Master Plan shall include a review of the feasibility of existing trail plans within the City, including the proposed Rathbun Creek Trail as envisioned within the Moonridge Specific Plan, and shall incorporate any needed revisions to these plans.</p> <p>g. Focal points and activity areas. The Master Plan shall consider primary focal points and activity areas within the City and provide trail connections between them as appropriate (for example, a trail connection should be provided to link Rotary Pine Knot Park to Meadow Park, if feasible).</p>
OPR 3-1	Strongly encourage cooperation between the private sector and public agencies to appropriately manage our land and water resources to achieve a reasonable balance between the preservation of significant environmental resources and private and public development.
OPR 3-2	Provide adequate protection of environmentally sensitive habitat areas and open space as new development occurs.
OPR 3-3	Designate natural hazard areas as open space when development in these areas cannot feasibly occur to protect public health, safety and welfare.
OPR 3-4	<p>Consider the acquisition of property as open space if the property would meet the City's land use and environmental goals, and if such action would meet one or more of the following criteria:</p> <p>a. The property is located within a scenic viewshed or corridor, and its preservation as open space would provide an aesthetic value to the community and/or the surrounding neighborhood;</p> <p>b. The property is the site of sensitive or protected habitat or species, and its preservation as open space would preserve important biological resources;</p> <p>c. The property provides access and/or views to Big Bear Lake, and its preservation as open space would enhance public use and/or appreciation of the Lake;</p> <p>d. The property provides an important corridor linking habitat or resource areas, such as a drainage course, a wildlife corridor, a regional trail system, or other similar feature.</p>
OPR 4-1	The City shall continue to work with the various local groups and individuals to assist in the organization and promotion of special events and cultural activities, including theater, music, dance, visual arts and crafts, folk life and popular culture, provided that such events conform to the City's goal to maintain a family-oriented community and destination place for visitors.

**ENVIRONMENTAL HAZARD ELEMENT**

<b>Geotechnical Hazards</b>	
EH 1-1	Ensure that new development proposals are evaluated for potential geotechnical impacts and that these impacts are mitigated to an acceptable level.
EH 1-4	Cooperate and coordinate with other agencies to ensure that public infrastructure and utility systems are designed and maintained to reduce damage from seismic events, and to plan for response in the event of a failure of these systems.
<b>Flood and Hydrology</b>	
EH 2-1	Evaluate flood control needs in the City and develop and implement long-range plans for master storm drainage improvements, along with funding programs, in coordination with other affected agencies.
EH 2-2	Require that new development shall not be exposed to flood hazards or contribute to an existing flood hazard, in accordance with Master Plan of Drainage and other applicable regulations.
EH 2-3	Provide information to the public regarding flood plains, watershed management practices, flood insurance rate maps, minimizing pollution of surface waters, and other hydrologic issues as needed.
EH 2-4	Prepare for response to flooding through update and implementation of the Emergency Preparedness Plan, which will include evacuation and access plans for areas in which existing development is located within a 100-year flood plain.

**Table 4.2-2 Big Bear Lake General Plan Policies**

<i>Policy No.</i>	<i>Policies</i>
EH 2-5	Promote the joint use of flood control facilities for recreational uses and as natural open space, where feasible and appropriate.
<b>Hazardous and Toxic Materials</b>	
EH 3-1	Coordinate with other agencies as appropriate to monitor businesses which use hazardous materials and to ensure a timely response to any events which require clean-up of these materials.
EH 3-2	Facilitate the safe and immediate cleanup of all existing and future hazardous waste sites within the City of Big Bear Lake.
EH 3-3	Cooperate with the responsible agencies to assist and facilitate the safe and responsible disposal of all hazardous and/or toxic wastes in compliance with existing federal, state and county regulations.
<b>Noise Element</b>	
N 1-1	Utilize appropriate land use and transportation planning to achieve noise compatibility between adjacent land uses and noise sources.
N 1-2	Ensure that existing and potential noise impacts are identified and mitigated to non-significant levels through environmental review and assure compliance with mitigation measures for new development projects.
N 1-3	Coordinate with other agencies having jurisdiction over noise sources which impact the City, to seek cooperation on reasonable mitigation of these impacts.
<b>HOUSING ELEMENT</b>	
H 1.1	Ensure total dwelling capacity equal to new construction need and provide sites suitable for a variety of types of housing for all income levels, including rental housing and manufactured housing.
H7.1	Provide incentives to encourage builders to incorporate energy saving techniques in housing developments.

Figure 4.2-3 (Emissions by Sector for Big Bear Lake) 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.

The policies summarized and listed in Table 4.2-2 can mitigate environmental impacts associated with the Regional Reduction Plan in the City of Big Bear Lake. In addition, some of the Big Bear Lake General Plan policies contain quantitative and/or qualitative criteria concerning environmental topics the City requires that are used as thresholds of significance.

The second document used in reviewing potential environmental impacts and mitigation within the City of Big Bear Lake is the Regional Reduction Plan City of Big Bear Lake chapter that describes the proposed project including the reduction measures and reduction targets chosen by the City of Big Bear Lake.

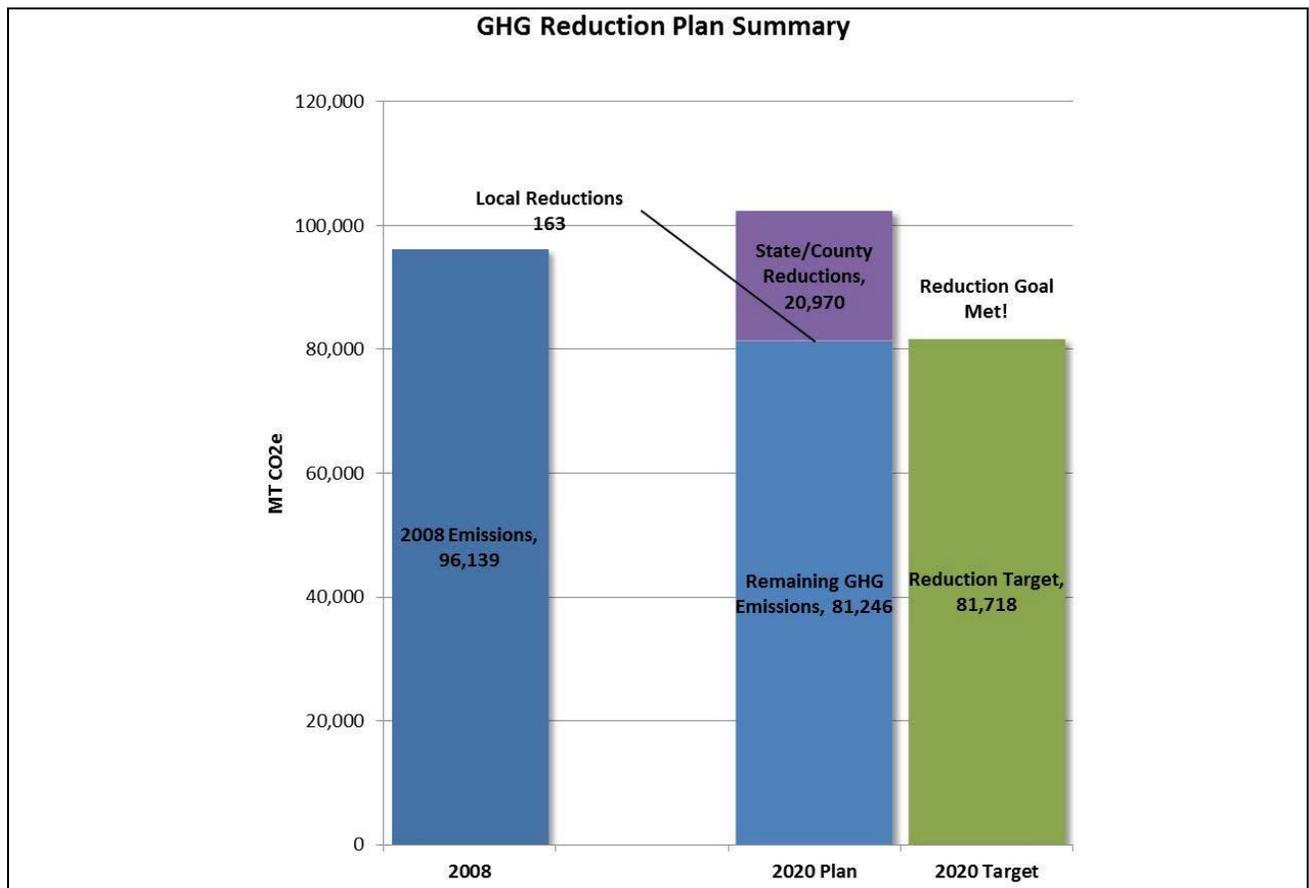
## ■ The Big Bear Lake Chapter of the San Bernardino County Regional GHG Reduction Plan

The City of Big Bear Lake selected a goal to reduce its community GHG emissions to a level that is 15 percent below its 2008 emissions level by 2020. The City will meet and exceed this goal through combination of state (~99 percent) and local (~1 percent) efforts. The City actually exceeds the goal with only state/county level actions (101 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

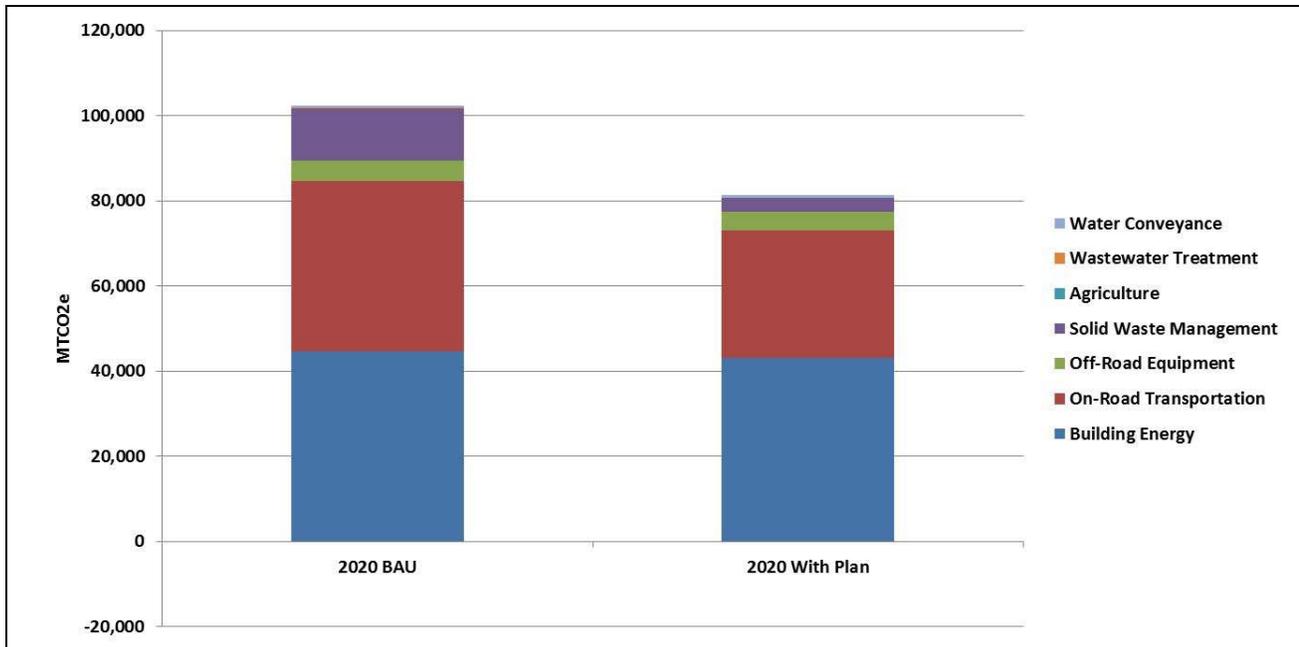
measures will significantly reduce GHG emissions in Big Bear Lake’s on-road and solid waste sectors in 2020. An additional reduction of 163 metric tons (MT) carbon dioxide equivalents (CO<sub>2</sub>e) will be achieved primarily through the following local measures, in order of importance: GHG Performance Standard for New Development (PS-1) and Energy Efficiency for Existing Buildings (Energy-1). Big Bear Lake’s Plan has the greatest impacts on GHG emissions in the solid waste, on-road transportation, and off-road equipment sectors.

As described above, approximately 50 percent of the city’s emissions can be attributed to tourist activity, with almost 70 percent of the on-road sector emissions due to nonpermanent residents. This City is still able to meet its GHG reduction target, primarily because the state’s efforts to reduce GHG emissions in the on-road sector will have a large impact on Big Bear’s on-road emissions, including the trips of visitors to the area. The City’s local measures impact residents and tourists alike, allowing the City to surpass its reduction target.

Figure 4.2-2 (Emissions Reduction Profile for Big Bear Lake) shows Big Bear Lake’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 (~99 percent) of the total reductions needed to achieve the 2020 target.



**Figure 4.2-2 Emissions Reduction Profile for Big Bear Lake**



**Figure 4.2-3 Emissions by Sector for Big Bear Lake**

Table 4.2-3 (Emission Reduction by Sector for Big Bear Lake) 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 Big Bear Lake exceeds its emissions reduction goal. Emissions sectors with the greatest percent reduction include the solid waste, on-road transportation, and off-road equipment sectors.

Figure 4.2-4 (Emission Reductions by Control and by Sector for Big Bear Lake) 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 solid waste management and on-road transportation sectors. Of the local measures, all reductions are due to the GHG Performance Standard for New Development (PS-1).

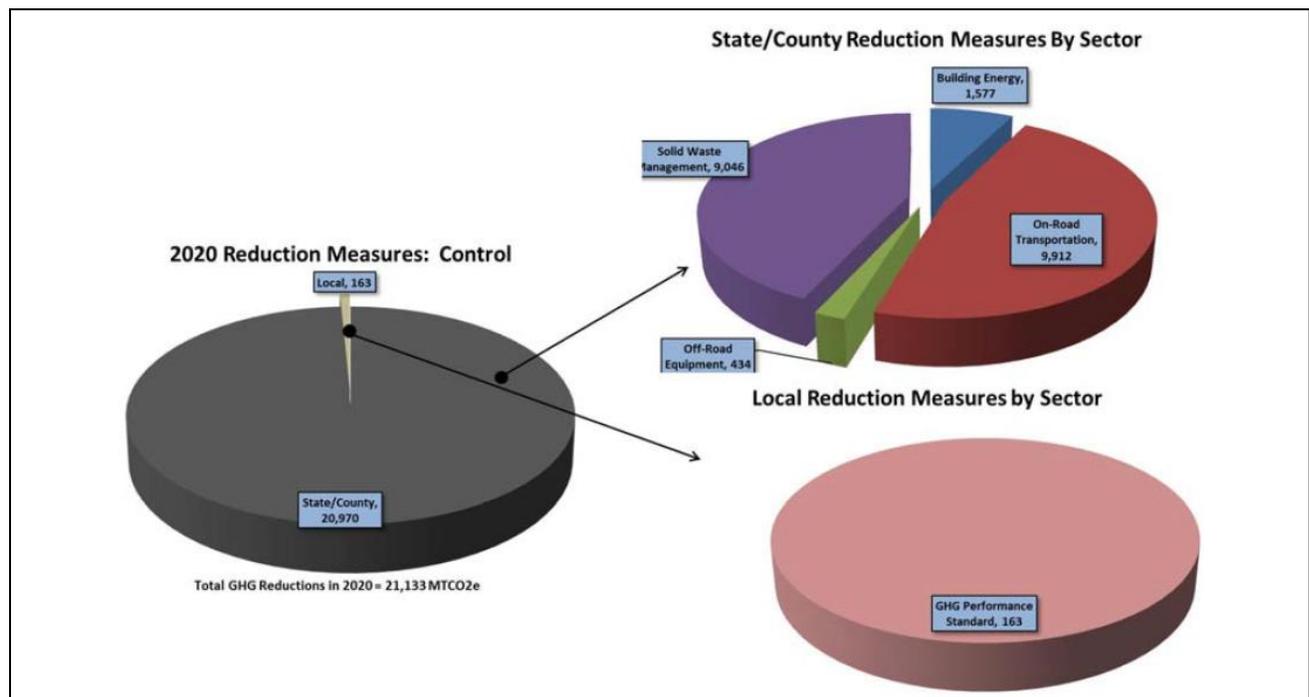
Table 4.2-4 (GHG Reduction Measures and Estimated 2020 Reduced Emissions in Big Bear Lake) presents each reduction measure evaluated for Big Bear Lake. For each measure, the short title and estimated GHG reductions in 2020 are listed. Measures are organized by state/county control and local control and listed by sector.

<b>Table 4.2-3 Emission Reduction by Sector for Big Bear Lake</b>					
<b>Sector</b>	<b>2008</b>	<b>2020 BAU</b>	<b>Reductions</b>	<b>2020 Emissions with Plan</b>	<b>% Reduction</b>
Building Energy	42,010	44,645	1,577	43,068	3.5%
On-Road Transportation	37,301	39,895	9,912	29,983	24.8%
Off-Road Equipment	4,362	4,863	434	4,428	8.9%
Solid Waste Management	11,929	12,250	9,046	3,203	73.8%
Agriculture 356	0	0	0	0	0%
Wastewater Treatment 6	203	229	0	229	0%
Water Conveyance 29	334	498	0	498	0%
GHG Performance Standard*	—	—	163	—	—
<b>Total Emissions</b>	<b>96,139</b>	<b>102,378</b>	<b>21,133</b>	<b>81,246</b>	<b>20.6%</b>
<b>Reduction Goal</b>	—	—	<b>20,660</b>	<b>81,718</b>	<b>20.2%</b>
Met Goal?	—	—	Yes	Yes	Yes
<b>Reductions Beyond Goal</b>	—	—	<b>473</b>	—	—
Per-Capita Emissions	19.2	18.2	—	14.5	—
Per-Job Emissions	15.5	15.9	—	12.6	—
Excluded Stationary Source Emissions	14,019	15,271	—	—	—

SOURCE: San Bernardino Associated Governments. *San Bernardino County Regional Greenhouse Gas Reduction Plan*, Administrative Draft, Prepared by ICF International (September 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 4.2-4 Emission Reductions by Control and by Sector for Big Bear Lake**

**Table 4.2-4 GHG Reduction Measures and Estimated 2020 Reduced Emissions in Big Bear Lake**

<i>Reduction Measure Number</i>	<i>Description</i>	<i>Emissions Reductions</i>
<b>STATE AND COUNTY MEASURES</b>		
State-1	Renewable Portfolio Standard	466
State-1	Title 24	666
State-1	AB 1190	125
State-1	Solar Water Heating	20
State-1	Industrial Boiler Efficiency	300
State-1	Pavley and Low Carbon Fuel Standard	9,030
State-1	AB 32 Transportation Reduction Strategies	882
State-1	Low Carbon Fuel Standard-Off-road	434
State-1	AB 32 Methane Capture	8,626
County-1	County GHG Reduction Plan Landfill Controls	421
<b>LOCAL MEASURES</b>		
GHG Performance Standard for New Development PS-1	GHG Performance Standard for New Development (29% below projected BAU emissions for the project)	163
<b>Total Reductions</b>		<b>21,133</b>

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

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.

## ■ Summary of Environmental Impacts and Mitigation Measures

The Regional Reduction Plan City of Big Bear Lake Chapter describes The Proposed Project including the reduction measures and reduction targets chosen by the City of Big Bear Lake. 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 Big Bear Lake. No comment letters specific to the City of Big Bear Lake were received in response to the notice of preparation (NOP) circulated for the Proposed Project.

Table 4.2-5 (Summary of Environmental Impacts of Implementing Local Reduction Measures in Big Bear Lake) summarizes the environmental impacts of implementing the Regional Reduction Plan local reduction measures by issue area. There are no significant impacts requiring mitigation measures.

**Table 4.2-5 Summary of Environmental Impacts of Implementing Local Reduction Measures in Big Bear Lake**

NI = no impact; LS = less than significant

<i>Environmental Impacts</i>	<i>Regional Reduction Plan Local Reduction Measure</i>
	<i>PS-1</i>
<b>Aesthetics</b>	
Scenic vistas	LS
Scenic highways	LS
Visual character or quality	LS
Light and glare	LS
Cumulative impacts	LS
<b>Agriculture/Forestry Resources</b>	
Convert farmland to nonagricultural use	NI
Conflict with existing agricultural zoning or Williamson Act	NI
Conflict with existing forest land or timberland zoning	NI
Loss or conversion of forest land to nonforest land	NI
Other changes causing conversion of farmland to nonfarmland use or forest land to nonforest land use	NI
Cumulative impacts	NI
<b>Air Quality</b>	
Conflict or obstruct air quality management plan	LS
Violation of air quality standard	LS
Exposure of sensitive receptors	LS
Creation of objectionable odors	NI
Cumulatively considerable net increase of any nonattainment criteria pollutant	LS
<b>Biological Resources</b>	
Special-status species	LS
Riparian habitat or other sensitive natural community	LS
Protected wetlands	LS
Wildlife movement	LS
Conflict with any local policies or ordinances protecting biological resources	LS
Conflict with habitat conservation plan	NI
Cumulative impacts	LS
<b>Cultural Resources</b>	
Substantial adverse change in significance of a historical resource	LS
Substantial adverse change in significance of a archaeological resource	LS
Destruction of a unique paleontological resource or site or unique geologic feature	LS
Disturb any human remains	LS

**Table 4.2-5 Summary of Environmental Impacts of Implementing Local Reduction Measures in Big Bear Lake**

NI = no impact; LS = less than significant

<i>Environmental Impacts</i>	<i>Regional Reduction Plan Local Reduction Measure</i>
	<i>PS-1</i>
Cumulative impacts	LS
<b>Geology/Soils</b>	
Fault rupture, strong seismic groundshaking, seismic-related ground failure, including liquefaction, landslides	LS
Substantial soil erosion or loss of topsoil	LS
Located on a geologic unit or soil that is unstable, resulting in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse	LS
Located on expansive soil	LS
Soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems	NI
Cumulative impacts	LS
<b>Greenhouse Gas Emissions/Global Climate Change</b>	
Generate greenhouse gas emissions	LS
Conflict with an applicable plan, policy, or regulation to reduce greenhouse gas emissions	LS
<b>Hazards/Hazardous Materials</b>	
Create significant hazard through the routine transport, use, or disposal of hazardous materials	LS
Create significant hazard through release of hazardous materials	NI
Emit hazardous emissions or handle acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school	NI
Located on a site that is included on a list of hazardous materials sites, creating significant hazard	NI
Located within 2 miles of a public airport or public use airport	LS
Located within the vicinity of a private airstrip	NI
Impair or interfere with an adopted emergency response plan or emergency evacuation plan	NI
Risk of loss, injury, or death involving wildland fires	LS
Cumulative impacts	LS
<b>Hydrology/Water Quality</b>	
Violate any water quality standards or waste discharge requirements	LS
Deplete groundwater supplies or interfere with groundwater recharge	NI
Alter the existing drainage pattern of the site or area, resulting in substantial erosion or siltation	LS
Alter the existing drainage pattern of the site or area, resulting in on- or off-site flooding	NI
Exceed the capacity of existing or planned stormwater drainage systems or provide additional sources of polluted runoff	NI
Otherwise degrade water quality	NI
Place housing within a 100-year flood hazard area	NI

**Table 4.2-5 Summary of Environmental Impacts of Implementing Local Reduction Measures in Big Bear Lake**

NI = no impact; LS = less than significant

<i>Environmental Impacts</i>	<i>Regional Reduction Plan Local Reduction Measure</i>
	<i>PS-1</i>
Place within a 100-year flood hazard area structures that would impede or redirect flood flows	NI
Risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam	NI
Inundation by seiche, tsunami, or mudflow	LS
Cumulative impacts	LS
<b>Land Use/Planning</b>	
Physically divide an established community	NI
Conflict with any applicable land use plan, policy, or regulation	LS
Conflict with any applicable habitat conservation plan or natural community conservation plan	NI
Cumulative impacts	LS
<b>Mineral Resources</b>	
Loss of availability of a known mineral resource	NI
Loss of availability of a locally important mineral resource recovery site	NI
Cumulative impacts	NI
<b>Noise</b>	
Noise levels in excess of standards established in the local general plan or noise ordinance	LS
Excessive groundborne vibration or groundborne noise levels	LS
Permanent increase in ambient noise levels	NI
Temporary or periodic increase in ambient noise levels	LS
Excessive noise levels within 2 miles of a public airport or public use airport	NI
Excessive noise levels within the vicinity of a private airstrip	NI
Cumulative impacts	LS
<b>Population/Housing</b>	
Induce substantial population growth	NI
Displace substantial numbers of existing housing	NI
Displace substantial numbers of people	NI
Cumulative impacts	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
Cumulative impacts	NI
<b>Recreation</b>	
Physical deterioration of recreational facilities	NI

**Table 4.2-5 Summary of Environmental Impacts of Implementing Local Reduction Measures in Big Bear Lake**

NI = no impact; LS = less than significant

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

## 4.2.1 Aesthetics

This section of the EIR analyzes the potential environmental effects on aesthetics in the City of Big Bear Lake from implementation of the Regional Reduction Plan. Data for this section were taken from Big Bear Lake General Plan (1999a) and associated environmental document (1999b). 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 of Big Bear Lake is a mountain resort community located in the geographic center of the San Bernardino Mountains and surrounded by mountain peaks ranging in elevation from approximately 8,000 to 9,900 feet. The mountains surrounding the lake are frequently snow-covered in the winter and are brilliantly lit during winter sunsets. The City is adjacent to Big Bear Lake, a 3,000-acre lake at approximately 6,700 feet above sea level. The lake was originally created as an irrigation reservoir for agricultural purposes in the Redlands and San Bernardino areas. However, when vacation homes and resort developments were constructed around its perimeter, its value as a visual resource became immediately apparent with the serenity of the calm lake at dawn and brilliant summer sunsets that reflect off the lake's evening choppy surface. The physical environment of the lake and surrounding mountains provides an attractive setting that supports the community's tourism-based economy.

Big Bear Lake and the natural forest surrounding the City is an important aspect of the City's scenic views and appeal. Open space corridors along Rathbun Creek and Metcalf Creek offer spectacular view corridors from the higher elevations of the mountain areas into the Big Bear basin only obstructed by the natural species of the coniferous forest and riparian scrub habitats. Fawnskin Valley and Holcomb Valley, as well as Big Bear Lake and Baldwin Lake are visible from various locations and numerous elevations from within and around the aforementioned creek areas. The slopes of the surrounding peaks themselves are visual resources in that they procure a dense, dark green tree cover of pine, white fir and black oak trees of the coniferous forest. In addition, the forest growth mixes with the numerous willow species of the riparian scrub habitat to form colorful groupings along water courses.

State Route 18 (SR-18) traverses the City. It begins in the northeast, continues through the central portion of the City; and exits the City limits through the western boundary. SR-18, also called Big Bear Boulevard in the City, has not been officially designated as a scenic highway; however, the portion that runs through Big Bear Lake is an eligible state scenic highway.

### ■ Regulatory Framework

#### ***Federal***

There are no federal regulations that are applicable to aesthetics.

## **State**

The California State Legislature established the Scenic Highway Program, which is administered by the California Department of Transportation (Caltrans). The State Scenic Highway System is a list of highways, mainly state highways, which have been designated by Caltrans as scenic highways. No designated scenic highways are found in Big Bear Lake (Caltrans, 2012).

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

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

### **Solar Energy Systems**

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

## **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 Big Bear Lake Municipal Code**

City Municipal Code Title 17 (Development Code) establishes design standards for various land uses. General performance standards are listed in Section 17.01.090. Specific chapters for each land use identify site planning, architecture, landscaping, and lighting standards.

## Big Bear Lake General Plan

The Big Bear Lake General Plan policies that are applicable to aesthetics<sup>1</sup> are as follows:

### Land Use Element

- Policy L 1-6** Ensure that land uses permitted within the City are developed in a manner sensitive to the natural environment, mitigating impacts on natural resources and at an appropriate level of intensity given the topography and environmental conditions of each site.
- Policy L 1-8** Preserve the scenic mountain backdrop of Big Bear Lake through adoption of guidelines for hillside development, including the following:
- a. Development in hillside areas should minimize grading, conform to natural topography, preserve ridgelines and exhibit sensitivity to natural landforms.
  - b. Development should be restricted on natural slopes of fifty percent and greater.
  - c. Visually prominent ridges and hillsides should be retained in a natural condition; where hillside grading occurs, the final graded contours should match and blend with natural contours and slopes should be finished in a manner to resemble natural topography.

### Community Design Element

- Policy CD 1-1** Consider the relationship of each development project to its setting, through the following measures:
- a. Each project should integrate with the natural features on and adjacent to the development site, including topography and landforms, geologic and soil conditions, hydrology and drainage, views, significant trees and vegetation, solar and wind exposure, natural open space and similar environmental features.
  - b. Where appropriate, site design should be oriented to a visual focal point, view corridor or other visual amenity on or near the site.
  - g. Site design should integrate with existing and proposed infrastructure systems in the surrounding area, including street patterns, trails and open space, drainage and utility systems.
  - i. View analysis of new development projects should consider views to the site and through the site to features beyond, as well as views from within the site; views from various vantage points should be addressed to ensure that project design complements rather than dominates the natural landscape.
- Policy CD 2-2** Protect and enhance significant views, where appropriate, through the following measures:
- b. Ensure that new development in locations which are highly visible from hillside areas, the lake and/or scenic roadways maintains a high quality of design and construction.

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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.

- Policy CD 3-1** The built environment should provide a visually interesting and stimulating setting by using varied physical forms and details which contribute to Big Bear Lake's sense of place, through the following means:
- a. Site and building designs should incorporate a blend of various forms, materials, colors and architectural details which are appropriate for Big Bear Lake's setting, history and community values.
  - e. Development projects should be visually interesting and attractive for both site users and observers from adjacent streets and properties.

- Policy CD 3-7** Site and building design shall provide for the screening of mechanical equipment, service areas, utility equipment, storage and refuse collection areas from view of the general public from adjacent properties and rights of way, through the following measures:
- a. Roof-mounted mechanical and communication equipment shall be screened by architectural means such as roof projections.
  - b. Ground mounted equipment, utility meters, backflow devices and similar mechanical equipment shall be screened by use of building placement, decorative walls or fences, landscaping, berms or a combination of these and other appropriate devices; this equipment should not be visible on the primary facades of buildings or in the front yard areas.
  - c. Mechanical equipment shall be painted to match the surrounding wall or roof color or natural terrain, as applicable.

- Policy CD 1-4** Site and building design should maximize opportunities for solar exposure, through the following measures:
- a. Habitable areas of structure should be oriented to achieve maximum exposure to sunlight.
  - b. Use of south-facing windows is encouraged.
  - c. Location of decks, balconies and porches should be oriented for solar exposure, to provide sunny, usable outdoor space.
  - d. Site designs should preserve sunlight on outdoor public spaces, especially in the afternoon hours; outdoor spaces which are permanently shaded during winter months will be generally unusable at that time.
  - e. Building placement and orientation should maintain solar exposure to adjoining buildings and sites.
  - f. Solar radiation and glare should be considered in choosing building colors, particularly in areas facing public open spaces; bright whites should be avoided in these areas.
  - g. Location of shade trees should consider solar exposure; trees should not permanently shade outdoor public seating areas at maturity, except where appropriate in park and recreation facilities.

### Village Specific Plan

Development in the central business core of the Big Bear Valley is guided by the Village Specific Plan, which addresses land use, circulation, and open space. It includes special design concepts and

development standards and describes procedures for design review and permitting. The Village Development Regulations implement the Specific 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 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 development standards and visual quality.

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

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

Big Bear Lake and the natural forest surrounding the City is an important aspect of the City's scenic views and appeal. Open space corridors along Rathbun Creek and Metcalf Creek offer spectacular view corridors from the higher elevations of the mountain areas into the Big Bear basin only obstructed by the natural species of the coniferous forest and riparian scrub habitats.

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, but 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 General Plan Land Use and Community Design elements' policies and the Development Code. This would ensure implementation of the Regional Reduction Plan would not adversely affect scenic vistas. Impacts 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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SR-18 (Big Bear Boulevard) has not been officially designated as a scenic highway; however, the portion that runs through Big Bear Lake is an eligible state scenic highway. The forested mountains that surround Big Bear Lake and the lake itself are valued scenic resources that are readily visible from SR-18.

The Regional Reduction Plan does not propose development. 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. Any energy-efficiency or energy-generating facilities that would be constructed in new development would require consistency with the General Plan policies and community design standards.

In the area covered by the Village Specific Plan, projects would be subject to design regulations and permitting. This would ensure implementation of the Regional Reduction Plan would not adversely affect scenic resources. Impacts would be *less than significant*. No mitigation is required.

Threshold	Would the project substantially degrade the existing visual character or quality of the site and its surroundings?
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The physical environment of the lake and surrounding mountains that provides an attractive setting that supports the community's tourism-based economy defines the City's overall visual character/quality. Any energy-efficiency or energy-generating facilities that would be constructed in new development by implementing reduction measure PS-1 would require consistency with the applicable General Plan Land Use and Community Design elements' policies and the Development Code. In the area covered by the Village Specific Plan, projects would be subject to special design regulations and permitting. This would ensure implementation of the Regional Reduction Plan would not adversely affect the visual character of quality of Big Bear Lake. Impacts 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 developed portions of Big Bear Lake contain numerous sources of light and glare from streetlights, freestanding lights, building-mounted lights, illuminated signage, reflective building materials, and vehicular headlights. The undeveloped portions of the planning area contain few, if any sources of light and glare.

General Plan Policy CD 1-4 encourages site planning that maximizes opportunities for solar exposure. Implementation of the Regional Reduction Plan could result in energy-efficient or energy-generating rooftop structures such as photovoltaic arrays on new homes. Rooftop solar panels, to be effective, must be oriented to maximize solar radiation absorption. Solar panels are designed to maximize sunlight absorption and are generally constructed of dark, light-absorbing materials and are composed of a minimum of reflective surfaces. Therefore, it is not anticipated that solar arrays would result in an increased amount of glare even if they were oriented in such a way as to face sensitive receptors or motorists. Therefore, implementation of the Regional Reduction Plan measures would not create new

sources of light or glare that would adversely affect daytime or nighttime views. The impact would be *less than significant*. No mitigation is required.

## ■ Cumulative Impacts

The City has concluded future growth in Big Bear Lake would have limited impacts on visual resources in the planning area because development would be limited to low-density and low-elevation residential structures, which would have minimal impact on viewsheds. Much of the larger parcels of land remaining to be developed would consist of master planned developments. Additional commercial development along scenic roadways is planned. Potential impacts are addressed through a variety of policies and programs that either directly regulate development or mandate the development of zoning and other regulating codes and ordinances that assure setbacks, detailed staff review and analysis, and discretionary approval of building heights, design and other development parameters. Implementation of the Regional Reduction Plan in Big Bear Lake would not result in any development that would contribute to these potential impacts. Measures that could be implemented under reduction measure PS-1 would, like other aspects of future development, be subject to design review and permitting. Therefore, the Regional Reduction Plan's contribution would not be cumulatively considerable. *Cumulative impacts would be less than significant.*

## ■ References

Big Bear Lake, City of. 1987. *City of Big Bear Lake Village Specific Plan*, May.

———. 1999a. *City of Big Bear Lake Final Environmental Impact Report for the Comprehensive General Plan*, July.

———. 1999b. *City of Big Bear Lake General Plan*, August.

———. n.d. *City of Big Bear Lake Municipal Code*.

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

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## 4.2.2 Agriculture/Forestry Resources

This section of the EIR analyzes the potential environmental effects on agriculture/forestry resources in the City of Big Bear Lake from implementation of the Regional Reduction Plan. Data for this section were taken from Big Bear Lake General Plan (1999a) and associated environmental document (1999b). Full reference-list entries for all cited materials are provided at the end of this section.

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

### ■ Environmental Setting

The City does not contain any timberlands or farmlands of importance. While the City and SOI does include timberlands, they are primarily under the jurisdiction of the San Bernardino National Forest.

### ■ Regulatory Framework

#### ***Federal***

There are no federal regulations pertaining to agricultural resources.

#### ***State***

##### **Williamson Act**

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

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

#### ***Regional***

##### **County of San Bernardino Development Code**

The County of San Bernardino Development Code includes Agricultural Land Use Zoning Districts that provide sites for commercial agricultural operations, agricultural support services, rural residential uses and similar and compatible uses. Open space and recreation uses may occur on nonfarmed lands within these AG (Agriculture) land use zoning district. In addition, the Development Code also includes

Additional Agriculture (AA) Overlays, which are intended to create, preserve, and improve areas for small-scale and medium-scale agricultural uses utilizing productive agricultural lands for raising, some processing, and the sale of plant crops, animals, or their primary products. It is an overlay where agricultural uses exist compatibly with a variety of rural residential lifestyles. Agricultural Preserve (AP) Overlays were also established for properties that may be subject to a Land Conservation Contract executed between the landowner and the Board.

## **Local**

### **Big Bear Lake General Plan**

There are no local regulations pertaining to agricultural resources.

## **■ Project Impact Evaluation**

### **Thresholds of Significance**

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

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

### **Analytic Method**

The following analysis reviews potential impacts to agricultural resources within the City.

## Project Impacts and Mitigation Measures

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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The City of Big Bear Lake does not contain areas classified as Prime, Unique, or Farmland of Statewide Importance. Therefore, 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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There are no Williamson Act contracts within the City or existing zoning for agricultural. Therefore, there would be ***no impact***.

Threshold	Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?
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The City of Big Bear Lake surrounds the San Bernardino National Forest, but does not contain areas classified as timberland, zoned as timberland, or considered forested with timber. There would be ***no impact***.

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

The City of Big Bear Lake surrounds the San Bernardino National Forest and implementation of the Regional Reduction Plan would not result in the loss or conversion of forest land to nonforest use. Therefore, 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 Big Bear Lake 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

Big Bear Lake, City of. 1999a. *City of Big Bear Lake Final Environmental Impact Report for the Comprehensive General Plan*, July.

———. 1999b. *City of Big Bear Lake General Plan*, August.

———. 2011. *2008–2014 Housing Element Update Initial Study and Negative Declaration*, August.

———. n.d. *City of Big Bear Lake Municipal Code*.

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

### 4.2.3 Air Quality

This section of the EIR analyzes the potential environmental effects on air quality in the City of Big Bear Lake from implementation of the Regional Reduction Plan. Data for this section were taken from 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, Big Bear Lake General Plan (1999a) and associated environmental document (1999b). 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 Big Bear Lake 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 Big Bear Station (AQs No. 060718001). The yearly average temperature within the project area is 61.0°F. The average low is reported at 47.1°F in January, while the average high is 80.7°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 12.0 inches per year in the project area.

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

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

quality in most of coastal Southern California. The entire region experiences heavy concentrations of air pollutants during prolonged periods of stable atmospheric conditions.

In conjunction with the two characteristic wind patterns that affect the rate and orientation of horizontal pollutant transport, there are two similarly distinct types of temperature inversions that control the vertical depth through which pollutants are mixed. These inversions are the marine/subsidence inversion and the radiation inversion. The height of the base of the inversion at any given time is known as the “mixing height.” The combination of winds and inversions are critical determinants in leading to the highly degraded air quality in summer and the generally good air quality in the winter in the project area.

## **Air Pollutants of Concern**

### **Criteria Air Pollutants**

The pollutants emitted into the ambient air by stationary and mobile sources are regulated by federal and state law. These are known as criteria air pollutants and are categorized into primary and secondary pollutants. Primary air pollutants are those that are emitted directly from sources. Carbon monoxide (CO), volatile organic compounds (VOC), nitrogen oxides (NO<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 4.2.7 [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 eleven TACs, all of which are identified as having no safe threshold.

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

Since the last update to the TAC list in December 1999, California ARB has designated 244 compounds as TACs (California ARB 1999). Additionally, the California ARB has implemented control measures for a number of compounds that pose high risks and show potential for effective control. The majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most important being particulate matter from diesel-fueled engines.

In 1998, the California ARB identified particulate emissions from diesel-fueled engines (diesel PM) as a TAC. Previously, the individual chemical compounds in the diesel exhaust were considered as TACs. Almost all diesel exhaust particle mass is 10 microns or less in diameter. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lung.

In 2000, SCAQMD conducted a study on ambient concentrations of TACs and estimated the potential health risks from air toxics. The results showed that the overall risk for excess cancer from a lifetime exposure to ambient levels of air toxics was about 1,400 in a million. The largest contributor to this risk was diesel exhaust, accounting for 71 percent of the air toxics risk. In 2008, the SCAQMD conducted its third update to their study on ambient concentrations of TACs and estimated the potential health risks from air toxics. The results showed that the overall risk for excess cancer from a lifetime exposure to

ambient levels of air toxics was about 1,200 in a million. The largest contributor to this risk was diesel exhaust, accounting for approximately 84 percent of the air toxics risk (SCAQMD 2008).

### **Existing Ambient Air Quality**

Existing levels of ambient air quality and historical trends and projections in the vicinity of the project site and the City of Big Bear Lake are best documented by measurements made by the SCAQMD. The City of Big Bear Lake is located within the central portion of Source Receptor Area (SRA) 38 (Big Bear Lake). The SCAQMD air quality monitoring station in the SRA 34 that is closest to the City is Big Bear Monitoring Station. O<sub>3</sub>, CO, SO<sub>2</sub>, NO<sub>2</sub> and PM<sub>10</sub> data were supplemented from the Central San Bernardino Mountains and Central San Bernardino Valley (1 and 2) area. Data are summarized in Table 4.9.3-1 (Ambient Air Quality Monitoring in the City of Big Bear Lake). 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. However in 2010 and 2011, the state PM<sub>10</sub> and federal PM<sub>2.5</sub> standards have not been violated. 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 4.9.3-1 Ambient Air Quality Monitoring in the City of Big Bear Lake**

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>)<sup>e</sup></b>					
State 1-Hour ≥ 0.09 ppm	67	78	70	52	58
State 8-Hour ≥ 0.07 ppm	115	115	107	101	103
Federal 8-Hour ≥ 0.075 ppm <sup>b</sup>	93	67	92	74	84
Maximum 1-Hour Average Concentration (ppm)	0.171	0.176	0.149	0.142	0.160
Maximum 8-Hour Average Concentration (ppm)	0.137	0.126	0.117	0.123	0.136
<b>Carbon Monoxide (CO)<sup>f</sup></b>					
State/Federal 8-Hour > 9.0 ppm	0	0	0	0	0
Maximum 8-Hour Average Concentration (ppm)	2.3	1.8	1.9	1.7	1.7
<b>Nitrogen Dioxide (NO<sub>2</sub>)<sup>f</sup></b>					
State 1-Hour ≥ 0.18 ppm <sup>c</sup>	0	0	0	0	0
Maximum 1-Hour Average Concentration (ppm)	0.08	0.09	0.05	69.2	44.7
<b>Sulfur Dioxide<sup>g</sup></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	6.6	12.3
<b>Suspended Particulates (PM<sub>10</sub>)<sup>e</sup></b>					
State 24-Hour > 50 µg/m <sup>3</sup>	2	0 <sup>h</sup>	1	0	0
Federal-24 Hour > 150 µg/m <sup>3</sup>	0	0 <sup>h</sup>	0	0	0
Maximum 24-Hour Average Concentration (µg/m <sup>3</sup> )	89	41 <sup>h</sup>	57	39	43
<b>Fine Particulates (PM<sub>2.5</sub>)<sup>a</sup></b>					
Federal-24 Hour ≥ 35 µg/m <sup>3d</sup>	1	1	1	0	0
Maximum 24-Hour Average Concentration (µg/m <sup>3</sup> )	45	36.8	40.8	35.4	30.7

SOURCE: SCAQMD, Ambient Air Quality Monitoring Data (obtained April 2013).

ppm = parts per million; µg/m<sup>3</sup> = micrograms per meter cubed

- a. Data obtained from the East San Bernardino Mountains.
- 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>.
- e. Data obtained from the Central San Bernardino Mountains
- f. Data obtained from the Central San Bernardino Valley 2
- g. Data obtained from Central San Bernardino Valley 1
- h. Less than 12 full months of data; may not be representative.

## 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 4.9.3-2 (State and Federal Ambient Air Quality Standards) shows the California Ambient Air Quality Standards and NAAQS for each of the criteria pollutants.

<b>Table 4.9.3-2 State and Federal Ambient Air Quality Standards</b>				
<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 4.9.3-3 (Attainment Status of Basin) shows the attainment status for criteria air pollutants in the Basin.

<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

### The Big Bear Lake General Plan

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

- Policy ER 6.4** The City shall encourage the use of clean alternative energy sources for transportation, heating and cooling whenever practical.
- Policy ER 7.1** Promote energy conservation in all areas of community development, including transportation, development planning, public and private sector office construction and operation, as well as in the full range of residential, commercial and industrial projects.

<sup>2</sup> These policies are not a complete listing of all design policies contained in 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. 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 4.9.3-4 (SCAQMD Thresholds of Significance).

<b>Table 4.9.3-4 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 1 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 Big Bear Lake 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 VMT emissions offsets following the recent changes in USEPA requirements.

In addition to the statewide measures to reduce VMT and vehicular emissions, the Regional Reduction Plan would implement measures within Big Bear Lake designed to reduce greenhouse gases. 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 implementation of the Regional Reduction Plan will further the goals of the Air Quality Management Plan for the Basin. Therefore, this impact would be *less than significant*. No mitigation is required.

Threshold	Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?
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Construction activities, such as grading or excavation activities, if required, 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, and building construction. Because information regarding specific facilities and building details required to implement the Regional Reduction Plan reduction measures is not available, short-term construction emissions from these activities cannot be quantified. However, these temporary, short-term emissions would not be substantial, and would be offset by the operation of renewable energy projects 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 renewable energy generation, water conservation measures, and a transportation measure are better understood at a regional level. This is because of the level of commitment that the City of Big Bear Lake has chosen in implementing the reduction measures in the Regional Reduction Plan. Table 4.9.3-5 (City of Big Bear Lake Regional Emissions [lb/day]) compares the criteria pollutant emissions predicted in The Big Bear Lake General Plan with the predicted reductions in those emissions through implementation of the Regional Reduction Plan.

The Regional Reduction Plan will reduce anticipated criteria air pollutant emissions resulting from buildout of the Big Bear Lake General Plan, but the net emissions from buildout of the Big Bear Lake General Plan are still over the SCAQMD Thresholds for VOC, NO<sub>x</sub>, and CO. This significant impact was addressed in the Big Bear Lake General Plan EIR. Impacts from the Regional Reduction Plan reduce criteria pollutants and benefit air quality in Big Bear Lake. Therefore, the impact would be *less than significant*. No mitigation is required.

<b>Table 4.9.3-5 City of Big Bear Lake Regional Emissions (lb/day)</b>						
<i>Emission Sources</i>	<b>VOC</b>	<b>NO<sub>x</sub></b>	<b>CO</b>	<b>SO<sub>x</sub></b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>
<b>Big Bear Lake General Plan Build-Out</b>						
Transportation	2,149	1,257	22,497	0	96	N/A
Stationary Sources:						
Natural Gas <sup>a</sup>	25	914	174	59	20	N/A
<i>Subtotal Area Sources</i>	25	914	174	59	20	N/A
<b>Total Big Bear Lake General Plan Emissions</b>	<b>2,174</b>	<b>2,171</b>	<b>22,671</b>	<b>59</b>	<b>116</b>	<b>N/A</b>
<b>Changes in Emissions with the Regional Reduction Plan<sup>b</sup></b>						
Transportation	-533	-312	-5,579	0	-24	N/A
Stationary Sources:						
Natural Gas	-1	-43	-8	-3	-1	N/A
<i>Subtotal Area Sources</i>	-1	-43	-8	-3	-1	N/A
GHG Performance Standard <sup>c</sup>	-17	-17	-175	0	-1	N/A
<b>Total Changes to Emissions</b>	<b>-551</b>	<b>-371</b>	<b>-5,762</b>	<b>-3</b>	<b>-26</b>	<b>N/A</b>
<b>Emission Comparison</b>						
Net General Plan Emissions with implementation of the Regional Reduction Plan	1,623	1,800	16,909	56	90	N/A
Estimated Regional Reduction Plan Percent Reduction in Air Pollution	-25%	-17%	-25%	-5%	-22%	N/A
<b>SCAQMD Threshold</b>	<b>55</b>	<b>55</b>	<b>550</b>	<b>150</b>	<b>150</b>	<b>55</b>
Big Bear Lake General Plan with Regional Reduction Plan Reductions Significant?	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	No	No	N/A
Regional Reduction Plan Significant?	No	No	No	No	No	N/A

SOURCE: City of Big Bear, *City of Big Bear Lake Final Environmental Impact Report for the Comprehensive General Plan* (July 1999).

lb/day = pounds per day

- a. Stationary sources of emission in the General Plan are reported under Natural Gas category in the Regional Reduction Plan.
- b. Regional Reduction Plan reductions based on percentage reductions by sector (energy sector = natural gas, etc.).
- c. GHG Performance Standard is not sector specific. Estimated reductions based upon expected reductions of totals for new development.

<b>Threshold</b>	Would the project expose sensitive receptors to substantial pollutant concentrations?
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As discussed in Table 4.9.3-5, the Regional Reduction Plan will reduce criteria pollutant emissions within the City of Big Bear Lake. The emissions reduction strategies selected by the City do not include any new facilities that would result in a new source of TAC emissions, including diesel particulate matter.

Therefore, the Regional Reduction Plan would not expose sensitive receptors in the City to substantial pollutant concentrations. This impact would be ***less than significant***. No mitigation is required.

Threshold	Would the project create objectionable odors affecting a substantial number of people?
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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 Big Bear Lake include components that typically generate odors. Therefore, this impact would be ***less than significant***. No mitigation is required.

## ■ Cumulative Impacts

Threshold	Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?
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As shown in Table 4.9.3-5, the Regional Reduction Plan will reduce criteria pollutant emissions within the City of Big Bear Lake. 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 Big Bear Lake General Plan to be less than cumulatively considerable. Therefore, the net emissions resulting from The Highland General Plan with implementation of The Regional Reduction Plan reductions is still a Cumulatively Considerable contribution to criteria air pollutants for which the Basin is in nonattainment (ozone, suspended particulates, and fine particulates). This significant impact of The Big Bear Lake General Plan was identified in The Big Bear Lake General Plan EIR.

However, because implementation of the Regional Reduction Plan has a net reduction in air pollution, the ***cumulative impact would be less than significant***.

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## 4.2.4 Biological Resources

This section of the EIR analyzes the potential environmental effects on biological resources in the City of Big Bear Lake from implementation of the Regional Reduction Plan. Data for this section were taken from the Big Bear Lake General Plan (1999a) and associated environmental impact report (July 1999b). Full reference-list entries for all cited materials are provided at the end of this section.

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

### ■ Environmental Setting

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

#### ***Existing Habitats and Vegetation Communities within the City of Big Bear Lake***

The City is located in the Big Bear Valley. The combination of a valley basin with expansive and varying geography and habitats, and the complexity of various transition zones, makes the region a rich resource area. Big Bear Lake is located within an elevated mountain basin formed by the San Bernardino Mountains, with elevations in the planning area ranging from 6,800 to 7,500 feet above mean sea level. The elevated surrounding terrain effectively isolates the greater Big Bear Basin from all but the coastal influences to the west. Six different plant communities occur within the planning area: Montane Coniferous Forest, Montane Riparian Scrub, Montane Meadow, Lacustrine Emergent, Pebble Plains, and Montane Freshwater Marsh. The planning area has also been impacted by nonnative vegetation. The various habitat types supported in the City are briefly discussed below.

#### **Montane Coniferous Forest**

This forest community is composed of a mixture of Jeffrey and Ponderosa pine and white fir, and also includes sugar and lodge pole pines, western juniper and black oak. Occupying a substantial portion of the City, this plant community is often somewhat disturbed and fragmented due to development, recreational uses and other human impacts.

#### **Montane Riparian Scrub**

Within the planning area, this plant community is characterized by a number of willow species that form scrubby thickets along watercourses fed by springs and melting snow. It may occur both as a corridor of thicket through meadows and define brooks passing through mixed conifer forests. This plant community may also include an understory composed of rushes and a variety of herbaceous plants. Examples are to be found along parts of Rathbun Creek, Metcalf Creek, and Red Ant Canyon. Some segments of this community have been lost to channelization, diversion of water and human development.

### **Montane Meadow**

The Montane Meadow plant community is comprised of sedges, low sagebrush, herbs and native grasses as dominant components, and is often associated with alkaline, clay soils. This community is found in a limited number of locations and frequently in degraded condition, although it was substantially more widespread prior to lake inundation and development. Current examples of this community include Metcalf Bay meadow, and the area east of Eagle Point to Rathbun Creek. Remnants are also found at the heads of Mallard Lagoon and the inlet immediately to the west.

### **Lacustrine Emergent Lakeshore**

This plant community is poorly developed and is associated with areas of disturbance along the lake and its fluctuating levels. This community has only been present over the past approximately 20 years and has been associated with the maintenance of high water levels in the lake. It is dominated by aquatic plants, including floating knotweed and bulrushes. Willow is also present in some locations.

### **Pebble Plains**

The Pebble Plains plant community is unique to the area around Big Bear Lake and Holcomb Valley, with only about thirty locations known. These communities are relics of the Ice Age and have adapted over time to current conditions. The occurrence of these communities is restricted to areas of dense clay soils overlain by gravel of quartzite pebbles. These locations occur as island-like openings in mixed conifer and Jeffrey pine forests and pinyon-juniper woodlands. They often occur as a chain of sites discretely separated by forested areas. Pebble plains are characterized by low, cushion-forming plants, including many rare and special-status plants found only at these locations and within these communities. Remnant pebble plains habitat can be found at various locations in the planning area. There are approximately 12 acres of pebble plains in the Moonridge area. Most of the pebble plains within the Big Bear Valley are outside of the planning area, in the Sugarloaf and Baldwin Lakes areas.

### **Montane Freshwater Marsh**

Prior to the damming of Bear Creek to create Big Bear Lake, an extensive marsh existed in the Big Bear Valley. Today, Stanfield Marsh occupies the eastern edge of Big Bear Lake. This marsh has been subject to extreme variations in water levels, and is predominantly dry during periods of drought. In 1982 the Big Bear Municipal Water District (BBMWD) designated the area as a wildlife preserve.

### **Wildlife**

The diversity of plant communities in and around the planning area has given rise to a rich assemblage of wildlife. Some common forest mammals include western gray squirrel, lodgepole and Merriam, chipmunks, Audubon cottontail, bobcat, mountain lion, coyote, mule deer, deer mouse, desert woodrat and others. Grizzly bear were rapidly hunted out when the basin was settled by Europeans, however, black bear were introduced from the Sierra Nevada area in the 1930s. Nonnative feral burros, which have roamed the basin since the early 1900s, compete with native wildlife for food plants and have damaged delicate native plant communities. The USDA Forest Service has removed most of these animals, with the exception of a small population at the east end of the basin in the Big Bear Wild Burro Territory (USFS 2013).

Common bird species in the Big Bear Valley include Stellar's jay, plain titmouse, mountain chickadee, white breasted nuthatch, California and mountain quail, and acorn woodpecker, all of which are year-round residents. Seasonal and migrant bird species include black-headed grosbeak, western tanager, and a variety of warbler species. Water fowl include several species of duck, including American coot, American widgeon, ruddy duck, canvasback and others, as well as great blue heron and other wading birds. Common amphibians and reptiles include western toad, western fence lizard, southern alligator lizard, coachwhip, California mountain kingsnake, western rattlesnake and others.

### ***Sensitive Biological Resources***

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

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

### ***Sensitive Natural Communities***

The Pebble Plains plant community is identified as a sensitive natural community in the California Natural Diversity Database (CNDDDB). Pebble plains are characterized by low, cushion-forming plants, including many rare and special-status plants found only at these locations and within these communities. Although not identified as sensitive by the CNDDDB, the Montane Meadow plant community is associated with a number of special-status species.

### ***Sensitive Plants***

Several sensitive plant species may occur within the City. Sensitive plant species with the potential to occur within or in the vicinity of Big Bear Lake, as identified in the EIR for the City's General Plan and the CNDDDB, are listed in Table 4.2.4-1 (Sensitive Plant Species Known or Potentially Occurring in the City of Big Bear Lake).

**Table 4.2.4-1 Sensitive Plant Species Known or Potentially Occurring in the City of Big Bear Lake**

Scientific Name	Common Name	Habitat	Federal/State Listing Status	CNPS Designation
<i>Calochortus plummerae</i>	Plummer's mariposa lily	Coastal scrub, chaparral, valley and foothill grassland, woodland, lower montane coniferous forest	None/None	4.2
<i>Symphyotrichum defoliatum</i>	San Bernardino aster	Meadows and seeps, marshes and swamps, coastal scrub, woodland, lower montane coniferous forest, grassland	None/None	1B.2
<i>Perideridia parishii</i> ssp. <i>parishii</i>	Parish's yampah	Lower montane coniferous forest, Meadows and seeps, Upper montane coniferous forest	None/None	2.2
<i>Helianthus nuttallii</i> ssp. <i>parishii</i>	Los Angeles sunflower	Marshes and swamps	None/None	1A
<i>Packera bernardina</i>	San Bernardino ragwort	Meadows and seeps, Pebble plain, Upper montane coniferous forest	None/None	1B.2
<i>Taraxacum californicum</i>	California dandelion	Meadows and seeps	FE/None	1B.1
<i>Pyrocoma uniflora</i> var. <i>gossypina</i>	Bear Valley pyrocoma	Meadows and seeps, Pebble plain	None/None	1B.2
<i>Symphyotrichum defoliatum</i>	San Bernardino aster	Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Meadows and seeps, Marshes and swamps, Valley and foothill grassland	None/None	1B.2
<i>Boechera parishii</i>	Parish's rockcress	Pebble plain, Pinyon and juniper woodland, Upper montane coniferous forest	None/None	1B.2
<i>Physaria kingii</i> ssp. <i>bernardina</i>	San Bernardino Mountains bladderpod	Lower montane coniferous forest, Pinyon and juniper woodland, Subalpine coniferous forest	FE/None	1B.1
<i>Streptanthus campestris</i>	southern jewel-flower	Chaparral, Lower montane coniferous forest, Pinyon and juniper woodland	None/None	1B.3
<i>Thelypodium stenopetalum</i>	slender-petaled thelypodium	Meadows and seeps	FE/SE	1B.1
<i>Arenaria lanuginosa</i> var. <i>saxosa</i>	rock sandwort	Subalpine coniferous forest, Upper montane coniferous forest	None/None	2.3
<i>Eremogone ursina</i>	Big Bear Valley sandwort	Meadows and seeps, Pebble plain, Pinyon and juniper woodland	FT/None	1B.2
<i>Astragalus leucolobus</i>	Big Bear Valley woollypod	Lower montane coniferous forest, Pebble plain, Pinyon and juniper woodland, Upper montane coniferous forest	None/None	1B.2
<i>Astragalus lentiginosus</i> var. <i>sierrae</i>	Big Bear Valley milk-vetch	Mojavean desert scrub, Meadows and seeps, Pinyon and juniper woodland, Upper montane coniferous forest	None/None	1B.2
<i>Oxytropis oreophila</i> var. <i>oreophila</i>	rock-loving oxytrope	Alpine boulder and rock field, Subalpine coniferous forest	None/None	2.3
<i>Sidalcea hickmanii</i> ssp. <i>parishii</i>	Parish's checkerbloom	Chaparral, Cismontane woodland, Lower montane coniferous forest	None/CR	1B.2

<b>Table 4.2.4-1 Sensitive Plant Species Known or Potentially Occurring in the City of Big Bear Lake</b>				
<b>Scientific Name</b>	<b>Common Name</b>	<b>Habitat</b>	<b>Federal/State Listing Status</b>	<b>CNPS Designation</b>
<i>Sidalcea malviflora</i> ssp. <i>dolosa</i>	Bear Valley checkerbloom	Lower montane coniferous forest, Meadows and seeps, Riparian woodland, Upper montane coniferous forest	None/None	1B.2
<i>Sidalcea pedata</i>	bird-foot checkerbloom	Meadows and seeps, Pebble plain	FE/FE	1B.1
<i>Eriogonum kennedyi</i> var. <i>austromontanum</i>	southern mountain buckwheat	Lower montane coniferous forest, Pebble plain	FT/None	1B.2
<i>Eriogonum microthecum</i> var. <i>lacus-ursi</i>	Bear Lake buckwheat	Great Basin scrub, Lower montane coniferous forest	None/None	1B.1
<i>Navarretia peninsularis</i>	Baja navarretia	Chaparral, Lower montane coniferous forest, Meadows and seeps, Pinyon and juniper woodland	None/None	1B.2
<i>Phlox dolichantha</i>	Big Bear Valley phlox	Pebble plain, Upper montane coniferous forest	None/None	1B.2
<i>Lewisia brachycalyx</i>	short-sepaed lewisia	Lower montane coniferous forest, Meadows and seeps	None/None	2.2
<i>Calyptidium pygmaeum</i>	pygmy pussypaws	Subalpine coniferous forest, Upper montane coniferous forest	None/None	1B.2
<i>Horkelia wilderae</i>	Barton Flats horkelia	Chaparral, Lower montane coniferous forest, Upper montane coniferous forest	None/None	1B.1
<i>Ivesia argyrocoma</i> var. <i>argyrocoma</i>	silver-haired ivesia	Meadows and seeps, Pebble plain, Upper montane coniferous forest	None/None	1B.2
<i>Heuchera parishii</i>	Parish's alumroot	Alpine boulder and rock field, Lower montane coniferous forest, Subalpine coniferous forest, Upper montane coniferous forest	None/None	1B.3
<i>Castilleja cinerea</i>	ash-gray paintbrush	Mojavean desert scrub, Meadows and seeps, Pebble plain, Pinyon and juniper woodland, Upper montane coniferous forest	FT/None	1B.2
<i>Castilleja lasiorhyncha</i>	San Bernardino Mountains owl's-clover	Chaparral, Meadows and seeps, Pebble plain, Riparian woodland, Upper montane coniferous forest	None/None	1B.2
<i>Mimulus exiguus</i>	San Bernardino Mountains monkeyflower	Meadows and seeps, Pebble plain, Upper montane coniferous forest	None/None	1B.2
<i>Mimulus purpureus</i>	little purple monkeyflower	Meadows and seeps, Pebble plain, Upper montane coniferous forest	None/None	1B.2
<i>Carex occidentalis</i>	western sedge	Lower montane coniferous forest, Meadows and seeps	None/None	2.3
<i>Calochortus palmeri</i> var. <i>palmeri</i>	Palmer's mariposa-lily	Chaparral, Lower montane coniferous forest, Meadows and seeps	None/None	1B.2
<i>Lilium parryi</i>	lemon lily	Lower montane coniferous forest, Meadows and seeps, Riparian forest, Upper montane coniferous forest	None/None	1B.2
<i>Poa atropurpurea</i>	San Bernardino blue grass	Meadows and seeps	FE/None	1B.2

**Table 4.2.4-1 Sensitive Plant Species Known or Potentially Occurring in the City of Big Bear Lake**

Scientific Name	Common Name	Habitat	Federal/State Listing Status	CNPS Designation
<i>Botrychium crenulatum</i>	scalloped moonwort	Bogs and fens, Lower montane coniferous forest, Meadows and seeps, Marshes and swamps, Upper montane coniferous forest	None/None	2.2
<i>Gilia leptantha</i> ssp. <i>Leptantha</i>	San Bernardino gilia	Lower montane coniferous forest	None/None	1B.3

SOURCES: City of Big Bear Lake (1999a), California Department of Fish and Wildlife (2013), CNPS (2013).

Federal Designations

**FE** = Federally listed as Endangered

**FT** = Federally listed as Threatened

State Designations

**SE** = State listed as Endangered

**CR** = California Rare

CNPS Categories

**1A** = Plants presumed extinct in California

**1B** = Plants that are rare, threatened, or endangered in California and elsewhere

**2** = Plants that are rare, threatened, or endangered in California but more common elsewhere

**3** = Plants about which the CNPS needs more information; this is a review list

**4** = Plants of limited distribution; this is a watch list

CNPS Threat Code Extensions

**None** = Plant is lacking threat information

**1** = Seriously endangered in California

**2** = Fairly endangered in California

**3** = Not very endangered in California

### Sensitive Wildlife

Several sensitive wildlife species may occur within the City. The sensitive wildlife species with the potential to occur within or in the vicinity of Big Bear Lake, as identified in the EIR for the City’s General Plan and the CNDDDB, are listed in Table 4.2.4-2 (Sensitive Wildlife Species Known or Potentially Occurring in the City of Big Bear Lake). The wildlife species of concern are described below.

#### Andrew’s Marble Butterfly

Andrew’s marble butterfly is endemic to the Baldwin Lake area. It prefers habitat in hills and washes and host plants include slender-petaled thelypodium. Because of its very limited range, this species is threatened by development (NatureServe 2013).

#### Sierra Madre Yellow-legged Frog

This frog species occurs in the southern Sierra Nevada and mountains of Southern California, including the San Bernardino Mountains. Numerous population declines and local extirpations have occurred and are ongoing. Introduced trout is a major factor in the decline, as well as disease, recreational activities, and airborne agrochemicals. Habitat includes sunny riverbanks, meadow streams, isolated pools, and lake borders. The species seems to prefer sloping banks with rocks or vegetation to the water’s edge (NatureServe 2013).

#### Coast Horned Lizard

The coast horned lizard is found in a wide variety of vegetation types, including coastal sage scrub, annual grassland, chaparral, oak woodland, riparian woodland, and coniferous forest. In inland areas, this species is restricted to areas with pockets of open microhabitat created by disturbance (e.g., floods, fire, roads, grazed areas, fire breaks). It prefers open areas of loose, crumbly, sandy soil in coastal sage scrub, chaparral, grassland, and riparian habitats, and washes and watercourses.

**Table 4.2.4-2 Sensitive Wildlife Species Known or Potentially Occurring in the City of Big Bear Lake**

Scientific Name	Common Name	Habitat	Federal/State Listing Status	Other Designation
<b>Insects</b>				
<i>Euchloe hyantis andrewsi</i>	Andrew's marble butterfly	Endemic to the area of Baldwin lake	None/None	None
<b>Amphibians</b>				
<i>Rana muscosa</i>	Sierra Madre yellow-legged frog	Sunny riverbanks, meadow streams, isolated pools, and lake borders	FE/SCE	SSC
<b>Reptiles</b>				
<i>Phrynosoma coronatum (blainvillii population)</i>	coast (San Diego) horned lizard	Open areas of sandy soil with coastal sage scrub, chaparral, grassland, riparian, and washes and watercourses	None/None	BLM, CSC, FS
<i>Charina umbratica</i>	southern rubber boa	Mixed conifer and oak forests	None/ST	FS
<b>Birds</b>				
<i>Empidonax traillii extimus</i>	southwestern willow flycatcher	Willow or other shrub thickets at the edges of meadows, streams, and ponds	FE/SE	None
<i>Haliaeetus leucocephalus</i>	Bald eagle	Trees within wooded areas along the southern Big Bear Lake shore	Delisted/SE	FS, BCC, SFP
<i>Strix occidentalis occidentalis</i>	California spotted owl	Dense forest canopy characterized by large trees, snags and downed logs	None/None	BLM, CSC, BCC, FS
<i>Falco peregrines</i>	American peregrine falcon	Bare rock, Cliffs, Shrub land/chaparral, Woodland	Delisted/Delisted	BCC, SFP
<b>Mammals</b>				
<i>Neotamias speciosus speciosus</i>	lodgepole chipmunk	Forest—Conifer, Shrub land/chaparral, Woodland—Conifer	None/None	None
<i>Glaucomys sabrinus californicus</i>	San Bernardino flying squirrel	Coniferous and riparian habitats that are cool and moist	None/None	CSC, FS

SOURCE: City of Big Bear Lake (1999a), California Department of Fish and Wildlife (2011, 2013), NatureServe (2013).

Federal Designations

**FE** = Federally listed as Endangered

**BLM** = U.S. Department of the Interior, Bureau of Land Management sensitive species

**FS** = U.S. Forest Service sensitive species

**BCC** = USFWS Birds of Conservation Concern

**Delisted** = Delisted species are monitored for 5 years

State Designations

**SE** = State listed as Endangered

**ST** = State threatened

**SCE** = Candidate Endangered

**CSC** = California Species of Special Concern

**SFP** = State Fully Protected Species

**None** = Not listed or designated as sensitive.

### Southern Rubber Boa

The southern rubber boa is a small snake which inhabits mixed conifer and oak forests between 5,000 and 8,000 feet in elevation. Preferred habitats include old logs, surface rocks, rock outcroppings, springs and other moist areas. Although no rubber boas are known to exist within the City limits, they have been sighted in the vicinity of the southern City limits adjacent to U.S. Forest Service property.

### **Southwestern Willow Flycatcher**

The Southwestern willow flycatcher prefers dense, shrubby habitat, often breeding in willow or other shrub thickets at the edges of meadows, streams, and ponds. Populations have declined with loss of habitat and from parasitism from brown-headed cowbirds. The bird is known to breed in the vicinity and is also a migrant in the basin.

### **Bald Eagle**

Trees within wooded areas along the southern lake shore, around Metcalf Bay and Eagle Point, and along the eastern shore of the lake provide important perch sites for the bald eagle. For perch trees, bald eagles prefer large dead-topped trees near the lake with a view over the water for fishing.

### **California Spotted Owl**

Spotted owls have been observed in the U.S. Forest Service property south of the City limits. In general, they appear to avoid residences and other urbanized areas. They prefer a dense forest canopy characterized by large trees, snags and downed logs.

### **American Peregrine Falcon**

The American peregrine falcon is one of the best known of the endangered birds, which is currently found as a migrant in the Big Bear Basin, although both foraging and nesting habitat are abundant. This falcon migrates through the planning area and hunts in the fall, but is not known to nest anywhere in the planning area.

### **Lodgepole Chipmunk**

The lodgepole chipmunk is found in central Sierra Nevada in California, into Nevada in the vicinity of Lake Tahoe, south to the San Bernardino and San Gabriel Mountains and Mount Pinos. It is primarily terrestrial but frequently climbs trees. It nests in burrows, stumps, logs, tree cavities, and among rocks. The chipmunk is inactive during the winter and emerges from its winter den in early spring (NatureServe 2013).

### **San Bernardino Flying Squirrel**

This flying squirrel is known from the San Jacinto and San Bernardino Mountains and inhabits coniferous and riparian habitats that are cool and moist, usually near streams and rivers. Flying squirrels are omnivorous, eating everything from seeds to eggs, insects and birds. They have been reported at backyard feeders in the planning area and also occur in areas near the forest edge with limited development. They prefer dense, mature forests, and tend to avoid meadows and pinyon/juniper habitat.

### **Wildlife Movement Corridors**

Wildlife corridors link areas of suitable habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. Corridors are links between different populations of a species and mitigate the effects of habitat fragmentation by (1) allowing animals to move between remaining habitats (which allows replenishment of depleted populations and promotes genetic diversity); (2) providing escape routes from fire, predators, and human disturbances that put populations or local species at risk;

and (3) serving as travel routes for individuals moving within their home ranges for food, water, mates, and shelter. Wildlife movement activities usually fall into one of three movement categories: dispersal, seasonal migration, or movements related to home range activities. Large open spaces will generally support a diverse wildlife community engaging in all types of movement. Wildlife movement may range from nonmigratory movement of amphibians, reptiles, and some birds on a local level to the many-square-mile home ranges of large mammals moving at a regional level.

Regional wildlife corridors in the City include Big Bear Lake, the unoccupied slopes of the surrounding mountains, and streams that drain the Big Bear watershed. The lake allows fish, amphibians and birds to access much of the Big Bear lake basin. Marshes also provide this corridor function, connecting differing habitats and plant communities together in an intricate web. The surrounding forests and mountain slopes also provide cover and escape terrain. The various riparian areas, including the Rathbun Creek and Metcalf Creek riparian corridors, are also important and sensitive components of the community's ecology.

### ***Jurisdictional Waters and Wetlands***

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

A comprehensive jurisdictional delineation has not been prepared for the City. However, the Big Bear Valley contains a variety of wetlands and aquatic habitat, including the Big Bear Lake, a number of stream channels with riparian habitat, and typical wetlands on the edge of Big Bear Lake, such as Stanfield Marsh, and at locations where streams discharge into the lake (Tom Dodson & Associates 2010).

## **■ Regulatory Framework**

### ***Federal***

#### **Endangered Species Act**

The Federal Endangered Species Act (FESA) of 1973, as amended, was promulgated to protect and conserve any species of plant or animal that is endangered or threatened with extinction and the habitats in which these species are found. “Take” of endangered species is prohibited under FESA Section 9.

Take, as defined under the FESA, means to “harass, harm, pursue, hunt, wound, kill, trap, capture, collect, or attempt to engage in any such conduct.” FESA Section 7 requires federal agencies to consult with the U.S. Fish and Wildlife Service (USFWS) on proposed federal actions that may affect any endangered, threatened, or proposed (for listing) species or critical habitat that may support the species. FESA Section 4(a) requires that critical habitat be designated by the USFWS “to the maximum extent prudent and determinable, at the time a species is determined to be endangered or threatened.”

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

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

### **Migratory Bird Treaty Act**

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

### **Clean Water Act, Sections 401 and 402**

Federal Clean Water Act (CWA) Section 401(a)(1) specifies that any applicant for a federal license or permit to conduct any activity that may result in any discharge into navigable waters shall provide the federal permitting agency a certification, issued by the state in which the discharge originates, that any such discharge will comply with the applicable provisions of the CWA. In California, the applicable Regional Water Quality Control Board (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 Big Bear Lake is within the jurisdiction of the Santa Ana RWQCB (Region 8).

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

USACE regulates discharges of dredged or fill material into waters of the United States<sup>1</sup> including wetlands and nonwetland bodies of water that meet specific criteria. Pursuant to CWA Section 404, a permit is required for any filling or dredging in waters of the U.S. The permit review process entails an assessment of potential adverse impacts to USACE wetlands and jurisdictional waters, wherein the USACE may require mitigation measures. Where a federally listed species may be affected, a Section 7 consultation with USFWS may be required. If there is potential for cultural resources to be present, Section 106 review may be required. Also, where a Section 404 permit is required, a Section 401 Water Quality Certification would also be required from the RWQCB.

## **State**

### **California Endangered Species Act**

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

### **California Fish and Game Code, Section 1600**

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

## Regional

### Forest Service Management Plan

The USDA Forest Service has established the San Bernardino National Forest Land and Resource Management Plan (LMP) to guide management of forest resources, including those surrounding the City in the San Bernardino National Forest. The LMP describes the strategic direction at the broad program-level for managing the land and its resources over the next 10 to 15 years. The plan establishes forest-wide multiple use goals, determines the suitability and capability of forest land for resource production, identifies and recommends wilderness and scenic rivers, establishes forest-wide and forest-specific standards, identifies management area prescriptions, and establishes monitoring and evaluation requirements for plan implementation. The area surrounding Big Bear Lake is considered to have a high recreational and biological value. The desired condition for the area is a rural, natural landscape that preserves forest areas (USDA 2005).

## Local

### Tree Conservation Ordinance

City Municipal Code Chapter 17.10 is known as the Big Bear Lake Tree Conservation Ordinance. The purpose of the ordinance is to manage the City's urban forestry resources to promote the long-term health and viability of trees within the City. The ordinance outlines requirements for pre-development and development review for projects requiring discretionary approval. For a project on land which contains one or more significant stands of trees, and where it is proposed to remove a significant portion of one or more of these stands of trees, a pre-development review is required pursuant to the applicable provisions of the Development Code. The purpose of this review is to ensure that tree conservation is considered early in the planning process with respect to placement of buildings, roads and driveways, parking, utilities, and other site improvements. A tree management plan is required for projects on sites that contain existing trees that are greater than six inches in diameter.

### Big Bear Lake General Plan

The Big Bear Lake General Plan Environmental Resources Element programs that are applicable to biological resources<sup>3</sup> are as follows:

**Program ER 1.1.1** When potentially significant impacts to biological resources are identified in an initial study conducted under the California Environmental Quality Act (CEQA), the City shall require the project applicant to prepare and submit a biological resource analysis and shall distribute this analysis to the appropriate responsible agencies and require compliance with recommended mitigation measures.

**Program ER 1.1.2** The City shall take measures to encourage the conservation of bald eagles and their habitat in the planning area and throughout the Big Bear Basin, through CEQA review and through adoption of an ordinance addressing protection and/or replacement of identified perch trees.

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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.

- Program ER 1.1.3** The City, in cooperation with other agencies, shall encourage the conservation of any species in the planning area which are listed as endangered in conformance with applicable state and federal laws, through implementation of CEQA and the Endangered Species Act, investigation of the feasibility of mitigation banking, and through working with appropriate conservation entities to identify and protect sensitive habitat areas.
- Program ER 1.1.4** The City shall inform and encourage developers to salvage top soils and trees from their development sites for incorporation into project landscaping to the greatest extent possible. Where appropriate, the use of salvaged or preserved indigenous trees shall be indicated on project landscaping plans submitted to the City for approval.
- Program ER 1.1.6** The City shall continue to require the preparation of wildlife surveys and as necessary, Habitat Conservation Plans, in compliance with Federal Section I-a(1)(B) of the Endangered Species Act and Section 2081 of the State Endangered Species Act.
- Program ER 1.1.8** The City shall regulate stockpiling of dirt and construction materials and debris, to ensure that these activities do not jeopardize sensitive plants or significant habitat areas.
- Program ER 1.1.9** The City shall require analysis of any development proposal which may impact wetlands, and shall require that wetlands be delineated pursuant to the federal Clean Water Act and as required by the California Department of Fish and Game.

## ■ Project Impact Evaluation

### **Thresholds of Significance**

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

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites

- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan

### **Analytic Method**

The following analysis reviews potential impacts to biological resources within the City of Big Bear Lake.

### **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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Implementation of the Regional Reduction Plan would not directly result in removal of vegetation or wildlife in the City because the Regional Reduction Plan does not confer entitlements for development. The Regional Reduction Plan does include an increase in renewable energy sources within the City. Renewable energy generation facilities could potentially be built on vacant land that might contain habitat. As previously described, a variety of sensitive plant and animal species are found throughout Big Bear Lake.

It is the policy of the City to evaluate the individual impacts of proposed development on special status species and plants. All projects proposed on sites with potential biological impacts are required to prepare a biological resource analysis and are required to comply with recommended mitigation measures (see General Plan Program ER 1.1.1). The City requires preparation of wildlife surveys and compliance with applicable plans and regulations (see General Plan Programs ER 1.1.3 and ER 1.1.6). The City's Tree Conservation Ordinance requires preservation of important trees that could provide habitat for sensitive species.

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

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

Threshold	Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?
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Implementation of the Regional Reduction Plan would not directly result in removal of vegetation or wildlife in the City because the Regional Reduction Plan does not confer entitlements for development. The Regional Reduction Plan could result in an increase in renewable energy sources within the City. Renewable energy generation facilities could potentially be built on vacant land that might contain riparian habitat, or pebble plains habitat, which is identified as sensitive by the CNDDDB. However, as stated previously, individual projects undergoing the City's development approval process would be required to survey for sensitive biological resources. The City requires compliance with all applicable regulations pertaining to riparian and other sensitive habitat. Prior to the issuance of grading permits for any project potentially affecting riparian habitat, the applicant is required to provide evidence that all necessary permits have been obtained from the CDFW (Fish and Game Code Sections 1601–1603). If there are any impacts to sensitive habitat, the project would be required to comply with mitigation recommended in the biological resources analysis (see General Plan Program ER 1.1.1). In conclusion, projects affecting riparian habitat in the City would be required through the existing permitting process to mitigate potential impacts to riparian areas. Consequently, impacts would be *less than significant*. 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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The area surrounding Big Bear Lake and drainages to the lake could contain federally protected wetlands.

GHG reducing project features that could be implemented under the GHG Performance Standard measure (PS-1) for the City could include energy efficiency standards for new development, energy efficiency retrofits for existing buildings, water conservation measures, transportation measures to reduce trips and vehicle miles traveled, waste diversion programs. Implementation of these types of reduction measures will not affect bodies of water or wetlands.

Increased renewable energy generation will also be developed during implementation of the proposed Regional Reduction Plan. However, these types of projects are not likely to affect bodies of water or wetlands. In the unlikely event that a renewable energy project results in impacts to federally protected wetlands or waters of the state, the project would be required to prepare a wetland delineation pursuant to the CWA and CDFW requirements (see General Plan Program ER 1.1.9). That project would be subject to approval by the USACE through a Section 404 Permit and/or approval by the CDFW through Streambed Alteration Agreements. If a Section 404 Permit from the USACE is required, a Section 401 Water Quality Certification will also be required from the Santa Ana RWQCB. The applicable permits would require mitigation as determined by the USACE, RWQCB, and/or CDFW for any consequent impacts. Consequently, impacts would be *less than significant*. No mitigation is required.

Threshold	Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?
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Regional wildlife corridors in the City include Big Bear Lake, the unoccupied slopes of the surrounding mountains, and streams that drain the Big Bear watershed. As discussed above related to riparian habitat, implementation of the Regional Reduction Plan is not anticipated to result in impacts to areas near bodies of water. Additionally, projects with the potential to impact sensitive resources, including sensitive habitat, would be required to comply with mitigation recommended in a project-specific biological resources analysis. Projects with the potential to impact stands of trees, such as those on undeveloped slopes, would be required to demonstrate compliance with the City's Tree Conservation Ordinance, which would ensure connected areas of forest habitat. Therefore, implementation of the Regional Reduction Plan is not anticipated to impair the use of wildlife movement corridors.

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

Threshold	Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?
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Implementation of the Regional Reduction Plan would be required to comply with Big Bear Lake General Plan policies and the Tree Conservation Ordinance in the City's Municipal Code, which require proper assessment of biological resources and onsite trees before authorizing development. Compliance would require the incorporation of mitigation for any identified sensitive biological resources, and proper management of onsite trees. Projects that implement the Regional Reduction Plan would be required to demonstrate compliance with the General Plan policies and the City's Municipal Code during the City's development review process. Consequently, impacts would be *less than significant*. No mitigation is required.

Threshold	Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?
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There are no local habitat conservation plans or natural community conservation plans that apply to the City of Big Bear Lake. Compliance with the City's existing development review process would require mitigation for sensitive species, and the City's Tree Conservation Ordinance would ensure preservation of large stands of trees. These City programs encourage consistency with the adjacent Forest Service LMP. Therefore, impacts would be *less than significant*. No mitigation is required.

## ■ Cumulative Impacts

Threshold	Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?
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As discussed at a project-level analysis, the Regional Reduction Plan does not directly result in removal of vegetation or wildlife in the City because the Regional Reduction Plan does not confer entitlements for development. The Regional Reduction Plan does include an increase in renewable energy sources within the City. Renewable energy generation facilities could potentially be built on vacant land that might contain habitat. After compliance with the City's survey requirements and applicable requirements of the California and federal endangered species acts, renewable energy facilities built during implementation of the proposed Regional Reduction Plan would not have substantial adverse impacts on sensitive animal species at a project-level. Because the City, state, and federal biological resources requirements are intended to protect biological resources at a regional level, and individual projects implementing the Regional Reduction Plan would be in compliance with these regional protections, the project's ***cumulative impact would also be less than significant.***

Threshold	Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?
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Increased renewable energy generation could be proposed during implementation of the proposed Regional Reduction Plan. As stated previously, individual projects undergoing development review in the City would be required to determine whether there is potential habitat onsite for sensitive species. If sensitive species were found onsite, the project proponent would be required to consult with the CDFW and other agencies as applicable regarding impacts to sensitive species and ensuing mitigation. Projects affecting sensitive habitat in the City would be required through the existing permitting process to mitigate potential impacts to riparian areas or other sensitive habitat. This existing permitting process substantially limits degradation of habitat on a regional level. Therefore, on a cumulative level, implementation of the proposed project would not substantially degrade the sensitive habitat on a regional basis, and the ***cumulative impact would be less than significant.***

Threshold	Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?
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Increased renewable energy generation could be proposed during implementation of the proposed Regional Reduction Plan. However, these types of projects are not likely to affect bodies of water or wetlands. In the unlikely event that a renewable energy project results in impacts to waters of the state, that project would be subject to approval by the USACE through a Section 404 permit and/or the CDFW through Streambed Alteration Agreements and would require mitigation as determined by the USACE and/or CDFW for any consequent impacts. With Section 404 permits and Streambed Alteration

Agreements, impacts to water bodies would be minimal and not result in cumulative impacts. The ***cumulative impact would be less than significant.***

Threshold	Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?
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Regional wildlife corridors in the City include Big Bear Lake, the unoccupied slopes of the surrounding mountains, and streams that drain the Big Bear watershed. However, implementation of the Regional Reduction Plan will not impair the use of these areas in the City as wildlife movement corridors. Development of renewable energy generation projects under the Regional Reduction Plan would be required to comply with the federal MBTA. Therefore, the Regional Reduction Plan is not anticipated to have substantial adverse impacts to migratory birds. Because the Regional Reduction Plan would have no impact on wildlife corridors at a project-level, the Regional Reduction Plan will not participate in a cumulative impact. Furthermore, compliance with the MBTA reduces both potential project-level and cumulative impacts to migratory birds to less than significant. Consequently, the ***cumulative impact would be less than significant.***

Threshold	Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?
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Projects proposed under the Regional Reduction Plan and cumulative projects in the City would be required to demonstrate compliance with City requirements related to biological resources during the project's development review process, including the Tree Conservation Ordinance. Therefore, there would be ***no cumulative impact.***

Threshold	Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?
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There are no regional habitat conservation plans or natural community conservation plans that apply to the City at this time. Therefore, there would be ***no cumulative impact.***

## ■ References

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## 4.2.5 Cultural Resources

This section of the EIR analyzes the potential environmental effects on cultural resources in the City of Big Bear Lake from implementation of the Regional Reduction Plan. . Data for this section were taken from Big Bear Lake General Plan (1999a) and associated environmental document (1999b), and searches conducted on-line for resources listed in the NRHP and CRHR (OHP 2013). Full reference-list entries for all cited materials are provided at the end of this section.

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

### ■ Environmental Setting

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

#### ***Prehistoric Setting***

The City lies within a region known to contain prehistoric archaeological materials; however, only a small number of sites have been recorded in the area. This is presumably due to extensive development or because the valley floor was flooded by the Lake when the Old Bear Valley Dam was built in the 1880s. Known prehistoric resources consist of trails, a seasonal habitation site (CA-SBR-1650/H, now occupied by residential development), a bedrock milling site (CA-SBR-6009, now moved from its original location), and waste products from chipped stone tool production (Big Bear Lake 1999a, 1999b).

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

The City of Big Bear Lake is situated within the Serrano traditional use area. The Serrano traditional use area 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 (Bean and Smith 1978). However, these borders are ill defined, due to a lack of reliable data and to the Serrano sociopolitical organization. The Serrano were organized into autonomous lineages occupying defined territories; however, these groups rarely identified a permanent habitation site. These groups were neither politically aligned, nor were they socially connected outside of each localized lineage (Strong 1972). For these reasons, the borders of the arbitrarily grouped Serrano peoples would vary greatly from lineage to lineage, depending upon their respective worldviews. Of the various Serrano clans, the Pervetum were found in the area from the Santa Ana River headwaters to Big Bear Valley and the Yuhavetum territory extended from Highland to Big Bear Valley (Big Bear Lake 1999a, 1999b).

## Historic Setting

The historic period for the City of Big Bear Lake commenced in 1845, when Governor Pio Pico commissioned Benjamin Wilson to lead an expedition against a band of Native Americans on the Mojave River. During this expedition, Wilson led the group through the eastern section of the San Bernardino Mountains, which had remained virtually unexplored. Upon arrival at the site of what is now Big Bear Lake, the men found a lake and swamp area full of bear, which prompted Wilson to name the lake after the bear (Big Bear Lake 1999a, 1999b).

In 1851, nearly 500 Mormons arrived in the San Bernardino Valley. After purchasing 35,000 acres of the San Bernardino Rancho, the Mormon settlers built a stockade around the rancho and named it Fort San Bernardino. They also began large scale lumbering in the San Bernardino Mountains. Brigham Young recalled the Mormons to Salt Lake City in 1857, and the Mormon sawmill owners began selling their holdings to various buyers. In this manner, the lumbering era in the San Bernardino Mountains began (Big Bear Lake 1999b; SBRA 2005).

On May 4, 1860, the Bear Valley gold rush started when William F. Holcomb and Ben Choteau discovered placer deposits on a hillside above the valley. This discovery led to southern California's largest gold rush. By September of 1860, as many as 1,000 people were mining and prospecting in the area and the largest boomtown was established in Upper Holcomb Valley as Belleville. The population of Belleville rivaled San Bernardino in population and almost became the county seat. As a result of the intensive mining activity in the area and settlements like Belleville, the first road was established into the mountains, and the first telegraph, telephone and electricity were brought to the area. The site of Belleville is located approximately 4.30 miles from the City of Big Bear Lake (Big Bear Lake 1999a; OHP 2013).

By 1870, communities such as San Bernardino, Redlands, and Riverside had started to transition from the raising of stock animals to the cultivation of citrus and other vegetable crops. As such, the demand for water to irrigate these crops grew very quickly. A remedy was found at the western end of Bear Valley, where the watershed appeared capable of producing enough water to irrigate approximately 4,000 downstream acres. Frank E. Brown, an engineer from Riverside, developed a plan to control and convey irrigation water from Bear Valley and construction started on the Old Bear Valley Dam in the late summer of 1883. In the fall of 1883, Brown organized the Bear Valley Land and Water Company. In 1903, the Bear Valley Mutual Water Company was formed by the citrus producers of the Redlands-Highland area to own and operate the dam. In 1910/11, the Bear Valley Mutual Water Company constructed a new, 72-foot-high, multiple-arch dam approximately 100 yards downstream of the Old Bear Valley Dam. This was completed to meet the increasing demands for irrigation water in the San Bernardino Valley (Big Bear Lake 1999a, 1999b).

The construction of the Bear Valley Dam led to the area becoming a vacation and camping attraction for residents of the San Bernardino Valley. Thereafter, the Bear Valley Hotel was constructed in 1888 and a toll road was created. By 1906, the first substantial real estate transaction occurred and the Pine Knot Resort Company was established. In 1915, the Rim of the World Drive allowed the average motorist to access the area. Easier access and an increasing number of resorts led to the steady growth of the area through the World War II era. At this time, the Bear Valley Mutual Water Company subdivided the lands

adjacent to the Lake into residential lots. In 1980, the City of Big Bear Lake was incorporated as the first city in the San Bernardino Mountains (Big Bear Lake 1999a).

## ***Historical Resources in the City of Big Bear Lake***

### **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). At the state level, resources can additionally be recognized as California Historic Landmarks (CHLs) and the California Points of Historic Interest (PHIs). Resources can often be designated locally; however, the City of Big Bear Lake has not established specific 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.

No NRHP or CRHR listed resources are located in the City. In addition, no listed CHLs or PHIs are found in the City of Big Bear Lake (Big Bear Lake 1999a; OHP 2013). However, resources may be present in the City which may be found eligible for listing on the NRHP or the CRHR upon future identification and evaluation. In addition, several significant resources are located in the vicinity of the City, including several CHLs and PHIs, with two of these resources listed on the NRHP and CRHR. These significant resources found in the vicinity of the City are listed below.

The CHLs in the vicinity of City of Big Bear Lake are (Big Bear Lake 1999a; OHP 2013):

- Holcomb Valley, also listed on the NRHP/CRHR and located approximately 4.3 miles northwest of the City of Big Bear Lake
- Old Bear Valley Dam

The California PHIs in the vicinity of City of Big Bear Lake are (Big Bear Lake 1999a; OHP 2013):

- Bairdstown
- Baldwin Lake
- Happy Hill Resort, Tidwell House
- Henry Washington Survey Marker, also listed on the NRHP/CRHR
- Rose Mine
- Van Dusen/Coxey Road

### ***Known Cultural Resources in the City of Big Bear Lake***

Prehistoric resources are the physical remains of past human activities, and represent the material culture reflective of groups that preceded Euro-American contact and settlement. In the City, prehistoric resources consist of trails, a seasonal habitation site (CA-SBR-1650/H, now occupied by residential development), a bedrock milling site (CA-SBR-6009, now moved from its original location), and waste

products from chipped stone tool production (Big Bear Lake 1999a, 1999b). Areas identified as sensitive for prehistoric resources are presented in Figure 4.2.5-1 (Prehistoric Cultural Resources Sensitivity Map).

Known historic age resources include a sparse scatter of glass, nails and a shotgun shell at the previously mentioned CA-SBR-1650/H (now occupied by residential development), a remnant of the Bear Valley and Redlands Toll Road (CA-SBR-8094H, now Mill Creek Road in the City), old cabin remains, and the Highway 18 Bridge over Metcalf Creek constructed in 1924 (CHS-2315-1) (Big Bear Lake 1999a, 1999b). Areas identified as sensitive for historic age resources are presented in Figure 4.2.5-2 (Historic Age Cultural Resources Sensitivity Map).

### **Paleontological Resources**

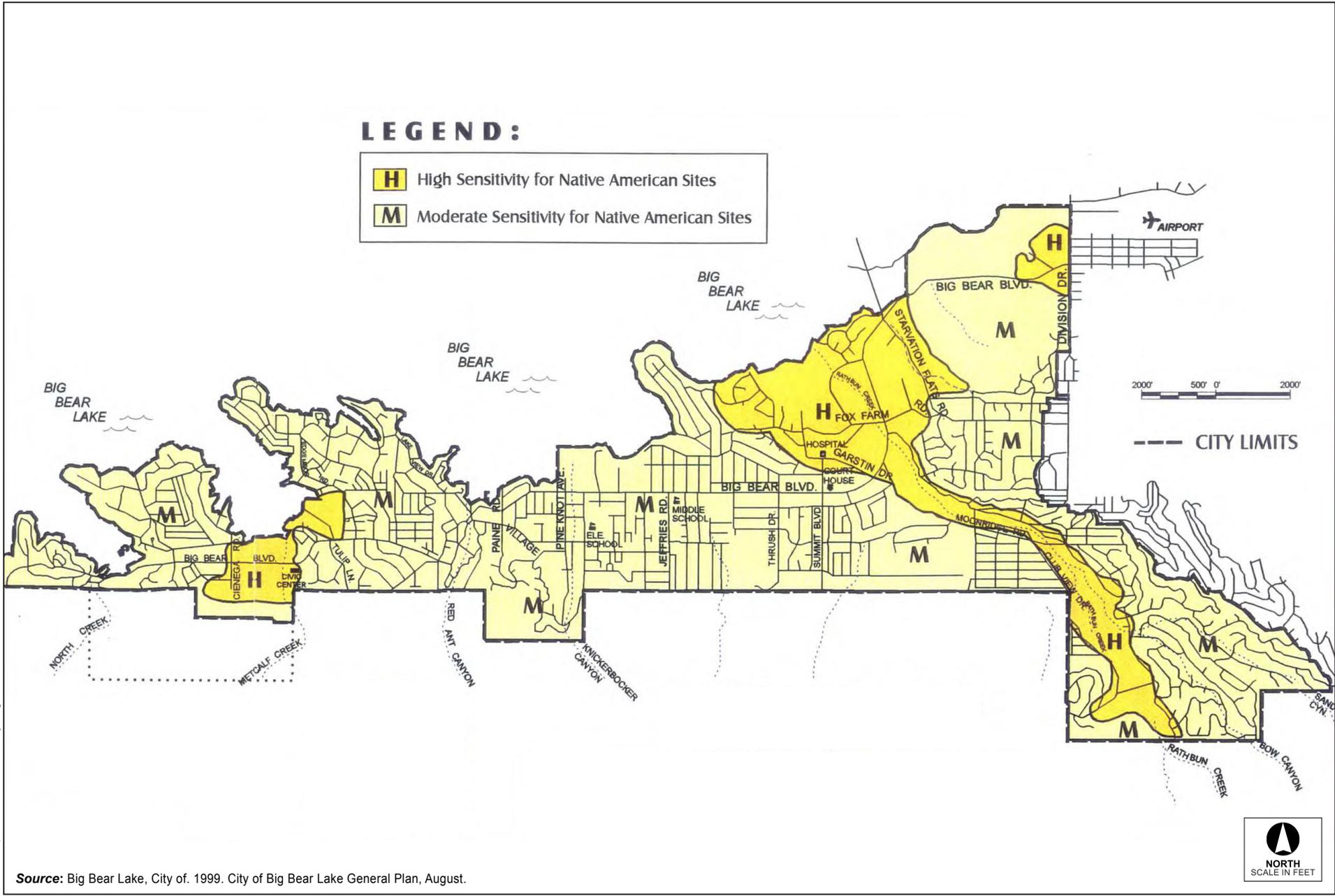
Paleontological resources are the fossilized remains of organisms from prehistoric environments found in geologic strata. These are valued for the information they yield about the history of the earth and its past ecological settings. There are two types of resources; vertebrate and invertebrate. These 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.

## **■ 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:

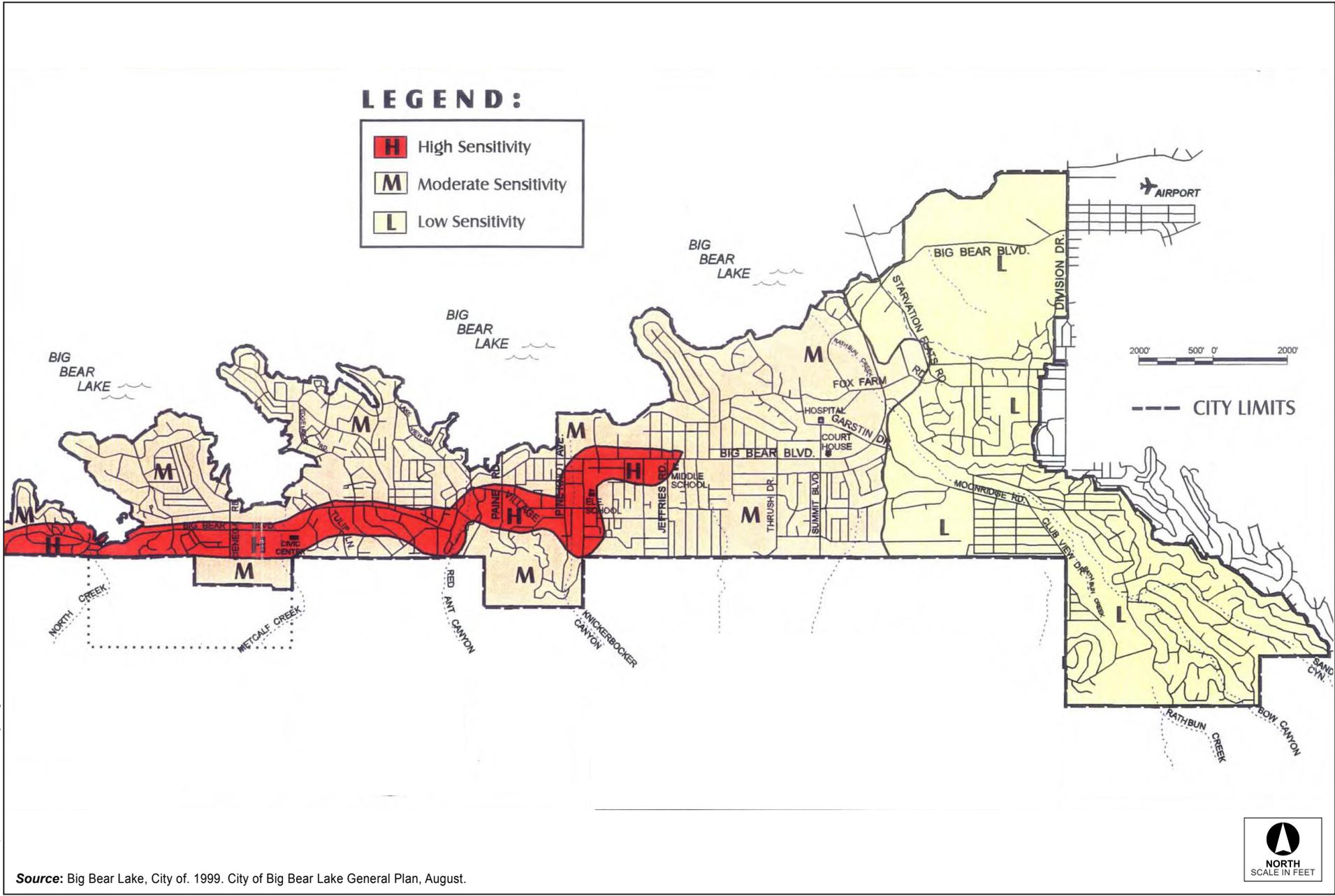
- (a) Are associated with events that have made a significant contribution to the broad patterns of our history
- (b) Are associated with the lives of persons significant in our past
- (c) Embody the distinctive characteristics of a type, period, or method of construction, or that possess high artistic 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



Source: Big Bear Lake, City of. 1999. City of Big Bear Lake General Plan, August.

Figure 4.2.5-1  
Prehistoric Cultural Resources Sensitivity Map

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Source: Big Bear Lake, City of. 1999. City of Big Bear Lake General Plan, August.

Figure 4.2.5-2  
Historic Age Cultural Resources Sensitivity Map



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

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

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

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

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

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

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

## State

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

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

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

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

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

(CEQA Guidelines Section 15064.5(a)(3))

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

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

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

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

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

(PRC Section 21083.2(g))

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

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

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

### **California Public Resources Code 5097.5**

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

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

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

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

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

### **California Public Resources Code Section 5097.98**

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

### **Senate Bill 18**

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

## **Regional**

### **County of San Bernardino Development Code**

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

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

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

## **Local**

### **City of Big Bear Lake Municipal Code**

Title 15 (Buildings and Construction), Section 64.050 (Definitions), defines historic structures as structures that are:

- A. Listed individually in the NRHP (a listing maintained by the Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the NRHP;
- B. Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district; or
- C. Individually listed on a state inventory of historic places in states with historic preservation programs that have been approved by the Secretary of Interior.
- D. Any structure designated by the City Council as having historical significance to the residents of the city.

## Big Bear Lake General Plan

The General Plan addresses archaeological and historic resources in the Environmental Resources Element of the General Plan. The goal, policies, and programs that are applicable to archaeological and historic resources<sup>4</sup> are as follows:

**Goal ER 2** Preservation, maintenance, and enhancement of the City’s heritage and resources, including historic and prehistoric cultural artifacts and traditions.

**Policy ER 2.1** The City shall take reasonable steps to ensure that cultural resources are located, identified and evaluated, and assure that appropriate action is taken as to the disposition of these resources.

**Program ER 2.1.1** Development proposals on sites occurring within areas which are determined through initial evaluation to be potentially significant shall be routed to the San Bernardino Archaeological Information Center (AIC) at the San Bernardino County museum in Redlands, or other appropriate agency, for comment during initial environmental review in accordance with the notice and comment provisions applicable to responsible agencies under CEQA.

**Program ER 2.1.2** For new development projects on sites recommended for further study based on a high probability of resources on the site, a cultural resource analysis performed by a qualified professional may be required as part of the CEQA review process, and mitigation measures will be required as deemed appropriate.

**Policy ER 2.2** The City shall encourage and support all reasonable efforts to ensure the protection of sensitive archaeological and historic resources from vandalism and illegal collection.

**Program ER 2.2.1** Only those with appropriate professional and organizational ties, property owners or prospective property owners shall be provided access to mapping information and similar location-oriented resource information available at the City, to the extent permitted by law.

**Policy ER 2.3** The City shall encourage and support the listing of properties, structures or sites as potential historic landmarks and their inclusion as local or State Historic places, or National Register of Historic Places, as deemed appropriate.

**Program ER 2.3.1** The City shall cooperate with local recognized historical associations to review the historical and archaeological resources of the area for possible application for status as a historical landmark or inclusion as local or State Historical Places, or National Register of Historic Places, as needed.

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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.

**Program ER 2.3.2** In cooperation with local recognized historical associations, the City will encourage and support the reasonable maintenance, protection and enhancement of cultural resources as valuable assets to the City’s economic and tourism resources.

## ■ Project Impact Evaluation

### **Thresholds of Significance**

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

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

### **Analytic Method**

The following analysis considers the presence and absence of historical, archaeological, or paleontological resources within the City. Historical resources include any resource listed in or determined to be eligible for listing in the NRHP, CRHR, certain CHLs and PHIs, as well as resources of regional or local significance that have been identified in a local historical resources inventory. 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 Big Bear Lake, various City planning documents were reviewed, and searches were conducted on-line for resources listed in the NRHP and CRHR (Big Bear Lake 1999a, 1999b; OHP 2013).

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

Threshold	<p>Would the project cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5?</p> <p>Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?</p> <p>Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?</p>
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There are no NRHP or CRHR listed resources are located in the City. In addition, no listed CHLs or PHIs are found in the City of Big Bear Lake (Big Bear Lake 1999a; OHP 2013). However, resources may be present in the City which may be found eligible for listing on the NRHP or the CRHR upon future

identification and evaluation. Areas of sensitivity for prehistoric and historic age cultural resources are presented in Figure 4.2.5-1 and Figure 4.2.5-2. 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.”

Archaeological materials associated with occupation of the area are known to exist and have the potential to provide important scientific information regarding history and prehistory. Areas of sensitivity for prehistoric and historic age cultural resources are presented in Figure 4.2.5-1 and Figure 4.2.5-2. 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.

Geologic units known to have the potential to yield fossil remains are also found within the City of Big Bear Lake. Therefore, ground-disturbing activities could have the potential to impact paleontological resources.

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

## ■ Cumulative Impacts

The cumulative analysis for impacts on cultural resources considers a broad regional system of which the resources are a part. The cumulative context for the cultural resources analysis is the San Bernardino Mountains and the San Bernardino Valley. In these areas, common patterns of prehistoric and historic development have occurred. The analysis accounts for anticipated cumulative growth within the region. In these areas, common patterns of prehistoric and historic development have occurred. Based upon existing studies outlining intense resource use in this region, and the documented, observable material culture (i.e., artifacts) recovered from the prehistoric era to the present, the San Bernardino Mountains and the San Bernardino Valley 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.

Urban development that has occurred over the past several decades in the San Bernardino Mountains and the San Bernardino Valley 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 non-renewable 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.

There is a broad range of measures that could be implemented by Participating Cities that, along with future growth in the region, have the potential to result in cultural resources impacts if ground disturbance occurs or if the historic integrity or context of significant resources is affected. Impacts to such resources would be determined on a discretionary case-by-case basis, and would be required to follow CEQA, and adopted City and County policies pertaining to cultural resources protection. For future discretionary projects occurring under the Regional Reduction Plan and cumulative development, environmental review would occur at project-level and would require mitigation.

Implementation of the GHG reduction measures selected by Big Bear Lake are not anticipated to result in impacts on historical, archaeological, and/or paleontological resources due to the small scale and extent of those measures. However, in the event that there were minimal impacts, any potential impacts would be mitigated to levels that would not be significant through implementation of existing City policies and ordinances. Therefore, implementation of the GHG reduction measures identified in the Regional Reduction Plan for Big Bear Lake would not result in a cumulatively considerable contribution with regard to historical, archaeological, and paleontological resources, and the ***cumulative impact would be less than significant.***

Cumulative development, including the Regional Reduction Plan, could disturb 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, the *cumulative impact would be less than significant*.

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## 4.2.6 Geology/Soils

This section of the EIR analyzes the potential environmental effects on geology/soils in the City of Big Bear Lake from implementation of the Regional Reduction Plan. Data for this section were taken from Big Bear Lake General Plan (1999a) and associated environmental document (1999b), and the technical background report prepared for the General Plan (1997). Full reference-list entries for all cited materials are provided at the end of this section.

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

### ■ Environmental Setting

#### **Geology and Physiography**

The City of Big Bear Lake and the General Plan planning area are located in the Transverse Ranges physiographic province of Southern California, in the center of the San Bernardino Mountains. In the late Quaternary, tectonic forces associated with plate motions at the boundary of the North American and Pacific plates, and subsequent crustal adjustments, have elevated the mountains to their present elevations of between 6,000 and 11,500 feet above mean sea level. The City of Big Bear Lake is situated in Big Bear Valley, a bedrock-enclosed basin infilled with Quaternary sediments consisting of alluvial (stream-deposited), colluvial (sediment deposited at the base of steep slopes), and lacustrine (lake) sediments or deposits. Bedrock on the western side of the Valley is predominantly granitic rocks (quartz diorite, granodiorite and quartz monzonite) with minor monzonite and diorite at Delamar Mountain.

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

There are no active or potentially active faults that cross the planning area. However, there are a number of faults that are capable of generating strong groundshaking in the area. These include the San Bernardino Mountains and Coachella Valley segments of the San Andreas fault zone, Helendale fault, North Frontal fault zone, Lenwood-Old Woman fault, San Gorgonio-Banning fault, and Johnson Valley fault. In addition, unnamed faults, such as one that caused the 1992 Big Bear earthquake, also present a hazard. Earthquakes on these faults are capable of producing moderate to severe groundshaking. Liquefaction hazard is potential hazard in areas along the lake and inland in the northern and central part of the City where Holocene alluvial sediments and shallow groundwater occur. The steep hillside terrain in and around the City is susceptible to seismically induced settlement, landslides, and rockfalls, particularly in the southern and eastern portions of the planning area. Big Bear Lake may also present a seiche hazard.

#### **Other Geologic and Soils Hazards**

##### **Rockfalls, Landslides, and Slope Instability**

Areas within the City that have a high susceptibility to rockfall, landslides, and other slope instability problems are generally limited to relatively steep slopes that underlie about 20 percent of the planning area, including the southernmost portions of the City. Areas that are moderately susceptible to slope

instability problems comprise approximately 50 percent of the City, generally in the central and western portions of the City.

### **Collapsible Soils**

Big Bear Valley, where the City is situated, is a bedrock-enclosed basin filled with geologically young sediments that may be susceptible to collapse, consolidation, and/or hydrocompaction.

### **Erosion**

Wind erosion is a minor to moderate potential hazard in Big Bear City.

## **■ 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 Earthquake Fault Zones in Big Bear Lake.

#### **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 Big Bear Lake 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 Big Bear Lake has adopted the 2010 CBC (Municipal Code Section 15.04.010, Ordinance 2010-411 § 2, 2010).

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). Appendix J of the CBC includes, but is not limited to, grading requirements for the design of excavations and fills (Sections J106 and J107) and for erosion control (Sections J109 and J110). Construction activities are subject to occupational safety standards for excavation, shoring, and trenching as specified in Cal-OSHA regulations (CCR Title 8).

### **Natural Hazards Disclosure Act**

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

### **Regional**

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

### **Local**

#### **City of Big Bear Lake Municipal Code**

City Municipal Code Section 15.04.010 implements the seismic and geologic hazards standards of the 2010 CBC. Section 17.09.020 (Development Procedures and Standards) establishes requirements for

geologic, slope, and soils studies and performance standards. Item G of that section sets forth requirements for a Soil Erosion and Sediment Control Plan.

## Big Bear Lake General Plan

The Big Bear Lake General Plan policies that are applicable to geologic and soil resources and hazards<sup>5</sup> are as follows:

### Community Design Element

- Policy CD 1-2** New development in hillside areas should be designed in consideration of the natural terrain, through the following measures:
- a. Project design should not substantially change the natural slope of the site.
  - b. Buildings constructed on hillsides should step to follow the natural terrain.
  - c. The alignment of roads and driveways should follow the contours of the site to minimize cuts and fills, preserve natural drainage patterns, and produce roads that are easier for drivers to negotiate; roads should not be constructed perpendicular to contours.
  - d. Site design should not change natural drainage patterns.
  - e. Abrupt grade changes at property lines and at tree drip lines should be avoided.
  - f. Every effort should be made to minimize the limits of construction and disturbance on hillside sites; stock piling of materials and equipment should occur within construction limits.
  - g. Surface drainage systems such as swales are preferable to underground systems.
  - h. Slopes should be no steeper than 2-to-1 unless warranted by qualified soils engineering information.
  - i. Cuts and fills should have good surface drainage, be revegetated, and terraced or controlled by retaining walls, to protect against erosion and sedimentation.

### Environmental Hazard Element, Geotechnical Hazards

- Policy EH 1-1** Ensure that new development proposals are evaluated for potential geotechnical impacts and that these impacts are mitigated to an acceptable level.

## ■ 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:

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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.

- > 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 Table 18-1-B of the Uniform Building Code (1994), 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 Big Bear Lake 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	<p>Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:</p> <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 Big Bear City. There would be *no impact* from fault rupture. However, Big Bear City is subject to moderate to severe groundshaking on local and regional faults, including segments of the San Andreas fault, Helendale fault, North Frontal fault zone, and others. Groundshaking could cause liquefaction, which is a hazard in the northern and central parts of the City, and rockfalls and slope instability in the steep terrain in the southern part of the City.

Implementation of reduction measure PS-1 under the Regional Reduction Plan would include several options to accomplish performance standards including energy efficiency measures, transportation reduction measures, and/or renewable energy measures. 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. New development would be required to comply with the applicable seismic safety requirements 2010 CBC and the City's Development Code. With implementation of General Plan Policy EH 1-1 and the City's Municipal Code Section 17.09.020, which would be accomplished through City review of development proposals and as part of the permitting process, potential impacts as a result of implementation of the Regional Reduction Plan would be **less than significant**. No mitigation is required.

Threshold	Would the project result in substantial soil erosion or the loss of topsoil?
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Wind erosion is a moderate hazard in Big Bear City. Energy-efficiency features in new development would be integral to that development. City of Big Bear Lake Municipal Code Section 17.09.020.G places requirements on new development within the City to reduce, eliminate, and prevent conditions of accelerated erosion. These include areas within or adjacent to hillsides and additional requirements if construction is to occur during the rainy season, design considerations, runoff control, and restrictions on land clearing. This would reduce soil erosion potential related to construction activities associated development projects implementing PS-1 under the Regional Reduction Plan. Consequently, potential impacts as a result of implementation of the Regional Reduction Plan would be **less than significant**. No mitigation is required.

Threshold	Would the project be located on 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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As noted above, areas of the City are susceptible to unstable geologic and soils hazards such as liquefaction, settlement, and slope instability. Potential impacts would be specific to each new development project that would be developed in accordance with the General Plan, and hazards would depend largely on location and would be site-specific. Implementation of Reduction Measure PS-1 under the Regional Reduction Plan would include several options to accomplish performance standards including energy efficiency measures, transportation reduction measures, and/or renewable energy measures. These features would be integral to that development, which could be exposed to unstable geologic or soils hazards. Implementation of General Plan Policies EH 1-1 and CD 1-2 concerning hillside development and the City's Development Code Section 17.09.020 would reduce potential hazards through City review of development proposals and as part of the permitting process. Consequently, potential impacts as a result of implementation of the Regional Reduction Plan would be **less than significant**. No mitigation is required.

Threshold	Would the project be located on expansive soil, as defined in 2010 California Building Code Section 1803.5.2, creating substantial risks to life or property?
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Potential expansive soil impacts would be specific to future project sites that could be developed under the General Plan and would depend largely on the areas affected and the length of time soils are subject to erosion. Implementation of Reduction Measure PS-1 under the Regional Reduction Plan would include several options to accomplish performance standards including energy efficiency measures, transportation reduction measures, and/or renewable energy measures. These features would be integral to that development, which could be exposed to expansive soils hazards. Implementation of General Plan Policy EH 1-1 and the City's Development Code Section 17.09.020, which would require site-specific soils reports, would reduce potential hazards through City review of development proposals and as part of the permitting process. Consequently, potential impacts as a result of implementation of the Regional Reduction Plan would be ***less than significant***. No mitigation is required.

Threshold	Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?
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Regional Reduction Plan reduction measure PS-1 (GHG Performance Standard) would not involve the use of septic tanks or alternative wastewater disposal systems. There would be ***no impact***.

## ■ Cumulative Impacts

Future growth envisioned in the General Plan could be affected by seismic hazards or other geotechnical conditions, or could cause erosion. Geologic and soils hazards and erosion are typically site-specific and do not combine to produce cumulative effects. Policies in the General Plan and adherence to the 2010 CBC and City standards for development, as established in the Municipal Code, would reduce impacts of new development to the extent required by law.

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

## ■ References

Big Bear Lake, City of. 1999a. *City of Big Bear Lake Final Environmental Impact Report for the Comprehensive General Plan*, July.

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California Geological Survey, Seismic Hazards Mapping Program. 2008. *Official Maps Released in Southern California*.

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

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## 4.2.7 Greenhouse Gas Emissions

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

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

### ■ Environmental Setting

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

The City of Big Bear Lake emitted approximately 96,139 metric tons (MT) of carbon dioxide equivalents (CO<sub>2</sub>e) in 2008. The emissions were calculated based on the 2012RTP traffic modeling, data from utilities, and land use. The largest portion of the City's 2008 emissions were from electricity and natural gas use in buildings (43.7 percent), followed by emissions from transportation (38.8 percent). Table 4.2.7-1 (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.

<i>Category</i>	<i>Metric tons of CO<sub>2</sub>e</i>
Building Energy	42,010
On-Road Transportation	37,301
Off-road Equipment	4,362
Solid Waste	11,929
Wastewater Treatment	203
Water Conveyance	334
<b>Total</b>	<b>96,139</b>
Excluded Stationary Sources under Title V Permits <sup>a</sup>	14,019

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 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

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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.

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 Big Bear Lake, depends on surface water supplies originating in the Sierra Nevada, this potential water supply reduction is a concern.

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

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

**Ecosystems and Biodiversity.** Climate change could have effects on diverse types of ecosystems, from alpine to deep sea habitat. As temperatures and precipitation change, seasonal shifts in vegetation would occur, which would potentially have an effect on the distribution of associated flora and fauna species. As the range of species shifts, habitat fragmentation could occur, with acute impacts on the distribution of certain sensitive species. The IPCC states that “20 percent to 30 percent of species assessed may be at risk of extinction from climate change impacts within this century if global mean temperatures exceed 2 to 3°C (3.6 to 5.4°F) relative to pre-industrial levels” (IPCC 2007). Shifts in existing biomes<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 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.

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<sup>7</sup> A biome is a major ecological community classified by the predominant vegetation, and hence animal inhabitants.

## ■ 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) or millions of metric tons (MMT) of 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 MT CO<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 Contract Technology (BACT) if the source has a potential to emit (PTE) at least 75,000 MT CO<sub>2</sub>e per year. In addition new sources that are not regulated under the CAA for other air pollutants, but have a PTE of at least 100,000 MT CO<sub>2</sub>e per year must provide BACT for GHG emissions.

### **Updated Corporate Average Fuel Economy (CAFE) Standards**

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

## **State**

### **California Air Resources Board**

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

### **Executive Order S-3-05**

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

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

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

In 2006, the California State Legislature adopted AB 32, the California Global Warming Solutions Act of 2006. AB 32 focuses on reducing GHGs in California. California ARB has determined the statewide levels of GHG emissions in 1990 to be 427 MMT CO<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 nonprofessional servicing of motor vehicle air conditioning systems; and improved landfill methane capture (California ARB 2007).

### **Assembly Bill (AB) 1493—Pavley Rules**

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

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

SB 1078 and SB 107, California’s Renewable Portfolio Standard (RPS), obligates investor-owned utilities (IOUs), energy service providers (ESPs), and Community Choice Aggregations (CCAs) to procure an additional 1 percent of retail sales per year from eligible renewable sources until 20 percent is reached, no later than 2010. The California Public Utilities Commission (CPUC) and CEC are jointly responsible for implementing the program. SB 2 (2011) set forth a longer-range target of procuring 33 percent of retail sales by 2020.

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

Executive Order S-01-07 mandates (1) that a statewide goal be established to reduce the carbon intensity of California’s transportation fuels by at least 10 percent by 2020 and (2) that an LCFS for transportation fuels be established in California. The executive order initiated a research and regulatory process at California ARB. California ARB developed the LCFS regulation pursuant to the authority under AB 32 and adopted it in 2009. In late 2011, a federal judge issued a preliminary injunction blocking enforcement

of the LCFS, ruling that the LCFS violates the interstate commerce clause (Georgetown Climate Center 2012). The injunction was lifted in April 2012 so that California ARB can continue enforcing the LCFS pending California ARB's appeal of the federal district court ruling.

### **Senate Bill (SB) 375**

SB 375, which establishes mechanisms for the development of regional targets for reducing passenger vehicle greenhouse gas emissions, was adopted by the State on September 30, 2008. On September 23, 2010, California ARB adopted the vehicular greenhouse gas emissions reduction targets that had been developed in consultation with the metropolitan planning organizations (MPOs); the targets require a 7 to 8 percent reduction by 2020 and 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. 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 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 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

#### **Big Bear Lake General Plan**

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

- Policy ER 7.1** Promote energy conservation in all areas of community development, including transportation, development planning, public and private sector office construction and operation, as well as in the full range of residential, commercial and industrial projects.
- Policy ER 6.4** The City shall encourage the use of clean alternative energy sources for transportation, heating and cooling whenever practical.
- Policy ER 4.1** Encourage the use of low water-consuming, drought-tolerant landscape plantings as a means of reducing water demand, and strengthen education/public relations programs to inform residents of the full range of water-saving techniques available.
- Policy C 1.9** Participate in multi-jurisdictional efforts to upgrade and expand the regional street and highway network, and to plan for feasible alternate modes of transportation connecting the Big Bear Valley with other areas.

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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 C 3.1** Enhance accessibility and convenience for bicyclists and pedestrians, and plan for provision of scenic recreational trails in the City where practical.
- Policy C 2.1** Continue to participate in provision of public transit services for City and Valley residents, and expansion of transit service to meet growth when warranted and 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 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 Big Bear Lake for the following scenarios: 2008, 2020 business-as-usual, and 2020 reduced. The 2008 inventory is the baseline; this was the most recent year for which adequate data was available and uniform to all the Partnership Cities. The baseline emissions inventory was also used to establish the reduction target for the year 2020.

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

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

The following summarizes the basis of the GHG calculations by emission source. The emissions and emissions reduction calculations performed for the Regional Reduction Plan followed guidance provided by CAPCOA, other reference sources (such as the USEPA, California Energy Commission, California Air Resource Board, and Intergovernmental Panel on Climate Change), and ICF International's professional experience obtained from preparing climate action plans for other jurisdictions in California. Baseline emissions inventories were completed by quantifying GHG sources in the region based on

information provided by local utility providers, SCAG, and local land use information. These sources were multiplied by GHG emissions factors from a variety of sources, including EMFAC2011, and guidance from the reference sources listed above. 2020 business as usual emissions were estimated based on anticipated growth in the residential and commercial/industrial areas, and the projected increase in VMT determined by SCAG. Refer to Appendices A and B of the Regional Reduction Plan for a detailed methodology of the GHG emissions and emission reduction calculations. The complete Regional Reduction Plan is included in Appendix B of this EIR.

Because the impact each GHG has on climate change varies, a common metric of CO<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 Big Bear Lake totaled 14,019 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 Big Bear Lake would result in the reduction of GHG emissions over the long term, which would be a beneficial effect. Area source reduction strategies such as landscape strategies, cool roofs, cool pavement, and parking lot shading would reduce GHG emissions. Construction activities, such as building energy retrofits and grading or excavation activities, if required, for installation of energy-generating structures, would result in temporary, short-term emissions of GHGs. These temporary, short-term emissions would not be substantial, and would be offset by the operation of energy-efficiency retrofits and renewable energy projects that are part of the reduction measures in the Regional Reduction Plan that would result in an overall reduction in GHG emissions.

Table 4.2.7-2 (GHG Emission Inventories and Reductions in the City of Big Bear Lake) quantitatively shows the reductions of GHG emissions in 2020 that result would result from implementation of the

Regional Reduction Plan in the City of Big Bear Lake 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 4.2.0 (Introduction to the Analysis) of this EIR. Regional Reduction Plan Chapter 4 has additional details of these reduction measures.

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

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 4.2.7-2 (GHG Emission Inventories and Reductions in the City of Big Bear Lake) summarizes the 2008 GHG emissions for the City. The emissions in 2008 totaled 96,139 MT CO<sub>2</sub>e. The largest source of emissions was energy use, followed closely by transportation.

The 2020 BAU emissions inventory for the City was estimated in the Regional Reduction Plan using the 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 4.2.7-2 summarizes the 2020 BAU emissions inventory. The emissions are an estimated at 102,378 MT CO<sub>2</sub>e, an increase of 6,239 MT CO<sub>2</sub>e (or 6.1 percent) from the 2008 baseline. Similar to the 2008 inventory, the largest source of emissions is predicted to be energy use followed closely by emissions associated with transportation. The difference between the BAU-forecasted emissions and the established reduction target for the year 2020 is 20,660 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 21,133 MT CO<sub>2</sub>e of emissions in 2020 which exceeds the reduction goal by approximately 473 MT CO<sub>2</sub>e. This is a reduction of approximately 2.2 percent in 2020. Therefore the Regional Reduction Plan fulfills its own GHG reduction planning.

AB 32 is implemented through the Scoping Plan which is the statewide plan for the reduction of GHG emissions. The Regional Reduction Plan builds complements the statewide efforts of the Scoping Plan by building upon the reduction measures administered by the State. In addition, the AB 32 Scoping Plan shows that statewide emissions would be reduced by approximately 29 percent below 2020 BAU. The Big Bear Lake chapter of the Regional Reduction Plan demonstrates that the City exceeds that level of reduction. All of the reduction measures in the Big Bear Lake 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.

<b>Table 4.2.7-2 GHG Emission Inventories and Reductions in the City of Big Bear Lake</b>					
Category/Emission Source	Metric tons of CO <sub>2</sub> e				
	2008	2020 BAU	Plan Reductions	2020 with Plan	% Reduction
Building Energy	42,010	44,645	1,577	43,068	3.5%
On-Road Transportation	37,301	39,895	9,912	29,983	24.8%
Off-Road Equipment	4,362	4,863	434	4,428	8.9%
Solid Waste Management	11,929	12,250	9,046	3,203	73.8%
Agriculture	0	0	0	0	0%
Wastewater Treatment	203	229	0	229	0%
Water Conveyance	334	498	0	498	0%
GHG Performance Standard for New Development	—	—	163	—	—
<b>Total</b>	<b>96,139</b>	<b>102,378</b>	<b>21,133</b>	<b>81,246</b>	<b>20.6%</b>
<b>Reduction Target</b>	—	—	<b>20,660</b>	<b>81,718</b>	<b>20.2%</b>
Does the Plan Meet the Reduction Target?	No	No	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>
<b>Reductions Beyond Target</b>	—	—	<b>473</b>	—	—
Excluded Stationary Sources under Title V Permits <sup>b</sup>	14,019	15,271			

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).

Descriptions of the reduction measures are shown in Section 4.2.0 of this EIR and are described in further detail in Chapter 4 of the Regional Reduction Plan.

Big Bear Lake will participate in the Regional Reduction Plan reduction measure PS-1 (GHG Performance Standard for New Development):

- PS-1 GHG Performance Standard for New Development**—Individual cities may adopt a GHG Performance Standard for New Development (PS) that would provide a streamlined and flexible program for new projects to reduce their emissions. The PS would be a reduction standard for new private developments as part of the discretionary approval process under CEQA. Under the PS, new projects would be required 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. The PS does not require project applicants to implement a pre-determined set of measures. Rather, project applicants are allowed to choose the most appropriate measures for achieving the percent reduction goal, while taking into consideration cost, environmental or economic benefits, schedule, and other project requirements. SCAQMD does not have CEQA significance thresholds for new nonindustrial development at this time. One potential PS reduction goal could be 29%, based on San Joaquin Air Pollution Control District’s recommended CEQA significance threshold and based on the calculations of reductions necessary at the state level to meet AB 32 at the time of the Scoping Plan (29% below forecasted 2020 levels = 1990 levels based on data available at that time). Another potential minimum goal could be 20% to 22% based on the most recent 2020 forecast

data from CARB. San Bernardino County adopted a performance standard of 31% for certain discretionary projects within the unincorporated county with emissions more than 3,000 MT CO<sub>2</sub>e/year. Projects with less than 3,000 MT CO<sub>2</sub>e/year are still required to meet certain specified performance measures that also result in GHG emission reductions. Big Bear Lake is responsible for this measure.

No General Plan policies correlate with the GHG performance standard for new development reduction measure. Therefore, this impact would be *less than significant*. No mitigation is required.

## ■ Cumulative Impacts

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

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## 4.2.8 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 Big Bear Lake from implementation of the Regional Reduction Plan. Geologic and flood hazards are addressed separately in Section 4.2.6 (Geology/Soils) and Section 4.2.9 (Hydrology/Water Quality), respectively. Data for this section were taken from Big Bear Lake General Plan (1999a) and associated environmental document (1999b). Full reference-list entries for all cited materials are provided at the end of this section.

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

### ■ Environmental Setting

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

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

### ■ Regulatory Framework

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

#### ***Federal***

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

##### *United States Environmental Protection Agency (USEPA)*

The USEPA is the primary federal agency that regulates hazardous materials and waste. In general, the USEPA works to develop and enforce regulations that implement environmental laws enacted by Congress. The agency is responsible for researching and setting national standards for a variety of environmental programs, and delegates to states and tribes the responsibility for issuing permits and for monitoring and enforcing compliance. USEPA programs promote handling hazardous wastes safely, cleaning up contaminated land, and reducing trash. Under the authority of the RCRA and in cooperation

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

#### Resource Conservation and Recovery Act (RCRA)

The RCRA of 1976 is the principal federal law that regulates the generation, management, and transportation of waste. Hazardous waste management includes the treatment, storage, or disposal of hazardous waste. Treatment is any process that changes the physical, chemical, or biological character of the waste to reduce its potential as an environmental threat. Treatment can include neutralizing the waste, recovering energy or material resources from the waste, rendering the waste less hazardous, or making the waste safer to transport, dispose of, or store.

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

#### Comprehensive Environmental Response, Compensation, and Liability Act

The CERCLA of 1980, commonly known as the Superfund, was enacted to protect the water, air, and land resources from the risks created by past chemical disposal practices such as abandoned and historical hazardous wastes sites. Through the act, the USEPA was given power to seek out those parties responsible for any release and assure their cooperation in the cleanup. This federal law created a tax on the chemical and petroleum industries that went to a trust fund for cleaning up abandoned or uncontrolled hazardous waste sites. CERCLA also enabled the revision of the National Contingency Plan, which provided the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants. The National Contingency Plan also established the National Priority List (NPL) of sites, which are known as Superfund sites. CERCLA was amended by the Superfund Amendments and Reauthorization Act on October 17, 1986.

#### Superfund Amendments and Reauthorization Act (SARA)

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

## Emergency Planning and Community Right-to-Know Act (EPCRA)

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

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

## Toxic Substances Control Act

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

## **Airport Hazards**

### *Federal Aviation Administration (FAA)*

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

## Fire Hazards

### *Federal Emergency Management Agency (FEMA)*

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

## State

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

#### *California Department of Toxic Substances Control (DTSC)*

DTSC is a department of California Environmental Protection Agency (Cal/EPA), which authorizes DTSC to carry out the RCRA program in California to protect people from exposure to hazardous wastes. The department regulates hazardous waste, cleans up existing contamination, and looks for ways to control and reduce the hazardous waste produced in California primarily under the authority of RCRA and in accordance with the California Hazardous Waste Control Law (California Health and Safety Code Division 20, Chapter 6.5) and the Hazardous Waste Control Regulations (California Code of Regulations [CCR] Title 22, Divisions 4 and 4.5). Permitting, inspection, compliance, and corrective action programs ensure that people who manage hazardous waste follow state and federal requirements and other laws that affect hazardous waste specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning. San Bernardino County, including the City of Big Bear Lake, is in DTSC's Southern California region.

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

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

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

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

#### Hazardous Material Spill/Release Notification Guidance

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

- Health and Safety Codes Sections 25270.7, 25270.8, and 25507
- Vehicle Code Section 23112.5
- Public Utilities Code Section 7673, (PUC General Orders #22-B, 161)
- Government Code Sections 51018, 8670.25.5(a)
- Water Code Sections 13271, 13272
- California Labor Code Section 6409.1(b)10

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

#### **Airport Hazards**

##### *California Department of Transportation (Caltrans)*

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

## Fire Hazards

### *California Department of Forestry and Fire Protection (CALFIRE)*

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

### *California Uniform Fire Code*

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

### *California Fire Plan*

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

## Regional

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

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

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

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

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

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

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

#### *County of San Bernardino Hazardous Waste Management Plan*

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

Department HMD. As further required by the state, all cities in San Bernardino County must also adopt a City HWMP.

### *Hazardous Materials Disclosure Programs*

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

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

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

Businesses are required to update their business plan with the San Bernardino County Fire Department HMD annually. The entire plan must be reviewed and recertified every 3 years. In addition, the plan must be revised within 30 days of change of owner, business address, business name, emergency contact information, inventory, or other site conditions that may significantly impact emergency response.

### *Hazardous Materials Incident Response*

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

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

- The names of response coordinators at local facilities
- A plan for conducting exercises to test the plan

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

## **Airport Hazards**

### *Big Bear City Airport*

An Airport Comprehensive Land Use Plan was adopted for Big Bear City airport in February 1992 by the San Bernardino Planning Department. The airport operates one runway, oriented in an east-west direction, and serves general aviation aircraft ranging from gliders to small corporate jets (Big Bear Airport 2013). The airport is located adjacent to the northeast corner of the City. The northeast area of the city is located within the airport's Safety Review Area 3. Safety Review Area 3 includes the airport's imaginary surfaces: the transitional surfaces, the horizontal surface, and the approach surfaces. The purpose of these surfaces is to provide obstruction criteria to avoid potential hazards. Most land uses are normally acceptable in Safety Review Area 3.

## **Fire Hazards**

### *San Bernardino County Office of Emergency Services (OES)*

The OES is also a division of the San Bernardino County Fire Department and is responsible for broad disaster planning and emergency services coordination throughout the county, including the City of Big Bear Lake. OES looks broadly at emergency responses to wildfires, earthquakes, or other disasters affecting the region. The goal of the OES is to improve public and private sector readiness, and to mitigate local impacts resulting from natural or man-made emergencies through disaster preparedness planning and appropriate response efforts with city departments and local and state agencies. While OES does not directly manage field operations, it manages an Incident Command Post to ensure coordination of disaster response and recovery efforts through its day-to-day program management and during an incident/disaster. The division also manages and operates the Emergency Operations Center (EOC), which is the primary coordination point for disasters and major emergencies. In the event of a disaster or an incident requiring complex coordination, preselected and trained responders report to the San Bernardino County Operational Area EOC. The 100-plus responders have been trained to perform specific functions designated under the Standardized Emergency Management System to coordinate emergency management of disasters. These responders are available 24 hours a day 7 days a week. OES conducts annual exercises in the EOC to test the readiness of various types of disasters and large-scale emergencies.

The OES is also responsible for the countywide Emergency Management Plan (EMP), which is currently under revision. The plan identifies hazards and response, roles and responsibilities, and other key activities of government during a disaster. The office also maintains copies of the EMPs for the 24 cities/towns in the operational area. The OES assists county unincorporated communities and residents

by assigning an OES Officer to assist in meeting their local planning goals and needs. These mostly isolated areas of the county may have the need for special considerations in a disaster.

## **Local**

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

#### *Hazardous Waste and Source Reduction and Regulation Plan*

The City has adopted a Hazardous Waste and Source Reduction and Regulation Plan, which sets forth policies and programs for the management, control and reduction of hazardous wastes. This plan was developed jointly by the County, the City of Big Bear Lake, and other cities within the County, the state, the public and industry to address the disposal, handling, processing, storage and treatment of local hazardous materials and waste products.

#### *City of Big Bear Lake Municipal Code*

City Municipal Code Chapter 8.96 (Underground Storage of Hazardous Substances) establishes the permitting process for operation of USTs. Permittees must submit annual forms detailing any changes in the operations of the storage tanks, and the tanks are subject to inspection every 3 years. The chapter outlines requirements for tank installation, monitoring, repair, ceasing operations, and record keeping.

#### *Big Bear Lake General Plan*

The Big Bear Lake General Plan Environmental Hazards Element program that is applicable to hazardous materials<sup>9</sup> is as follows:

**Program EH 3.1.1** Through the development review process, identify uses which propose the manufacture, storage, use and/ or disposal of significant quantities of hazardous and toxic materials within the community, and require that these projects obtain a conditional use permit and comply with the County Hazardous Waste Management Plan.

Additionally, the Public Services and Utilities Element includes the following programs applicable to hazardous materials:

**Program PS 6.2.2** Ensure that larger generators of hazardous waste take proper measures for its lawful disposal.

**Program PS 6.2.3** In review of new development projects, evaluate the potential for soil contamination and require mitigation measures as appropriate.

## **Fire Hazards**

#### *City of Big Bear Lake Municipal Code*

City Municipal Code Chapter 8.92 (Abatement of Hazardous Conditions) requires property owners and occupants to maintain an appropriate firebreak to minimize fire hazards.

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<sup>9</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.

### *City of Big Bear Lake Disaster Preparation Plan*

The City's Disaster Preparation Plan outlines the policies, coordination and operations to ensure emergency preparedness. The requirements are outlined in the Disaster Plan Administration Manual. The Manual requires that each City department establish operational guidelines for employees to initiate prior to, during, and after each disaster event. The City is participating in a joint state, county, local government cooperation and notification plan. The City Fire Department conducts annual drills with the schools, provides inspections of private homes and businesses upon request, and advises citizens on the need for self-preparedness.

### *The Big Bear Lake Plan*

The Big Bear Lake General Plan Public Services and Utilities Element programs that are applicable to fire hazards<sup>10</sup> are as follows:

- Program PS 7.3.1** Require approved emergency access for all new development or phases thereof when deemed necessary for public health and safety, pursuant to Policy C1.2.1.
- Program PS 7.3.2** The Fire Department shall participate in the development review process by maintaining an active presence in the Development Review Committee.
- Program PS 7.3.3** Maintain and apply standard conditions of approval for all types of new development applications, and revise as needed to ensure compliance with current codes.
- Program PS 7.3.4** Through the annual business inspection program, ensure on-going code compliance by businesses within the City.

## ■ 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

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<sup>10</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.

- If located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard for people residing or working in the project area
- If within the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan
- Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands

### Analytic Method

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

### Effects Not Found to Be Significant

Threshold	Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
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The Regional Reduction Plan reduces GHG emissions citywide. Implementation of the GHG Performance Standard measure (PS-1) could include 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, state, and City regulations and programs. 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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As stated above, the Regional Reduction Plan reduces GHG emissions citywide and could include reduction measures such as energy efficiency goals, energy efficiency retrofits, renewable energy generation, the reduction of vehicle trips and vehicle miles traveled to reduce transportation related emissions, waste diversion and water conservation programs. These activities do not release hazardous materials or create foreseeable upsets or accidents that would present a significant hazard to the public or the environment. The impact would be *less than significant*. No mitigation is required.

Threshold	Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?
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As discussed under the previous thresholds, implementation of the Regional Reduction Plan will not emit hazardous emissions. Consequently, impacts associated with emissions during implementation of the Regional Reduction Plan would be *less than significant*. No mitigation is required.

Threshold	Would the project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?
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The Regional Reduction Plan does not propose siting reduction measures at particular locations. Siting of renewable energy generation systems would be reviewed by the City Planning to ensure that implementation of the Regional Reduction Plan does not create a hazard to the public or the environment. The impact would be *less than significant*. No mitigation is required.

Threshold	Would the project, if located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard for people residing or working in the project area?
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The Big Bear City airport is located adjacent to the northeast corner Big Bear Lake. The majority of the surrounding land uses are open space and commercial. The northeast area of the City is within Safety Review Area 3 of the airport, which is a FAA Part 77 Imaginary Surface and is subject to height obstruction limits. Any projects within the Safety Review Area boundary, including renewable energy generation facilities, would be required to comply with the FAA Part 77 height limitations, including requirements to notify the FAA of proposed construction. Review of proposed projects such as renewable energy generation within the airport Safety Review Area by the City and FAA ensures that implementation near the airport would not result in safety hazards to people in the area. The impact would be *less than significant*. No mitigation is required.

Threshold	Would the project, if within the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area?
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The Regional Reduction Plan does not propose land uses in particular areas. Additionally, there are no private airstrips in the vicinity of the City. Big Bear City airport provides local service for private planes. The impact would be *less than significant*. No mitigation is required.

Threshold	Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?
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The Regional Reduction Plan reduces GHG emissions citywide and could include reduction measures in the City such as energy efficiency goals, energy efficiency retrofits, renewable energy generation, the reduction of vehicle trips and vehicle miles traveled to reduce transportation related emissions, waste diversion and water conservation programs. None of the reduction measures would alter emergency response or evacuation plans. Improvements to transit, bicycle, and pedestrian infrastructure along

roadways that would serve emergency response and evacuation within the City would be reviewed by the City Planning Department to ensure adequate ingress and egress along these roadways (see General Plan Programs PS 7.3.1 and 7.3.2). Therefore, the impact would be *less than significant*. No mitigation is required.

Threshold	Would the project expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?
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To help protect the City and its residents from fire hazards, Big Bear Lake has building and fire codes that must be followed. City Municipal Code Chapter 8.92 (Abatement of Hazardous Conditions) requires property owners and occupants to maintain an appropriate firebreak to minimize fire hazards. All building plans in Big Bear Lake would be reviewed by the Big Bear Lake Fire Protection District to ensure their compliance with the City's fire code (see General Plan Program PS 7.3.2). If uncontrolled or weeds, brush, or other prohibited items are present on a property, the Fire chief or any of his deputies has the authority to give the property owner of record a notice to abate the hazard. Facilities and infrastructure built as a result of Regional Reduction Plan implementation within the City would be reviewed for adherence to the building and fire codes, and would be subject to inspection during operation. Therefore, the impact would be *less than significant*. No mitigation is required.

## ■ Cumulative Impacts

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

## ■ References

Big Bear Lake, City of. 1999a. *City of Big Bear Lake General Plan*, August.

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## 4.2.9 Hydrology/Water Quality

This section of the EIR analyzes the potential environmental effects on hydrology/water quality in the City of Big Bear Lake from implementation of the Regional Reduction Plan. Data for this section were taken from Big Bear Lake General Plan (1999a) and associated environmental document (1999b). Full reference-list entries for all cited materials are provided at the end of this section.

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

### ■ Environmental Setting

#### **Regional Drainage**

The Big Bear Lake watershed is approximately 37 square miles and is drained by more than ten streams (see Figure 4.2.9-1 [Flood Hazards and Inundation Map]). It is located in the San Bernardino Mountains and includes Big Bear Lake, Baldwin Lake (a dry lakebed), Stanfield Marsh, Shay Meadows, Rathbun (Rathbone) Creek, Summit Creek, and Grout Creek. Local stream runoff and precipitation on the lake are the water supply inputs to Big Bear Lake. Big Bear Lake drains to Bear Creek, which is tributary to the Santa Ana River. Twelve percent of Big Bear Lake's drainage basin consists of the lake itself (RWQCB 2005). The lower reaches of most of the Big Bear Lake tributaries, particularly those in the eastern area, are underlain with older and younger alluvium. The western portion and the upper eastern portions of the lake are dominated by undifferentiated basement complex rocks, which are mostly impervious. The Big Bear Lake watershed was divided into seven hydrographic subareas: Village, Rathbun, Division, North Shore, Grout Creek, Mill Creek, and Gray's Landing. Division, Village and Rathbun Subareas supply the City of Big Bear Lake.

#### **Local Surface Waters**

The area's watershed is mountainous with steep upper slopes leading to a mildly sloping valley. The surrounding mountains receive up to 35 to 45 inches of rainfall per year. There are numerous streams and tributaries in the area. Big Bear Lake is created by the Bear Valley Dam, which is the largest flood control facility in the planning area. Development of lands in San Bernardino and Redlands for agricultural purposes necessitated the development of the dam. The lake was created as a result of the single arch dam across Bear Creek, a tributary of the Santa Ana River. Big Bear Lake and its dam have a storage capacity of 73,000 acre-feet, a spillway capacity of 1,500 cubic feet per second (cfs), and an average depth of 24 feet with a maximum depth of 72.3 feet. The lake is fed from the waters of numerous tributaries and the surface water level is managed by the Big Bear Municipal Water District (BBMWD) (Big Bear Lake 1999a). Major tributaries to Big Bear Lake include Rathbun Creek, North Creek, Metcalf Creek, and Grout Creek. Other tributaries are Johnson Creek, Minnelusa Creek, Polique Creek, Red Ant Creek, and other tributaries to these creeks (RWQCB 2002). These stream flows, combined with rainfall and natural runoff following the melting of winter snow, provide the source of all water in the lake.

The Rathbun Creek subwatershed is located in the Moonridge area south of Big Bear Lake. The subwatershed drains approximately 4090 acres of land (6.4 square miles), 30 percent within the City of Big Bear Lake and the remainder within the San Bernardino National Forest (CRWQCQ 2005). There are four major drainages included in the Rathbun Creek subwatershed: Rathbun Creek, Deer Canyon, Sand Canyon, and Bow Canyon.

## **Groundwater**

Located in the San Bernardino Mountains, Big Bear Lake is located in the Bear Valley groundwater basin. As described previously, the subareas, or groundwater basins, within Bear Valley groundwater basin are known as Gray's Landing, Grout Creek, North Shore, Division, Rathbun, Village, and Mill Creek. The Division, Village and Rathbun Subareas supply the City of Big Bear Lake. The water supply to the basins is derived from precipitation in the form of rainfall and snowfall. Computation of annual seasonal water supply considered precipitation is recorded at four locations in the Valley. Ground water sources are presently sufficient to provide all domestic water service to the City.

Bear Valley lies in the northeastern portion of the Santa Ana River Watershed. The Bear Valley groundwater basin (Basin) is primarily composed of alluvium and the main tributaries include Grout Creek, Van Dusen Canyon, Sawmill Canyon, Sand Canyon, Knickerbocker Creek, Metcalf Creek, and North Creek. Based on the drainage system, Bear Valley is divided into sixteen hydrologic subunits.

The water bearing deposits within the Valley have been divided into upper, middle, and lower aquifers. The upper and middle aquifers are the primary water-producing formations. The upper aquifer extends through the eastern part of the Basin where it reaches more than 200 feet thick, but is thin and unsaturated in the western portion of the Basin. The middle aquifer is found throughout the Basin and ranges from 150 to more than 800 feet thick (Big Bear Lake DWP 2012). Basin recharge is from percolation of precipitation and runoff, as well as underflow from fractured rock formations. Groundwater levels generally correlate with annual fluctuations of precipitation. Total storage capacity of the Basin is estimated at 42,000 acre-feet. Average inflow is 6,240 acre-feet per year (afy) and main losses to the basin are due to outflow and pumping (Big Bear Lake DWP 2012).

None of the groundwater basins in the City of Big Bear Lake Department of Water and Power (DWP) service area are adjudicated. At present, no subunit within the Bear Valley groundwater basin is in overdraft.

## **Flood Hazards**

Potential flooding problems in the City of Big Bear Lake are related to a rise in the water level of Rathbun Creek and other drainage courses and to storm flooding in the alluvial fans and terraces located at the base of the mountains in the southern portions of the City's planning area. Since flow in the drainages is intermittent, the channels can easily be clogged by debris. Also, when a heavy rainstorm or rapid snow melt occurs, a channel may overflow.

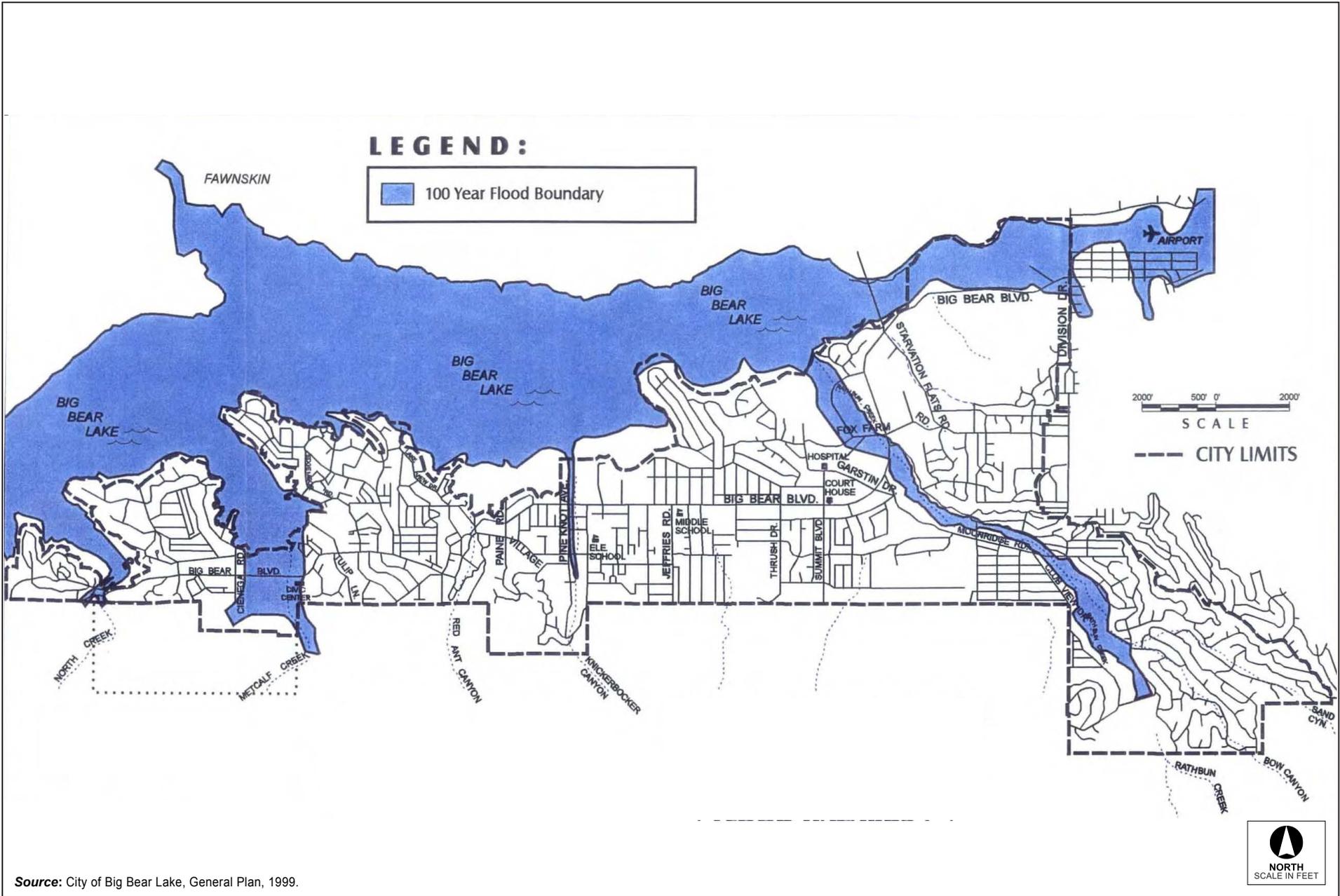


Figure 4.2.9-1  
Flood Hazards and Inundation Map



Storm drainage and flood control facilities in the City of Big Bear Lake are maintained and serviced jointly by the City of Big Bear Lake Public Works Division and the San Bernardino County Flood Control District. Each jurisdiction is responsible for segments of the existing facilities, as well as watershed and watercourse protection related to those facilities.

The preservation of lands constrained by topography or drainage, including steep slopes, areas rich in vegetation and cover, and alluvial plains and drainage channels greatly reduces runoff and preserves the capacity of downstream facilities. Furthermore, the planned integration of on-site storm water detention facilities, where possible and appropriate, significantly reduces the needed size of downstream facilities, while creating opportunities for enhanced open space and/or recreation areas.

### **Designated Flood Zones**

Many of the areas of the United States that are subject to flooding from 100-year storms have been mapped by the Federal Emergency Management Agency (FEMA). The most widely distributed flood map is the Flood Insurance Rate Map (FIRM). Flood risk data presented on FIRMs are based on historical, meteorological, hydrologic and hydraulic data, as well as open-space conditions, flood control works and development. Each of the applicable flood zones as identified on Flood Insurance Rate Maps are briefly described below.

- **Flood Zone A**—Areas of 100-year flood; base flood elevations have not been determined.
- **Flood Zone AO**—Special Flood Hazard Areas inundated by types of 100-year shallow flooding where depths are between 1.0 and 3.0 feet; depths are shown, or areas of 100-year alluvial fan flooding, depths and velocities shown, but no flood hazard factors are determined.
- **Flood Zone B**—Areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than 1 foot or where the contributing drainage area is less than 1 square mile; or areas protected by levees from the base flood.
- **Flood Zone C**—Areas lying outside the boundaries of the 100-year and 500-year flood plains and generally considered safe from flooding.

Both Big Bear Lake and Rathbun Creek have floodplain zoning to restrict development of flood hazard areas. The region is subject to flooding along the several streams and natural drainage courses. There is also flooding potential along Pine Knot Boulevard and in the northeast corner of the City extending eastward into Big Bear City. The approximate 100-year flood zone boundaries are shown for all flooding areas in Figure 4.2.9-1. The 100-year flood zone for Rathbun Creek is generally confined along the channel. However, potential 100-year flood areas extend to several residential streets. In addition, Big Bear Boulevard (State Route 18) crosses each potential flood area. This could potentially restrict travel through the areas during a flood. Flooding along Rathbun Creek can reach depths ranging from 5 to 17 feet deep for the 100-year flood. The areas from Elm Street to Big Bear Lake would be the most severely affected along Rathbun Creek (Big Bear Lake 1999b).

Seismically induced inundation can also occur if strong earthquakes cause structural damage to aboveground water tanks. If a tank is not adequately braced and baffled, sloshing water can lift a water tank off its foundation, splitting the shell, damaging the roof, and bulging the bottom of the tank. Movement can also shear off the pipes leading to the tank, releasing water. The above-ground water

storage tanks in the Big Bear area are operated by the City of Big Bear Lake DWP. There are eight water tanks in the region. DWP has completed seismic upgrades on all of the water storage tanks (Big Bear Lake 1999a).

According to the General Plan EIR, the City has no coordinated storm drainage system per se, although street drainage pipes are located throughout the City. Rathbun Creek is the only major flood control facility in the planning area; it is only partially maintained by the San Bernardino County Flood Control District. It is predominantly an earthen, graded natural, unimproved drainage channel and is currently inadequate in some areas to contain 100-year storm flows.

### **Seiches**

A seiche is a surface wave created when an inland body of water is shaken, usually by earthquake activity. Should the predominant direction of the earthquake match the natural wave action of the lake, significant near-shore inundation could occur. Although disturbance of the surface of Big Bear Lake as a result of the June 28, 1992, Big Bear earthquake was reported at a scale of several inches to several feet, no damage from flooding was reported. In the unlikely event of a catastrophic failure of the Bear Valley Dam, significant impacts to downstream communities, including the City of Big Bear Lake, can be expected. In addition, a sudden decrease in the lake level could also generate landslides, as the water-laden materials which form the slopes of the lake would be likely to fail (Big Bear Lake 1999a).

### **Mudflows**

A mudflow is a type of landslide composed of saturated rock debris and soil with a consistency of wet cement. The alluvial sediments in the planning area are not considered especially prone to this type of behavior.

## **■ Regulatory Framework**

### **Federal**

#### **United States Environmental Protection Agency (USEPA)**

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

#### *Clean Water Act*

The federal Water Pollution Control Act (also known as the Clean Water Act [CWA]) is the principal statute governing water quality. The CWA establishes the basic structure for regulating discharges of pollutants into the waters of the United States and gives the USEPA the authority to implement pollution control programs, such as setting wastewater standards for industry. The statute's goal is to restore, maintain, and preserve the integrity of the nation's waters. The CWA regulates both the direct and indirect discharge of pollutants into the nation's waters and sets water quality standards for all contaminants in surface waters. It is unlawful for any person to discharge any pollutant from a point source into navigable waters, unless a permit is obtained under its provisions. The CWA mandates permits for wastewater and stormwater discharges, requires states to establish site-specific water quality

standards, and regulates other activities that affect water quality, such as dredging and the filling of wetlands. The CWA also funded the construction of sewage treatment plants and recognized the need for planning to address nonpoint sources of pollution. CWA Section 402 requires a permit for all point source (a discernible, confined, and discrete conveyance, such as a pipe, ditch, or channel) discharges of any pollutant into waters of the United States.

### *Safe Drinking Water Act*

The federal Safe Drinking Water Act (SDWA) provides regulations on drinking water quality in the City. The SDWA gives the USEPA the authority to set drinking water standards, such as the National Primary Drinking Water Regulations (NPDWRs or primary standards). The NPDWRs protect drinking water quality by limiting the levels of specific contaminants that are known to occur or have the potential to occur in water and can adversely affect public health. All public water systems that provide service to 25 or more individuals are required to satisfy these legally enforceable standards. Water purveyors must monitor for these contaminants on fixed schedules and report to the USEPA when a Maximum Contaminant Level (MCL) has been exceeded. MCL is the maximum permissible level of a contaminant in water that is delivered to any user of a public water system. Drinking water supplies are tested for a variety of contaminants, including organic and inorganic chemicals (e.g., minerals), substances that are known to cause cancer, radionuclides (e.g., uranium and radon), and microbial contaminants (e.g., coliform and *Escherichia coli*). Changes to the MCL list are typically made every 3 years, as the USEPA adds new contaminants or, based on new research or new case studies, revised MCLs for some contaminants are issued. The California Department of Health Services, Division of Drinking Water and Environmental Management, is responsible for implementation of the SDWA in California.

### *National Pollution Discharge Elimination System*

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

NPDES has a variety of measures designed to minimize and reduce pollutant discharges. For example, pollutant discharges to a publicly owned conveyance or system of conveyances (including roadways, catch basins, curbs, gutters, ditches, man-made channels and storm drains, designed or used for collecting and conveying stormwater) are regulated by the USEPA's Storm Water Phase II Final Rule. The Phase II Final Rule requires an operator (such as a city) of a regulated small municipal separate storm sewer system (MS4) to develop, implement, and enforce a program (e.g., best management practices [BMPs], ordinances, or other regulatory mechanisms) to reduce pollutants in post-construction runoff to the City's storm drain system from new development and redevelopment projects that result in the land disturbance of greater than or equal to 1 acre. The MS4 permit in effect in the City of Big Bear is Order R8-2002-0012 issued by the Santa Ana Regional Water Quality Control Board.

### *National Flood Insurance Program*

The National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973 mandate FEMA to evaluate flood hazards. FEMA provides FIRMs for local and regional planners to promote sound land use and floodplain development, identifying potential flood areas based on the current conditions. To delineate a FIRM, FEMA conducts engineering studies called flood insurance studies.

The Flood Disaster Protection Act requires owners of all structures in identified special flood hazard areas to purchase and maintain flood insurance as a condition of receiving federal or federally related financial assistance, such as mortgage loans from federally insured lending institutions. Community members in designated areas are able to participate in the National Flood Insurance Program afforded by FEMA. The program is required to offer federally subsidized flood insurance to property owners in those communities that adopt and enforce floodplain management ordinances that meet minimum criteria established by FEMA. The National Flood Insurance Reform Act of 1994 further strengthened the program by providing a grant program for state and community flood mitigation projects. The act also established the Community Rating System, a system for crediting communities that implement measures to protect the natural and beneficial functions of their floodplains, as well as managing erosion hazards.

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

## **State**

### **State Water Resources Control Board**

The State Water Resources Control Board (SWRCB), a division of the California Environmental Protection Agency (Cal/EPA), regulates water resources including water quality within California. The SWRCB's mission is to preserve, enhance and restore the quality of California's water resources, and ensure their proper allocation and efficient use for the benefit of present and future generations. SWRCB's regulatory authority is based upon USEPA's delegated authority of the NPDES permitting

process within the state, and California's Porter-Cologne Water Quality Act. The SWRCB is divided into nine Regional Water Quality Control Boards (RWQCB), each regulating watersheds within their region.

### *Porter-Cologne Water Quality Act*

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

### *Storm Water Pollution Prevention Plans*

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

## **Regional**

### **County of San Bernardino Stormwater Program**

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

## Santa Ana River Basin Water Quality Control Plan

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

### Local

#### City of Big Bear Lake Municipal Code

Standards listed in Municipal Code Chapter 15.64 (Floodplain Management) ensure the public health, safety, and general welfare, and minimize public and private losses due to flood conditions. Provisions for flood hazard reduction regulate development in all areas of special flood hazards.

Municipal Code Chapter 17.09 (Slope Density) regulates development in hillside areas of the City and ensures that designs of buildings protect public health and safety especially in areas with higher gradient. The Code requires a detailed grading plan and soil erosion and sediment control plan with all development permit applications, specifically in areas with slopes greater than 30 percent.

#### City of Big Bear Lake Water Master Plan

The purpose of the Water Master Plan is to evaluate the conditions of the various water systems operated by DWP and to determine their ability to provide reliable service to the communities served. In addition, the Master Plan will assist DWP to plan for the future, so that it can continue providing a high level of service, for the least cost, to both existing and future customers. The Plan also prepares and assessment of current and future water demands and evaluates existing supply sources and their ability to meet projected demands. It studies alternatives of water supply and the water system distribution system's capability to provide reliable service. Necessary system improvements are also analyzed as part of the study.

#### Big Bear Lake General Plan

The General Plan policies that are applicable to hydrology, water quality and flood hazards<sup>11</sup> are listed below. The General Plan Goals and Programs associated with the policies listed below can be found in the General Plan.

- Policy EH 2.1** Evaluate flood control needs in the City and develop and implement long-range plans for master storm drainage improvements, along with funding programs, in coordination with other affected agencies.

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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.

- Policy EH 2.2** Require that new development shall not be exposed to flood hazards or contribute to an existing flood hazard, in accordance with Master Plan of Drainage and other applicable regulations.
- Policy EH 2.3** Provide information to the public regarding flood plains, watershed management practices, flood insurance rate maps, minimizing pollution of surface waters, and other hydrologic issues as needed.
- Policy EH 2.4** Prepare for response to flooding through update and implementation of the Emergency Preparedness Plan, which will include evacuation and access plans for areas in which existing development is located within a 100-year flood plain.
- Policy EH 2.5** Promote the joint use of flood control facilities for recreational uses and as natural open space, where feasible and appropriate.

## ■ Project Impact Evaluation

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

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

- Violate any water quality standards or waste discharge requirements
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on or off site
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off site
- Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff
- Otherwise substantially degrade water quality
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map
- Place within a 100-year flood hazard area structures that would impede or redirect flood flows
- Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam
- Inundation by seiche, tsunami, or mudflow

## Analytic Method

The following analysis considers whether or not implementation of the Regional Reduction Plan within the City would impact hydrology, water quality, create or increase the potential for flood hazards or inhibit the ability to respond to flood hazards.

### Effects Not Found to Be Significant

Threshold	Would the project violate any water quality standards or waste discharge requirements?
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Water quality degradation in the City from erosion impacts would be specific to future project sites that could be developed and/or retrofitted as a result of implementing reduction measures in the Regional Reduction Plan, and depend largely on the areas affected and the length of time soils are subject to erosion. Although implementation of the Regional Reduction Plan may result in runoff during construction of individual energy-generating facilities, pedestrian, bicycle, or transit infrastructure that could adversely affect water quality beyond standards specified by the SWRCB, all reduction measure development requiring ground disturbance would be subject to regional and local regulations including the need for an SWPPP under NPDES No. CAS000002. In addition the City requires the obtainment of a grading permit for all developments that would require grading. In turn, all work requiring a grading permit would be required to have an approved Erosion Control Plan. Compliance with SWRCB's General Construction Activity Stormwater Permit regulations requiring an SWPPP, and the grading permit required by the City would reduce the risk of water degradation within the City from soil erosion related to construction activities associated with the Regional Reduction Plan to less than significant. Consequently, potential impacts as a result of implementation of the Regional Reduction Plan would be **less than significant**. No mitigation is required.

Threshold	Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?
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Implementation of the Regional Reduction Plan would not result in a substantial (if any) increase in impervious surfaces in the City. The Proposed Project would facilitate implementation of State measures and performance standard measures for new development. Performance standard measures may include energy efficiency and water conservation strategies or technologies. Implementation of such measures would not substantially increase the impermeable surface area such that groundwater recharge would be affected. Energy retrofits, solar arrays, or water conservation strategies would not increase impermeable surface area in the City. Therefore, the proposed project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge. The impact would be **less than significant**. No mitigation is required.

Threshold	Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on or off site?
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Performance standard measures may include energy retrofits and passive energy-producing components such as photovoltaic arrays. These measures would not alter existing drainage patterns in the City, as they would consist of structural alterations, not an increase in overall building footprint. Some renewable energy-generating facilities that could be constructed on vacant land, hillsides, or open space areas could alter existing drainage patterns; however, as noted above, all construction would be subject to regulations related to water quality, erosion, and stormwater runoff including the City’s Municipal Code. Individual projects associated with implementation of the Regional Reduction Plan would be subject to review by the City prior to issuance of a grading permit, which process requires preparation of a drainage study and SWPPP. Consequently, any potential impacts associated with emissions during implementation of the Regional Reduction Plan would be reduced to *less than significant*. No mitigation is required.

Threshold	Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off site?
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As part of the performance measure (PS-1), energy facilities under the Regional Reduction Plan could be constructed in a 100-year flood plain. The 100-year flood hazard areas within the City are shown in Figure 4.2.9-1. Both Big Bear Lake and Rathbun Creek have floodplain zoning to restrict development of flood hazard areas. The region is subject to flooding along the several streams and natural drainage courses. All new development, including facilities constructed pursuant to implementation of the Regional Reduction Plan, would be subject to the provisions of City Municipal Code Chapter 15.64 (Floodplain Management). Recognizing that the flood hazard areas of the City are subject to periodic inundation that can adversely affect the public health, safety and general welfare, the purpose of the Floodplain Management regulation is to minimize public and private losses due to flood conditions by ensuring proper design of structures to prevent against flood damages. Additionally, the City’s Floodplain Management program also includes provisions for preventing or regulating the construction of flood barriers that would unnaturally divert floodwaters or which may increase flood hazards in other areas. As such, the development of energy facilities within the City’s 100-year flood areas would not result in the redirection of flood flows in a manner that would subsequently lead to the loss of adequate flood conveyance in the City. Furthermore, any new development or work within the City that involves the San Bernardino County Flood Control and Water Conservation District’s right of way, easements, or facilities would require the obtainment of an encroachment permit from the District. General Plan Policies EH 2.1 through EH 2.5 reduce the risk from flooding throughout the City. Compliance with The General Plan policies is assured through City review of all proposed development. Therefore, the impact would be *less than significant*. No mitigation is required.

Threshold	Would the project create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?
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The development of any energy facilities during implementation of the Regional Reduction Plan within a road right-of-way or other areas that may impact storm drains must be coordinated with the City prior to the beginning of construction. Compliance of City provisions including the Floodplain Management would ensure that people and property are protected from flooding through responsible and efficient stormwater management. Compliance with NPDES permit requirements would ensure that the proposed project would not provide substantial additional sources of polluted runoff. The impact would be ***less than significant***. No mitigation is required.

Threshold	Would the project otherwise substantially degrade water quality?
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The Regional Reduction Plan would not otherwise substantially degrade water quality. The impact would be ***less than significant***. No mitigation is required.

Threshold	Would the project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?
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The Regional Reduction Plan does not include a housing component. There would be ***no impact***.

Threshold	Would the project place within a 100-year flood hazard area structures that would impede or redirect flood flows?
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As part of the performance standard measure, renewable energy generation facilities could be constructed in a 100-year flood hazard area. Municipal Code Chapter 15.64 (Floodplain Management) includes provisions for preventing or regulating the construction of structures that would unnaturally divert floodwaters or which may increase flood hazards in other areas. As such, the development of energy facilities within the City's 100-year flood areas would not impede or result in the redirection of flood flows in the City. Furthermore, any new development or work within the City that involves the San Bernardino County Flood Control and Water Conservation District's right of way, easements, or facilities would require the obtainment of an encroachment permit from the District. General Plan Policies EH 2.1 through EH 2.5 reduce the risk from flooding throughout the City. Compliance with the Municipal Code and the General Plan policies is assured through City review of all proposed development. Therefore, the impact would be ***less than significant***. No mitigation is required.

Threshold	Would the project expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?
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Energy retrofits and renewable energy facilities such as passive energy solar arrays built during implementation of the Regional Reduction Plan may have a risk of flooding from dam failure depending on their location. However, all new development would be subject to the provisions of City Municipal Code Chapter 15.64 (Floodplain Management), designed to minimize public and private losses due to

flood conditions by ensuring proper design of structures to prevent against flood damages. General Plan Policies EH 2.1 through EH 2.5 restrict development in areas subject to flooding, as noted, above. These policies identified in the General Plan would minimize the effects of prospective growth from flooding hazards. Therefore, the impact would be ***less than significant***. No mitigation is required.

Threshold	Would the project inundation by seiche, tsunami, or mudflow?
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The City is not located within the immediate area of the Pacific Ocean; thus, there would be no impacts associated with inundation by tsunamis. In the unlikely event of a catastrophic failure of the Bear Valley Dam, significant impacts to downstream communities can be expected. The City’s Floodplain Management standard prohibits development in areas with potential flooding hazards as shown in Figure 4.2.9-1. Storm drainage and flood control facilities in the City of Big Bear Lake are maintained and serviced jointly by the City of Big Bear Lake Public Works Division and the San Bernardino County Flood Control District whose approval would be required for any project that proposed alterations to a channel. General Plan Policies EH 2.1 through EH 2.5 reduce impacts on structures associated with seiche flooding to less than significant. Facilities and infrastructure built as a result of the Regional Reduction Plan implementation within the City are reviewed for adherence to the General Plan policies, the City’s Floodplain Management standards, and any San Bernardino County Flood Control District encroachment permits. Therefore, the impact would be ***less than significant***. No mitigation is required.

## ■ Cumulative Impacts

Because the Regional Reduction Plan does not significantly impact hydrology, water quality, or create flood hazards at a project level, implementation of the Regional Reduction Plan will not create impacts to hydrology, water quality or flood hazards that are cumulatively considerable. Therefore, ***cumulative impacts would be less than significant***.

## ■ References

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## 4.2.10 Land Use/Planning

This section of the EIR analyzes the potential environmental effects on land use/planning in the City of Big Bear Lake from implementation of the Regional Reduction Plan. Data for this section were taken from Big Bear Lake General Plan (1999a) and associated environmental document (1999b). 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 Big Bear Lake is a mountain resort community located in the southwestern portion of San Bernardino County approximately 100 miles northeast of Los Angeles and 40 miles northeast of the City of San Bernardino. The City encompasses approximately 7 square miles and is approximately 7 miles long and 2 miles wide at its maximum extent. The planning area is adjacent to Big Bear Lake, a 3,000-acre lake that serves as a reservoir for downstream users and provides recreational opportunities for visitors and residents. To the south and west, the City is bordered by the San Bernardino National Forest, managed by the United States Forest Service. To the east lies the unincorporated community of Big Bear City.

The current land use pattern in the planning area is characterized as a low density resort residential community, bisected by State Highway 18, along which the most intense land uses occur (see Figure 4.2.10-1 [General Plan Land Use Map]). Current residential development is predominantly low density detached single family residential within standard subdivisions. Residential lands of this type encompass approximately 73 percent of the total incorporated area. Nearly 75 percent of the residential units are vacation homes held for occasional use. Multi-family designations encompass approximately 9 percent of the total incorporated area.

Commercial lands provide a wide range of retail and other commercial services, including resorts and associated facilities. General Commercial comprises the largest block of lands dedicated in this category and includes retail and service oriented businesses. The Visitor Commercial designation was specifically created for existing retreats and camps located throughout the community, and it includes the City's ski resorts, hotels, motels and lodges. Approximately 20 acres of land area designated for industrial uses.

Development in the central business core of the Big Bear Valley is guided by the Village Specific Plan, which addresses land use, circulation, and open space. It includes special design concepts and development standards.

There is one airport in Big Bear Lake. The Big Bear City Airport has one runway, oriented in an east-west direction, and serves general aviation aircraft ranging from gliders to small corporate jets (Big Bear Airport 2013). The airport is located adjacent to the northeast corner of the City. The northeast area of the city is located within the airport's Safety Review Area 3, as delineated in the airport's Comprehensive Land Use Plan.

## ■ 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

# LEGEND

## General Plan Land Use

- Rural Residential
- Equestrian Estates
- Single Family Residential-3
- Single Family Residential-4
- Multiple Family Residential
- Commercial General
- Commercial Recreation
- Commercial Visitor
- Commercial Services
- Industrial
- Public Facilities
- Open Space
- Roads
- Village Specific Plan
- Camp Overlay

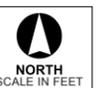
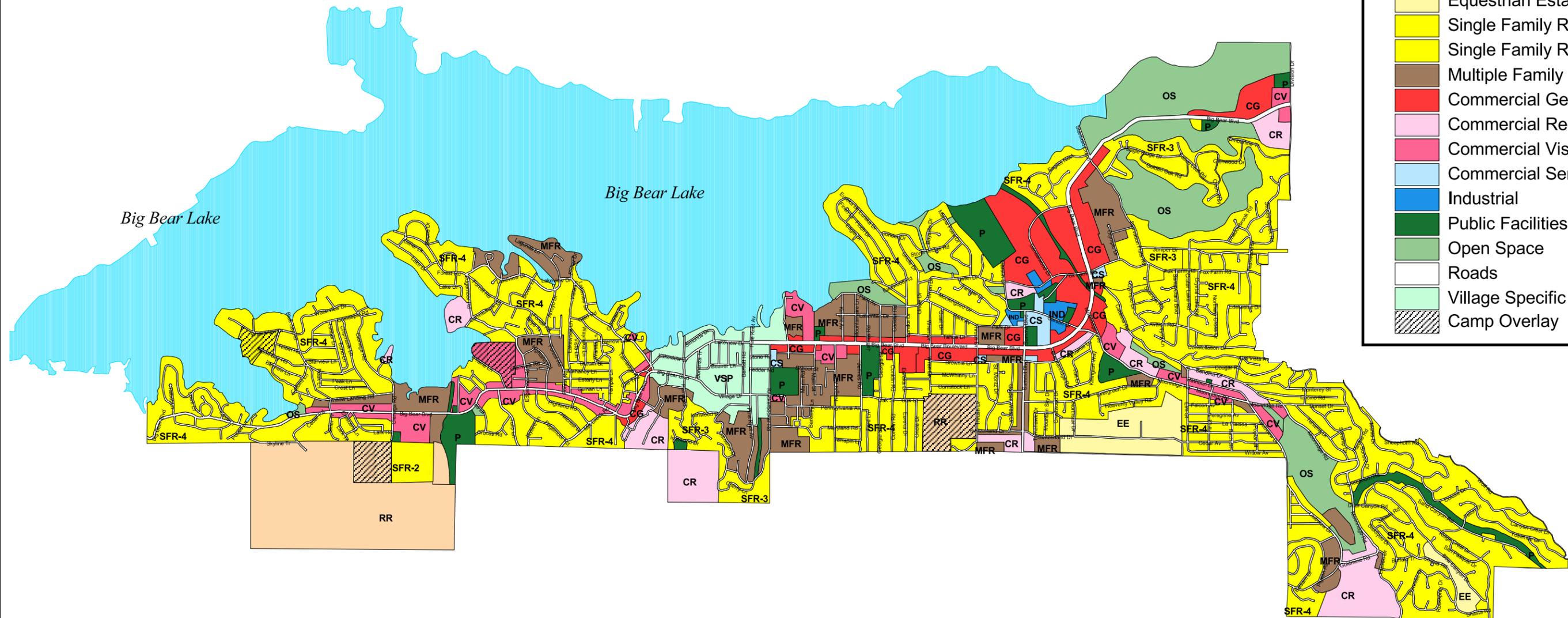


Figure 4.2.10-1  
General Plan Land Use Map



publish a list of discrete early action GHG emission reduction measures that would be implemented by 2010. The law further required that such measures achieve the maximum technologically feasible and cost effective reductions in GHGs from sources or categories of sources to achieve the statewide greenhouse gas emissions limit for 2020.

California ARB published its final report for Proposed Early Actions to Mitigate Climate Change in California in October 2007. This report described recommendations for discrete early action measures to reduce GHG emissions. The measures included are part of California's strategy for achieving GHG reductions under AB 32. Three new regulations are proposed to meet the definition of "discrete early action greenhouse gas reduction measures," which include the following: a low carbon fuel standard; reduction of HFC-134a emissions from non-professional servicing of motor vehicle air conditioning systems; and improved landfill methane capture (California ARB 2007b). California ARB estimates that by 2020, the reductions from those three measures would be approximately 13 million to 26 million metric tons (MMT) carbon dioxide equivalent (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 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 Big Bear Lake 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.

## Forest Service Management Plan

The USDA Forest Service has established the San Bernardino National Forest Land and Resource Management Plan (LMP) to guide management of forest resources, including those surrounding the City in the San Bernardino National Forest. The LMP describes the strategic direction at the broad program-level for managing the land and its resources over the next 10 to 15 years. The plan establishes forest-wide multiple use goals, determines the suitability and capability of forest land for resource production, identifies and recommends wilderness and scenic rivers, establishes forest-wide and forest-specific standards, identifies management area prescriptions, and establishes monitoring and evaluation requirements for plan implementation. The area surrounding Big Bear Lake is considered to have a high recreational and biological value. The desired condition for the area is a rural, natural landscape that preserves forest areas (USDA 2005).

## Local

### City of Big Bear Lake Municipal Code

City Municipal Code Title 17 (Development Code) provides for the creation of zones in the incorporated area and sphere of influence of the City of Big Bear Lake, and prescribes classes of uses, area requirements, and standards of development for buildings, structures, improvements and premises in said zones. The standards and regulations in the Development Code govern the use and development of property are intended to protect the public health, safety, welfare, and convenience and to enhance quality of life, by ensuring that an appropriate mix of land uses is developed in an orderly manner. Section 17.25.090 establishes design standards for specific land uses, including, among others, how energy-efficiency features such as solar systems, should be incorporated into development.

### Big Bear Lake General Plan

The General Plan policies that are applicable to land use/planning<sup>12</sup> as they relate to implementing the Regional Reduction Plan local reduction measures in Big Bear Lake are as follows:

#### Land Use Element

- |                     |  |
|---------------------|--|
| <b>Policy L 1-3</b> | Ensure that all new development within the City conforms to all applicable provisions of the General Plan.   |
| <b>Policy L 1-4</b> | Coordinate with other jurisdictions and agencies in Big Bear Valley to address land planning issues of regional concern.   |
| <b>Policy L 1-6</b> | Ensure that land uses permitted within the City are developed in a manner sensitive to the natural environment, mitigating impacts on natural resources and at an appropriate level of intensity given the topography and environmental conditions of each site. |
| <b>Policy L 2-4</b> | Coordinate with other local agencies to enhance economic development opportunities for the Big Bear Valley through regional cooperation on access,   |

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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.

circulation, infrastructure, development of major facilities, marketing, and promotion.

Community Design Element

**Policy CD 1-1** Consider the relationship of each development project to its setting, through the following measures:

- a. Each project should integrate with the natural features on and adjacent to the development site, including topography and landforms, geologic and soil conditions, hydrology and drainage, views, significant trees and vegetation, solar and wind exposure, natural open space and similar environmental features.
- g. Site design should integrate with existing and proposed infrastructure systems in the surrounding area, including street patterns, trails and open space, drainage and utility systems.
- h. The relationship of a development project to its setting should be considered for varying times and conditions, including daytime and nighttime hours, changing seasons, and anticipated changes in development conditions over the life of the project, to ensure compatibility of the development over time.

**Policy CD 1-5** Development should encourage and facilitate interaction of people through use of functional open space and connectivity, through the following means:

- a. The relationship of buildings and open spaces on a site should be designed to ensure that open space is usable, rather than remnants of space left over from building orientation; space should be organized to create a setting which is functional and supportive to the needs of pedestrians and vehicles.
- c. Development designs should create places for people to gather; open public spaces should be easily accessible, permit circulation connectivity throughout the site, and foster interaction of users. Pedestrian open spaces and amenity areas should be designed at a human scale and should be furnished with comfortable seating, shade and wind protection, oriented around a focal point, and provided with landscaping or architectural features for visual interest. In this context, human scale means a distance at which faces are distinguishable from one side of the open space to the other. Smaller, interconnected open space areas are more effective in encouraging outdoor use than large expanses of space, where people feel less secure.

**Policy CD 4-1** Site and building design should maximize opportunities for solar exposure, through the following measures:

- a. Habitable areas of structure should be oriented to achieve maximum exposure to sunlight.
- b. Use of south-facing windows is encouraged.
- c. Location of decks, balconies and porches should be oriented for solar exposure, to provide sunny, usable outdoor space.
- d. Site designs should preserve sunlight on outdoor public spaces, especially in the afternoon hours; outdoor spaces which are permanently shaded during winter months will be generally unusable at that time.

- e. Building placement and orientation should maintain solar exposure to adjoining buildings and sites.
- f. Solar radiation and glare should be considered in choosing building colors, particularly in areas facing public open spaces; bright whites should be avoided in these areas.
- g. Location of shade trees should consider solar exposure; trees should not permanently shade outdoor public seating areas at maturity, except where appropriate in park and recreation facilities.

Environmental Resources Element, Energy and Mineral Resources

**Policy ER 7-1** Promote energy conservation in all areas of community development, including transportation, development planning, public and private sector office construction and operation, as well as in the full range of residential, commercial and industrial projects.

### **Village Specific Plan**

Development in the central business core of the Big Bear Valley is guided by the Village Specific Plan, which addresses land use, circulation, and open space. It includes special design concepts and development standards.

### **Big Bear City Airport Comprehensive Land Use Plan**

An Airport Comprehensive Land Use Plan was adopted for Big Bear City airport in February 1992 by the San Bernardino Planning Department. The northeast area of the city is located within the airport's Safety Review Area 3. Safety Review Area 3 includes the airport's imaginary surfaces: the transitional surfaces, the horizontal surface, and the approach surfaces. The purpose of these surfaces is to provide obstruction criteria to avoid potential hazards. Most land uses are normally acceptable in Safety Review Area 3.

## **■ Project Impact Evaluation**

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

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

- Physically divide an established community
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect
- Conflict with any applicable habitat conservation plan or natural community conservation plan

## Analytic Method

The programs and measures contained in the Regional Reduction Plan were compared to applicable land use plan policies to determine if any inconsistency exists. These land use plans include the SCAQMD 2012 Air Quality Management Plan, SCAG's Regional Comprehensive Plan and Guide (RTP and Compass Growth Visioning), the Big Bear Lake General Plan, the City's Zoning and Development Code, and the Big Bear City Airport Comprehensive Land Use Plan.

## Effects Not Found to Be Significant

Threshold	Would the project physically divide an established community?
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Implementation of the Regional Reduction Plan measures selected by Big Bear Lake would not physically divide an established community. The GHG Reduction Performance Standard for New Development includes measures that the City would require of new development, which would be integral to each individual project. 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 Big Bear City Airport Comprehensive 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 Big Bear Lake community GHG emissions to a level that is 15 percent below its projected emissions level in 2020.
- Establish a qualified reduction plan for which future development within the City can tier and thereby streamline the environmental analysis necessary under the California Environmental Quality Act (CEQA).

The City will meet and exceed this goal through combination of state (~99 percent) and local (~1 percent) efforts. The City actually exceeds the goal with only state/county level actions (101 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 significantly reduce GHG emissions in Big Bear Lake's on-road and solid waste sectors in 2020. An additional reduction of 163 MT CO<sub>2</sub>e will be achieved primarily through the following local measures, in order of importance: GHG Performance Standard for New Development (PS-1) and Energy Efficiency for Existing Buildings (Energy-1). Big

Bear Lake's Plan has the greatest impacts on GHG emissions in the solid waste, on-road transportation, and off-road equipment sectors.

Approximately 50 percent of the City's emissions can be attributed to tourist activity, with almost 70 percent of the on-road sector emissions due to nonpermanent residents. This City is still able to meet its GHG reduction target, primarily because the state's efforts to reduce GHG emissions in the on-road sector will have a large impact on Big Bear's on-road emissions, including the trips of visitors to the area. The City's local measures impact residents and tourists alike, allowing the City to surpass its reduction target.

Figure 4.2-2 (Emissions Reduction Profile for Big Bear Lake) in Section 4.2.0 (Introduction to the Analysis) shows Big Bear Lake'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 (~99 percent) of the total reductions needed to achieve the 2020 target.

Figure 4.2-3 (Emissions by Sector for Big Bear Lake) in Section 4.2.0 presents emissions by sector, for both the 2020 BAU and the 2020 reduction or "Plan" scenarios. The largest emissions contributions are in the on-road transportation, building energy, and off-road equipment emissions sectors.

Table 4.2-3 (Emission Reduction by Sector for Big Bear Lake) in Section 4.2.0 summarizes the 2008 inventory, 2020 BAU forecast, and GHG reduction ("Plan") results by sector. It shows the percent reduction in each sector's emissions in 2020 and demonstrates that Big Bear Lake exceeds its emissions reduction goal. Emissions sectors with the greatest percent reduction include the solid waste, on-road transportation, and off-road equipment sectors.

Figure 4.2-4 (Emission Reductions by Control and by Sector for Big Bear Lake) in Section 4.2.0 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 solid waste management and on-road transportation sectors. Of the local measures, all reductions are due to the GHG Performance Standard for New Development (PS-1).

Policies in the applicable land use plans identified above are designed to promote sustainability in land use planning. For example, SCAG's RTP provides the framework for aggregating sub-regional and local efforts to institute measures aimed at mitigating the adverse air pollution impacts from increased transportation activities. These measures are known as transportation control measures (TCMs). The RTP links the goal of sustaining mobility with the goals of fostering economic development, enhancing the environment, reducing energy consumption, promoting transportation-friendly development patterns, and encouraging fair and equitable access to residents affected by socio-economic, geographic, and commercial limitations. The current AQMP establishes a comprehensive regional air pollution control program leading to the attainment of state and federal air quality standards in the Basin. In addition to setting minimum acceptable exposure standards for specified pollutants, the AQMP incorporates SCAG's growth management strategies that can be used to reduce vehicle trips and VMT,

and hence air pollution. These include, for example, co-location of employment and housing, and mixed-use land patterns that allow the integration of residential and non-residential uses. The goals of the Big Bear Lake General Plan promote sustainability.

While a separate document, the Regional Reduction Plan will be utilized as a companion document to the Big Bear Lake 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.

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 General Plan and design standards. Thus, there would be no inconsistency with implementation of the Regional Reduction Plan.

Any new development associated with PS-1 adjacent to or within the safety zone 3 of the Big Bear City Airport pursuant to the Regional Reduction Plan would be required to be consistent with that airport's land use plan policies for land uses adjacent to or within the airport safety zones to obtain approval.

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

Threshold	Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?
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There are no local habitat conservation plans or natural community conservation plans that apply to the City of Big Bear Lake. New development that would be associated with measure PS-1 would be reviewed by the City for consistency with the adjacent San Bernardino National Forest Land and Resource Management Plan. 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. Therefore, *cumulative impacts would be less than significant*.

## ■ References

Big Bear Lake, City of. 1999a. *City of Big Bear Lake Final Environmental Impact Report for the Comprehensive General Plan*, July.

———. 1999b. *City of Big Bear Lake General Plan*, August.

———. 2011. *City of Big Bear Lake General Plan. 2008–2014 Housing Element*, November 14.

———. n.d. *City of Big Bear Lake Municipal Code*.

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

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## 4.2.11 Mineral Resources

This section of the EIR analyzes the potential environmental effects on mineral resources in the City of Big Bear Lake from implementation of the Regional Reduction Plan. Data for this section were taken from Big Bear Lake General Plan (1999a) and associated environmental document (1999b). 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 three types of deposits that can be found near Big Bear Lake: (1) stream deposits, (2) floodplain and terrace deposits, and (3) alluvial fans.

Stream deposits (unit Qa) consist of easily mined sand and gravel deposited in present or former stream courses. They are desirable for aggregate because abrasion has removed weaker rocks which have been ground into fine particles and carried downstream, leaving the stronger minerals behind. The size of the gravel gradually decreases downstream, and a quarry site containing a desirable blend of particle sizes is commonly found. These deposits are generally free of excess silt and clay, and may be renewed by seasonal influxes of new material.

Floodplain and terrace deposits (unit Qo) may contain high-quality material similar to stream channel deposits. These materials were previously deposited when stream erosion and deposition were at a more vigorous level. These deposits may contain surface layers of silt and clay but are desirable for mining because they are located away from running or near-surface ground water.

An alluvial fan (units Qf and Qod) is formed where a stream emerges from a mountain front onto an adjacent valley or plain. A decrease in slope causes the stream to disperse sand and gravel into a system of intermittently active channels. The coarsest materials are deposited near the “head” of the fan and the finer materials near the “margins” of the fan. Deposits tend to be poorly sorted and may contain silty matrix or clay lenses.

There are relatively few mineral resources in and around Big Bear Lake; however, the resources have been identified by the U.S. Forest Service Management Plan for the Big Bear Basin. The majority of the area is made up of alluvium and alluvial fans containing mostly sand and gravel with admixed silt and clay. These minerals are generally found along stream courses.

Three mineral resource categories are applicable to the City and its Sphere of Influence:

- **MRZ-1**—Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.
- **MRZ-2**—Areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood for their presence exists.

- **MRZ-3**—Areas containing mineral deposits, the significance of which cannot be evaluated from available data.

The mineral deposits that are of significant value are located in and around Sugarloaf, and deposits that have undetermined value are located in and around Van Duesen Canyon, Gold Mountain and Smarts Ranch.

Talus consisting largely of quartzite underlies the area south of Sugarloaf east of the existing City boundary. This material is classified in the Mineral Resource Zone (MRZ-2) with significant resources which has possible value if subjected to a crushing process.

All other resources identified in this report are located in Mineral Resource Zone (MRZ-3) indicating undetermined mineral resource significance. Marble outcrops can be found in Van Duesen Canyon north of the City. These outcrops have the potential for crushed stone. Talus consisting largely of quartzite has been quarried at a site near the north City boundary, and could be quarried at additional sites surrounding Gold Mountain northwest of the City boundary. A gravel pit that has been highly productive, but is currently inactive, is located near Smarts Ranch approximately ten miles northeast of the City boundary. This material is poorly bedded and very coarse.

## ■ Regulatory Framework

### **Federal**

#### **United States Department of the Interior, Office of Surface Mining, Reclamation and Enforcement**

The Office of Surface Mining Reclamation and Enforcement (OSM) is a bureau within the United States Department of the Interior. OSM is responsible for establishing a nationwide program to protect society and the environment from the adverse effects of surface coal mining operations, under which OSM is charged with balancing the nation's need for continued domestic coal production with protection of the environment. OSM was created in 1977 when Congress enacted the Surface Mining Control and Reclamation Act. OSM works with State and Indian Tribes to assure that citizens and the environment are protected during coal mining and that the land is restored to beneficial use when mining is finished. OSM and its partners are also responsible for reclaiming and restoring lands and water degraded by mining operations before 1977.

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

The Surface Mining Control and Reclamation Act of 1977 (SMCRA) is the primary federal law that regulates the environmental effects of coal mining in the United States. SMCRA created two programs: one for regulating active coal mines and a second for reclaiming abandoned mine lands. SMCRA also created the Office of Surface Mining, an agency within the Department of the Interior, to promulgate regulations, to fund state regulatory and reclamation efforts, and to ensure consistency among state regulatory programs. Under SMCRA, the federal government can approve a program, which gives the state the authority to regulate mining operations, if the state demonstrates that it has a law that is at least as strict as SMCRA, and that they have a regulatory agency with the wherewithal to operate the program.

OSM has delegated authority to the California Department of Conservation for enforcement of SMCRA through California Public Resources Code (PRC) Sections 2710–2796.

## **State**

### **California Department of Conservation**

The California Department of Conservation provides services and information that promote environmental health, economic vitality, informed land-use decisions and sound management of our state’s natural resources including mineral resources. The California Department of Conservation maintains information on mineral resources within the state through the California Geological Survey Mineral Resources Project. The California Department of Conservation regulates mining of mineral resources through the Office of mining Reclamation (OMR), which enforces the Surface Mining and Reclamation Act.

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

The Surface Mining and Reclamation Act of 1975 (SMARA) (PRC Sections 2710–2796) provides a comprehensive surface mining and reclamation policy with the regulation of surface mining operations to assure that adverse environmental impacts are minimized and mined lands are reclaimed to a usable condition. SMARA also encourages the production, conservation, and protection of the state’s mineral resources. PRC Section 2207 provides annual reporting requirements for all mines in the state, under which the State Mining and Geology Board is also granted authority and obligations. SMARA (PRC Chapter 9, Division 2) requires the State Mining and Geology Board to adopt state policy for the reclamation of mined lands and the conservation of mineral resources. These policies are prepared in accordance with the Administrative Procedures Act (Government Code) and are found in California Code of Regulations Title 14, Division 2, Chapter 8, Subchapter 1.

## **Local**

### **Big Bear Lake General Plan**

The Big Bear Lake General Plan policies that are applicable to mineral resources<sup>13</sup> are as follows:

- Policy ER-7.3** Identify significant mineral resources within the planning area which have the potential to be excavated, and protect these areas for future extraction while minimizing potential land uses conflicts between quarries and adjacent less intensive uses, if any are found to exist.

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<sup>13</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 mineral resources if it would do any of the following:

- Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state
- Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan

### **Analytic Method**

The following analysis considers whether or not implementation of the Regional Reduction Plan within the City would impact mineral resources.

### **Project Impacts and Mitigation Measures**

Threshold	Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?
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The proposed Regional Reduction Plan would not change the land use designations or affect the ability of mining operations to extract minerals in the MRZ-2 area. Implementing the Regional Reduction Plan in the MRZ-2 designated areas would require City review to ensure that mining resources are not affected. Therefore, this impact would be *less than significant*.

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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As stated above, implementing the Regional Reduction Plan in MRZ-2 designated areas would require City review to ensure that mining resources are not affected. Therefore, this impact would be *less than significant*.

## ■ Cumulative Impacts

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

## ■ References

Big Bear Lake, City of. 1999a. *City of Big Bear Lake Final Environmental Impact Report for the Comprehensive General Plan*, July.

———. 1999b. *City of Big Bear Lake General Plan*, August.

———. n.d. *City of Big Bear Lake Municipal Code*.

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

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## 4.2.12 Noise

This section of the EIR analyzes the potential environmental effects on noise in the City of Big Bear Lake from implementation of the Regional Reduction Plan. Data for this section were taken from Big Bear Lake General Plan (1999a) and associated environmental document (1999b and 2011). Full reference-list entries for all cited materials are provided at the end of this section.

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

### ■ Environmental Setting

#### **Noise Terminology and Effects**

Noise is defined as unwanted or objectionable sound. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance and, in the extreme, hearing impairment. The unit of measurement used to describe a noise level is the decibel (dB). The human ear is not equally sensitive to all frequencies within the sound spectrum. Therefore, the “A weighted” noise scale, which weights the frequencies to which humans are sensitive, is used for measurements. Noise levels using A-weighted measurements are written dB(A) or dBA. Decibels are measured on a logarithmic scale, which quantifies sound intensity in a manner similar to the Richter scale used for earthquake magnitudes. Thus, a doubling of the energy of a noise source, such as doubling a traffic volume, would increase the noise level by 3 dBA; a halving of the energy would result in a 3 dBA decrease. Table 4.2.12-1 (Sound Levels of Typical Noise Sources and Noise Environments) shows the relationship of various noise levels to commonly experienced noise events.

Average noise levels over a period of minutes or hours are usually expressed as dB  $L_{eq}$ , or the equivalent noise level for that period of time. For example,  $L_{eq(3)}$  would represent a 3-hour average. When no period is specified, a one hour average is assumed. Noise standards for land use compatibility, which are addressed in the General Plan Noise Element and the Municipal Code Noise Control chapter, are stated in terms of the Community Noise Equivalent Level (CNEL) and the Day-Night Average Noise Level ( $L_{dn}$ ). CNEL is a 24-hour weighted average measure of community noise. The computation of CNEL adds 5 dBA to the average hourly noise levels between 7:00 PM and 10:00 PM (evening hours), and 10 dBA to the average hourly noise levels between 10:00 PM and 7:00 AM (nighttime hours). This weighting accounts for the increased human sensitivity to noise in the evening and nighttime hours.  $L_{dn}$  is a very similar 24-hour weighted average, which weights only the nighttime hours and not the evening hours.

It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA, increases or decreases; that a change of 5 dBA is readily perceptible, and that an increase (decrease) of 10 dBA sounds twice (half) as loud (Caltrans 1998).

**Table 4.2.12-1 Sound Levels of Typical Noise Sources and Noise Environments**

Noise Source (at a Given Distance)	Noise Environment	Scale of A-Weighted Sound Level in Decibels	Human Judgment of Noise Loudness (Relative to a Reference Loudness of 70 dB*)
Military Jet Take-off with After-burner (50 ft)	Carrier flight deck	140	<u>Hearing damage without protection</u> 128 times as loud
Civil Defense Siren (100 ft)		130	64 times as loud
Commercial Jet Take-off (200 ft)	Airport Runway	120	<u>Threshold of Pain</u> 32 times as loud
Pile Driver (50 ft) Rock & Roll Band (50 ft)	Construction Site Rock Concert	110	16 times as loud
Ambulance Siren (100 ft) Newspaper Press (5 ft) Power Lawn Mower (3 ft) Motorcycle (25 ft) Propeller Plane Flyover (1000 ft) Diesel Truck, 40 mph (50 ft) Garbage Disposal (3 ft)	Boiler Room Printing Press Plant High Urban Ambient Sound	100 90 89	<u>Very Loud</u> 8 times as loud 4 times as loud 2 times as loud
Passenger Car, 65 mph (25 ft) Living Room Stereo (15 ft) Vacuum Cleaner (3 ft) Electronic Typewriter (10 ft)	Busy Shopping Mall Indoor Sports Park	70	<u>Moderately Loud</u> * 70 dB (Reference Loudness)
Normal Conversation (5 ft) Air Conditioning Unit (100 ft)	Data Processing Center Department Store	60	½ as loud
	Office	50	¼ as loud
	Lower Limit of Urban Ambient Sound	40	<u>Quiet</u> ⅛ as loud
Bird calls (distant)	Rural Residential Area	30	
Soft Whisper (5 ft)	Quiet Bedroom	20	<u>Just Audible</u>
		10	<u>Threshold of Hearing</u>

**Existing Setting**

In the City of Big Bear Lake, the primary source of noise is motor vehicle traffic, primarily along the Highway 18- Big Bear Boulevard corridor. To a lesser but occasionally substantial degree, boats and other watercraft using the lake are a source of disruptive noise, and aircraft traffic also contributes an intrusive element to the noise environment. Other sources of community noise include mechanical equipment serving commercial land uses, resorts and major institutions, i. e., snowmaking machines. In addition, with the growing number of commercial entertainment venues, noise from amplified music and entertainment has become a concern to adjacent lodge owners and residential neighborhoods, particularly in the areas near the Lake where sound carries for long distances.

### **Motor Vehicles Noise (Landcraft)**

Noise from motor vehicles is generated by engine vibrations, the interaction between tires and the road, and the exhaust system. Reducing the average motor vehicle speed reduces the noise exposure of receptors adjacent to the road. Each reduction of five miles per hour reduces noise by about 1.3 dBA.

In order to assess the potential for mobile-source noise impacts, it is necessary to determine the noise currently generated by vehicles traveling through the project area. Average daily traffic (ADT) volumes were based on the 1997 existing daily traffic volumes provided by Hersh Acoustical Engineering. The results of this modeling indicate that average noise levels along arterial segments currently range from approximately 49 dBA to 69 dBA CNEL as calculated at a distance of approximately 50 feet from the centerline of the road. Interstate routes would have noise levels of 70+ dBA CNEL at the edge of the roadway.

### **Motor Vehicles Noise (Water craft)**

The results of the 1997 noise survey have shown that along the lake shore, ambient noise readings can reach as high as 56 dB and this level is not uncommon during the water craft season. Noise levels from aircraft flying over the lake are generally higher than noise generated from water craft; however, boats with modified engines can significantly increase the noise level.

While noise stemming from the lake can be heard throughout the community, the noise levels adjacent to the lake are infrequently above the level considered compatible with residential uses. Most of the area adjacent to the lake is planned and zoned for residential uses, with the exception of several marinas and resorts.

### **Aircraft Noise**

The Big Bear Airport contributes intermittent aircraft noise to the noise environment. The overall level of air traffic, which is predominantly day time operations by single engine propeller aircraft, results in noise levels upwards of the 70 dB range primarily due to individual aircraft flying over the lake. This type of single event noise impact is difficult to mitigate with land use policies; however, noise attenuation measures can be taken in construction of sensitive uses, such as single family residential, to maintain acceptable interior noise levels.

### **Stationary Source Noise**

Stationary sources of noises may occur from all types of land uses. Industrial operations, construction, and use and repair of motorized equipment can create noise problems. Loading and materials transfer areas, outdoor materials warehousing operations and other acoustically unscreened operations will also contribute to issues of land use compatibility.

Another source of noise within the planning area comes from the operation of mechanical equipment, such as snowmaking equipment during the ski season and refrigerator units and heating/air conditioner equipment associated with commercial centers. Noise from roof-mounted equipment can penetrate into adjoining neighborhoods and impact sensitive receptors. The constant hum associated with fans and compressors can impact the enjoyment of the outdoors and adversely affect the resort residential quality

of life. These impacts can be mitigated through the development review process by addressing equipment design and noise attenuation techniques. While some types of equipment noise associated with the area's recreation-based economy may be inevitable, such as snowmaking machines, these noise sources should be required to mitigate noise to the extent feasible by using the best available technology.

## ■ Regulatory Framework

### **Federal**

#### **Federal Highways Administration**

The Federal Highways Administration (FHWA) administers the protocols and methods of analyzing traffic noise. United States Code of Federal Regulations Title 23, Part 772 (23 CFR 772), provides the procedures for analysis and abatement of highway traffic noise and construction noise. It provides technical assistance to state authorities, in conjunction with other local and federal authorities, to prepare and execute appropriate noise review and abatement programs for roadway and highway construction noise impacts. The maximum highway-related noise level considered acceptable for land uses along highways is 65 dBA CNEL.

#### **Federal Aviation Administration**

The primary responsibility of the Federal Aviation Administration (FAA) in regard to noise is the enforcement of the FAA Noise Standards (Title 14, Part 150), which prescribes the procedures, standards and methodology governing the development, submission, and review of airport noise exposure maps and airport noise compatibility programs, including the process for evaluating and approving or disapproving those programs. Title 14 also identifies those land uses which are normally compatible with various levels of exposure to noise by individuals. It provides technical assistance to airport operators, in conjunction with other local, state, and federal authorities, to prepare and execute appropriate noise compatibility planning and implementation programs. The FAA establishes the 65 dB CNEL contour of an airport as the threshold for evaluation of potential noise impacts. The maximum airport-related noise level considered compatible with NSLU is 65 dBA CNEL.

#### **Federal Transit Administration**

The Federal Transit Administration (FTA) establishes noise impact criteria to be used in evaluating noise impacts from mass transit projects, including railroads, in the Transit Noise and Vibration Impact Assessment published in 2006. The FTA criteria do not establish a screening level for potential impacts. Rather, the FTA noise impact criteria are based on comparison of the existing outdoor noise levels and the future outdoor noise levels from the transit project. The noise level that would result from a proposed transit project's implementation is evaluated as having either a low, moderate or severe impact based on the existing noise level and sensitivity of the affected land use. Lands set aside for serenity and quiet are considered the most sensitive land uses (Category 1), followed by residences and buildings where people normally sleep (Category 2), and institutional land uses with primarily daytime and evening use (Category 3).

## **State**

### **California Department of Transportation**

The California Department of Transportation (Caltrans) administers the FHWA requirements for analysis and abatement of highway traffic noise and construction noise (23 CFR 772) in California. Caltrans also has additional technical methodologies for analysis of roadway and highway construction noise in California. The Caltrans Traffic Noise Analysis Protocol (CATNAP) and Technical Noise Supplement (TENS) provide the methodology and procedures for analysis and abatement of roadway noise in the state.

### **California Noise Control Act of 1973**

California Health and Safety Code Sections 46000 through 46080, known as the California Noise Control Act, finds that excessive noise is a serious hazard to public health and welfare and that exposure to certain levels of noise can result in physiological, psychological, and economic damage. It also finds that there is a continuous and increasing bombardment of noise in the urban, suburban, and rural areas. The California Noise Control Act declares that the State of California has a responsibility to protect the health and welfare of its citizens by the control, prevention, and abatement of noise. It is the policy of the state to provide an environment for all Californians that is free from noise that jeopardizes their health or welfare.

### **California Noise Insulation Standards**

In 1974, the California Commission on Housing and Community Development adopted noise insulation standards for multi-family residential buildings (California Code of Regulations Title 24, Part 2). Title 24 establishes standards for interior room noise (attributable to outside noise sources). The regulations also specify that acoustical studies must be prepared whenever a multi-family residential building or structure is proposed to be located near an existing or adopted freeway route, expressway, parkway, major street, thoroughfare, rail line, rapid transit line, or industrial noise source, and where such noise source or sources create an exterior CNEL (or  $L_{dn}$ ) of 60 dBA or greater. Such acoustical analysis must demonstrate that the residence has been designed to limit intruding noise to an interior CNEL (or  $L_{dn}$ ) of at least 45 dBA.

### **California Airport Noise Standards**

The 1990 California Airport Noise Standards require airport proprietors, aircraft operators, local governments, pilots, and the California Department of Transportation Division of Aeronautics to work cooperatively to diminish noise. This requirement is accomplished by controlling and reducing noise in the communities in the vicinity of airports. The level of noise acceptable to a person residing in the vicinity of an airport is established as a CNEL value of 65 dBA. The limitation on airport noise in residential communities is established to be 65 dBA CNEL for proposed new airports, active military airports being converted to civilian use, and existing civilian airports.

## California Department of Health Services (DHS)

The effects of noise levels on various land uses were studied by The California Department of Health Services (DHS) Office of Noise Control. Based on that study, the DHS established four categories for to determine the severity of noise impacts on these various land uses.

Table 4.2.12-2 (Land Use Compatibility for Community Noise Exposure) details a compatibility chart for community noise with respect to land use as prepared by the California Office of Noise Control. It identifies four categories of exterior noise levels for different land uses. These categories are, normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable. Conditionally acceptable indicates that new development of that land use should only be undertaken after a detailed analysis of the noise and required noise insulation features to reduce interior noise levels have been incorporated into the design. A normally acceptable designation, by contrast, indicates that standard development can occur with no special noise reduction requirements.

The state interior and exterior noise standards for varying land uses are included in Table 4.2.12-3 (California Interior and Exterior Noise Standards). This represents standards for interior noise as well as exterior noise within “habitable” areas.

### Regional

There are no regional regulations related to noise.

### Local

#### Big Bear General Plan

The Big Bear General Plan policies that are applicable to noise<sup>14</sup> are as follows:

- Policy N 1.1** Utilize appropriate land use and transportation planning to achieve noise compatibility between adjacent land uses and noise sources.
- Policy N 1.2** Ensure that existing and potential noise impacts are identified and mitigated to non-significant levels through environmental review and assure compliance with mitigation measures for new development projects.

## ■ Project Impact Evaluation

### Thresholds of Significance

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

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<sup>14</sup> These policies are not a complete listing of all design policies contained in The Chino General Plan; those policies that would be most applicable to the proposed project are included here.

**Table 4.2.12-2 Land Use Compatibility for Community Noise Exposure**

Land Use Category	Use	Exterior Noise Level (CNEL)					
		55	60	65	70	75	80
Residential/ Lodging	Single-Family/Duplex/Mobile homes	CLEARLY ACCEPTABLE		NORMALLY ACCEPTABLE		NORMALLY UNACCEPTABLE	
	Multi-Family	NORMALLY ACCEPTABLE		NORMALLY UNACCEPTABLE		CLEARLY UNACCEPTABLE	
	Hotel/Motel	NORMALLY ACCEPTABLE		NORMALLY UNACCEPTABLE		CLEARLY UNACCEPTABLE	
Public/ Institutional	Schools/Hospitals/Churches, Hospitals, Nursing Homes	NORMALLY ACCEPTABLE		NORMALLY UNACCEPTABLE		CLEARLY UNACCEPTABLE	
	Auditoriums/Concert Halls	NORMALLY ACCEPTABLE		NORMALLY UNACCEPTABLE			
Recreational	Sports Arena, Outdoor Spectator Sports	NORMALLY ACCEPTABLE		NORMALLY UNACCEPTABLE			
	Playgrounds, Neighborhood Parks	NORMALLY UNACCEPTABLE		CLEARLY UNACCEPTABLE			
	Golf Courses, Riding Stables, Water recreation, Cemeteries	NORMALLY UNACCEPTABLE		NORMALLY UNACCEPTABLE		CLEARLY UNACCEPTABLE	
Commercial	Office Buildings, business, commercial, and Professional	NORMALLY UNACCEPTABLE		CLEARLY UNACCEPTABLE			
Industrial	Industrial, Manufacturing, Utilities, Agriculture	NORMALLY UNACCEPTABLE		CLEARLY UNACCEPTABLE			

SOURCE: California Office of Noise Control and the Governor's Office of Planning and Research.

-  CLEARLY ACCEPTABLE—Specified land use is satisfactory, based upon the assumption that buildings involved are of normal conventional construction, without any special noise insulation requirements.
-  NORMALLY ACCEPTABLE—New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design.
-  NORMALLY UNACCEPTABLE—New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made with noise insulation features included in the design.
-  CLEARLY UNACCEPTABLE—New construction or development clearly should not be undertaken.

<b>Table 4.2.12-3 California interior and Exterior Noise Standards</b>			
<i>Land Use</i>		<i>CNEL (dBA)</i>	
<i>Categories</i>	<i>Uses</i>	<i>Interior<sup>a</sup></i>	<i>Exterior<sup>b</sup></i>
Residential	Single and multi-family, duplex	45 <sup>c</sup>	65
	Mobile homes	—	65 <sup>d</sup>
Commercial	Hotel, motel, transient housing	45	—
	Commercial retail, bank, restaurant	55	—
	Office building, research and development, and professional offices	50	—
	Amphitheatre, concert hall, auditorium, movie theatre	46	—
	Gymnasium (Multipurpose)	50	—
	Sports Club	55	—
	Manufacturing, warehousing, wholesale, utilities	65	—
	Movie theatres	45	—
Institutional/Public Space	Hospital, school classroom/playground	45	65
	Church, Library	45	—
Open Space	Park	—	65

SOURCE: California Office of Noise Control and the Governor's Office of Planning and Research.

- a. Indoor environment excluding: bathrooms, kitchens, toilets, closets, and corridors.
- b. Outdoor Environment Limited to:
  - Private yard of single-family dwellings
  - Multi-family private patios or balconies accessed from within the dwelling (Balconies 6 feet deep or less are exempt)
  - Mobile home parks
  - Park Picnic area
  - School playgrounds
  - Hospital patios
- c. Noise level requirement with closed windows, mechanical ventilation or other means of natural ventilation shall be provided in Chapter 12, Section 1205 of the Uniform Building Code.
- d. Exterior noise levels should be such that interior noise levels.

- Result in the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels
- Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project
- Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project
- If located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in the exposure of people residing or working in the project area to excessive noise levels
- If within the vicinity of a private airstrip, result in the exposure of people residing or working in the project area to excessive noise levels

## Analytic Method

The following analysis considers whether or not implementation of the Regional Reduction Plan within the City would impact noise-sensitive receptors.

### Effects Not Found to Be Significant

Threshold	Would the project result in the exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
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The Noise Element of the General Plan provides land use noise compatibility information and specifies maximum interior and exterior noise standards for various land use types. All development, including energy-generating facilities, would be required to be designed in such a way, e.g., through setbacks or shielding, that future noise levels do not exceed these standards. Therefore, installation of these energy-generating structures would likely be constructed away from sensitive uses, and would not result in any adverse noise impacts. Land Use Compatibility for Community Noise Exposure (Table 4.2.12-2) and California Interior and Exterior Noise Standards (Table 4.2.12-3) would ensure that noise impacts to sensitive uses would be avoided or minimized. Each specific development project would undergo evaluation prior to project approval for consistency with the Big Bear Lake General Plan policies and standards. Therefore, this impact would be *less than significant*. No mitigation is required.

Threshold	Would the project result in the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?
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Construction vibration that could occur during installation of photovoltaic arrays would not be substantial, and if these activities were to occur on or near fragile buildings, all appropriate measures would be required per the Big Bear Lake noise standards to reduce the effect of any groundborne vibration at the sensitive receptor. The municipal code further restricts construction activities that occur in close proximity to noise- or vibration-sensitive uses to specific hours of the day. Specific limits on the noise levels associated with construction and mechanical equipment that can be measured at sensitive uses are identified and subject to enforcement. Therefore, this impact would be *less than significant*. No mitigation is required.

Threshold	Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?
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Implementation of the Regional Reduction Plan would not result in a substantial increase in noise levels over what was analyzed in the Big Bear Lake General Plan EIR. Land Use Compatibility for Community Noise Exposure (Table 4.2.12-2) and California Interior and Exterior Noise Standards (Table 4.2.12-3) would ensure that noise impacts to sensitive uses would be avoided or minimized. Each specific development project that implements the Regional Reduction Plan would undergo evaluation prior to project approval for consistency with the Big Bear Lake General Plan policies and standards. Therefore, this impact would be *less than significant*. No mitigation is required.

Threshold	Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?
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Implementation of the Regional Reduction Plan would not result in a substantial temporary increase in noise levels over what was analyzed in the Big Bear Lake General Plan EIR. Land Use Compatibility for Community Noise Exposure (Table 4.2.12-2) and California Interior and Exterior Noise Standards (Table 4.2.12-3) would ensure that construction noise impacts to sensitive uses would be avoided or minimized. Each specific development project that implements the Regional Reduction Plan would undergo evaluation prior to project approval for consistency with the Big Bear Lake General Plan policies and standards. Therefore, this impact would be *less than significant*. No mitigation is required.

Threshold	Would the project, if located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in the exposure of people residing or working in the project area to excessive noise levels?
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The Regional Reduction Plan does not provide housing or workplaces that would bring people into the vicinity of the Big Bear Airport. Implementation of the Regional Reduction Plan would not result in a substantial increase in noise levels over what was analyzed in the Highland General Plan EIR. Land Use Compatibility for Community Noise Exposure (Table 4.2.12-2), California Interior and Exterior Noise Standards (Table 4.2.12-3), Big Bear Lake General Plan Policies, and airport compatibility review by the City would ensure that noise impacts to sensitive uses within the vicinity of the airports would be avoided or minimized. Each specific development project that implements the Regional Reduction Plan would undergo evaluation prior to project approval for consistency with the Big Bear Lake General Plan policies and standards and airport compatibility. Therefore, this impact would be *less than significant*. No mitigation is required.

Threshold	Would the project, if within the vicinity of a private airstrip, result in the exposure of people residing or working in the project area to excessive noise levels?
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Big Bear Airport provides local service for private planes. No other private airstrips are located within or in close proximity to Big Bear Lake. Therefore, *no impact* would occur.

## ■ Cumulative Impacts

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

## ■ References

Big Bear Lake, City of. 1999a. *City of Big Bear Lake Final Environmental Impact Report for the Comprehensive General Plan*, July.

———. 1999b. *City of Big Bear Lake General Plan*, August.

———. 2011. *2008–2014 Housing Element Update Initial Study and Negative Declaration*, August.

———. n.d. *City of Big Bear Lake Municipal Code*.

California Department of Transportation (Caltrans). 1998. *Technical Noise Supplement*.

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

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## 4.2.13 Population/Housing

This section of the EIR analyzes the potential environmental effects on population/housing in the City of Big Bear Lake from implementation of the Regional Reduction Plan. Data for this section were taken from Big Bear Lake General Plan (1999a) and associated environmental document (1999b), and the 2008–2014 Housing Element (2011). 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

Table 4.2.13-1 (Socioeconomic Data for Big Bear Lake) presents socioeconomic data for Big Bear Lake, including population, housing (single-family and multifamily), and employment (agricultural, industrial, retail, and nonretail). Table 4.2.13-1 reflects socioeconomic data for permanent residents only. The primary industry in Big Bear Lake is tourism and the City’s regular population of 5,019 (2010 census) can swell by a factor of 10 or 20 on weekends.

<i>Category</i>	<b>2008</b>	<b>2020</b>
Population	5,019	5,619
Housing (du)	2,196	2,400
Single-Family (du)	1,754	1,924
Multifamily (du)	442	476
Employment (jobs)	6,212	6,423
Agricultural (jobs)	4	7
Industrial (jobs)	845	1,079
Retail Commercial (jobs)	3,222	3,050
Non-Retail Commercial (jobs)	2,141	2,287

du = dwelling unit

As of 2000, the housing stock in Big Bear Lake was comprised mostly of single-family detached homes, which made up about 84 percent of all units, while multi-family units comprised only 8 percent of the total. About 4 percent of units were single-family attached (condo) units, and mobile homes comprised the remaining 4 percent. Big Bear Lake is unique in that nearly three-quarters of its residential units are vacation homes held for occasional use.

## ■ 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. 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**

**Big Bear Lake General Plan**

The Big Bear Lake General Plan policies that are applicable to housing<sup>15</sup> are as follows:

Land Use Element

**Policy L 3-2** Ensure that residential development provides an attractive living environment and creates long-term value for residents as well as the community.

**Policy L 3-7** To support the provision of affordable housing in the City, provide incentives for development of these units through measures which may include but are not limited to the following: a. Provide for fast-tracking of application review, plan check and inspection processes; b. Consider approving a density bonus of no greater than 50 percent over the base permitted density for projects providing affordable units to low-to-moderate income families and households, and consider approving a density bonus of no greater than 100 percent for projects providing affordable units to senior citizens, based on the merits and amenities provided within each project, on a case-by-case basis.

Housing Element (2008–2014)

**Policy H7.1** Provide incentives to encourage builders to incorporate energy saving techniques in housing developments.

■ **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

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<sup>15</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 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)?
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Implementation of the Regional Reduction Plan would not induce substantial population growth that could exceed local and regional growth projections either directly or indirectly. The project would not result in an increased demand for housing nor would it result in permanent employment-generating activities that would generate demand for housing. No extension of infrastructure is proposed. There would be *no impact*.

Threshold	Would the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?
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The Regional Reduction Plan would not involve the development of any structures or facilities that would displace existing housing. All proposed measures would occur at existing locations or within planned future development subject to discretionary approvals by the City. There would be *no impact*.

Threshold	Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?
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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 cumulative impact*.

## ■ References

Big Bear Lake, City of. 1999a. *City of Big Bear Lake Final Environmental Impact Report for the Comprehensive General Plan*, July.

———. 1999b. *City of Big Bear Lake General Plan*, August.

———. 2011. *City of Big Bear Lake General Plan*. Housing Element 2008–2014, November.

———. n.d. *City of Big Bear Lake Municipal Code*.

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

## 4.2.14 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 Big Bear Lake from implementation of the Regional Reduction Plan. Park services are addressed in Section 4.2.15 (Recreation). Public and private utilities and service systems, including water, wastewater, and solid waste services and systems, are addressed in Section 4.2.17 (Utilities/Service Systems). Data for this section were taken from Big Bear Lake General Plan (1999a) and associated environmental document (1999b). Full reference-list entries for all cited materials are provided at the end of this section.

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

### ■ Environmental Setting

#### ***Fire Protection and Emergency Medical Response Services***

##### **San Bernardino County Fire Department**

The San Bernardino County Fire Department (SBCFD) is responsible for firefighting operations within San Bernardino County and coordinates with the City of Big Bear Lake Fire Protection District for local needs within the City. The Office of Emergency Services (OES), a division within the SBCFD is responsible for broad emergency services coordination throughout the county, including the City of Big Bear Lake.

##### **City of Big Bear Lake Fire Protection District/Fire Department**

The City of Big Bear Lake provides fire protection services, including fire prevention, fire suppression and emergency medical services, through a subsidiary district known as the Big Bear Lake Fire Protection District. The District, also referred to as the Fire Department, is a separate board-governed district within the City Council serving as the governing board. District boundaries include the incorporated City limits as well as approximately 1 square mile of unincorporated land to the west and south of the City boundaries. The Fire Department currently operates three stations (station 281, 282 and 283). The Department's Headquarters is located at 40906 Big Bear Boulevard and is staffed full time with an average response time of 4 to 6 minutes.

The land adjacent to the City within the San Bernardino National Forest is under the jurisdiction of the United States Department of Agriculture Forest Service. The City of Big Bear Lake, Big Bear City, and the Forest Service are involved in a mutual aid agreement to provide additional services to the respective jurisdictions as necessary

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

##### **San Bernardino County Sheriff's Department**

Police protection in the planning area is contracted through the San Bernardino County Sheriff's Department. The City's station is located at 477 Summit Boulevard, within the City limits. In addition to

Sheriff's personnel, law enforcement in the City is aided by citizen volunteers. The Sheriff's department coordinates an active Neighborhood Watch program throughout the Valley, with approximately 3,000 participants valley-wide. In addition, the Citizen Patrol provides surveillance throughout the Valley, including the City of Big Bear Lake.

## **Schools**

The Bear Valley School District has a total of four elementary schools, one middle school and two high schools. These schools include, Big Bear High School in Sugarloaf; Chautauqua Continuing High School adjacent to Big Bear High School; Big Bear Middle School and Big Bear Elementary School, both located with the City of Big Bear Lake; North Shore Elementary School on North Shore Drive north of the City; and Baldwin Lane Elementary School in Sugarloaf.

## **Libraries**

Public library service in the Big Bear Valley is provided by a branch of the San Bernardino County Library System, located at 41930 Garstin Road.

## **■ Regulatory Framework**

### **Federal**

#### **Federal Fire Protection Standards**

The National Fire Protection Association (NFPA) Code Section 1710 contains minimum requirements relating to the organization and deployment of fire suppression operations, emergency medical operations, and special operations to the public by substantially all career fire departments. The requirements address functions and objectives of fire department emergency service delivery, response capabilities, and resources. The code also contains general requirements for managing resources and systems, such as health and safety, incident management, training, communications, and pre-incident planning. The code addresses the strategic and system issues involving the organization, operation, and deployment of a fire department and does not address tactical operations at a specific emergency incident.

### **State**

#### **California Education Codes**

California Senate Bill 50 modifies Government Code Section 65995 to limit the acquisition of development fees by local agencies to three levels set in Government Code Sections 65995, 65995.5, and 65995.7 and prohibits a local agencies from denying a legislative or adjudicative action under CEQA involving real estate development on the basis of the inadequacy of school facilities.

California Education Code Section 17620 gives school districts the authority to levy a fee, charge, dedication, or other requirement against any construction within the boundaries of the district, for the purpose of funding the construction or reconstruction of school facilities, subject to any limitations set forth in Government Code Title 7, Division 1, Chapter 4.9 (commencing with Section 65995).

## **Regional**

There are no regional regulations applicable to public services.

## **Local**

### **City of Big Bear Lake Municipal Code**

City Municipal Code Chapter 15.68 (Growth Management Program) and Chapter 16.18 (Park and Recreation Dedication and Fees) require that all new developments and significant construction projects pay the applicable Impact Fees to help fund a variety of services including public services, park and recreation facilities, and fire suppression facilities, vehicles and equipment.

### **Big Bear Lake General Plan**

There are no General Plan policies that are directly applicable to implementing the Regional Reduction Plan reduction measures in Big Bear Lake.

## **■ 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 Big Bear Lake in the Regional Reduction Plan were reviewed to determine if they would include elements that would directly or indirectly result in adverse environmental effects related to the provision of fire protection, emergency medical response, and police protection services or schools or libraries.

## Effects Not Found to Be Significant

Threshold	Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or in the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection and emergency medical response, police protection, schools, or libraries?
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Demand for fire protection and law enforcement services is generally based on population and land use changes that increase the number of facilities and structures requiring these services. None of the measures selected by Big Bear Lake in the Regional Reduction Plan would increase resident population in the City; therefore, service ratios, response times, or performance objectives would not be affected. Implementation of the measures would not result in new or expanded facilities requiring fire protection or law enforcement services; therefore, there would be no demand for new or altered fire or police facilities, the construction of which could result in environmental impacts. Similarly, demand for schools and libraries is population-based. None of the measures selected by Big Bear Lake in the Regional Reduction Plan would increase resident population in the City, requiring the need for new or expanded schools or libraries, the construction of which could result in environmental impacts. Therefore, there would be *no impact*.

### ■ Cumulative Impacts

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

### ■ References

- Big Bear Lake, City of. 1999a. *City of Big Bear Lake Final Environmental Impact Report for the Comprehensive General Plan*, July.
- . 1999b. *City of Big Bear Lake General Plan*, August.
- . 2013. Big Bear Lake Fire Protection District. <http://www.bbffd.com/> (accessed April 17, 2013).
- . n.d. *City of Big Bear Lake Municipal Code*.
- National Fire Protection Association (NFPA). 2013. NFPA 1710. <http://www.nfpa.org/aboutthecodes/AboutTheCodes.asp?DocNum=1710> (accessed February 20, 2013).
- San Bernardino Associated Governments (SANBAG). 2012. *San Bernardino County Regional Greenhouse Gas Reduction Plan*. Draft. Prepared by ICF International, December.

## 4.2.15 Recreation

This section of the EIR analyzes the potential environmental effects on recreation in the City of Big Bear Lake from implementation of the Regional Reduction Plan. Data for this section were taken from Big Bear Lake General Plan (1999a) and associated environmental document (1999b). Full reference-list entries for all cited materials are provided at the end of this section.

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

### ■ Environmental Setting

#### ***Parks and Recreational Facilities***

Within the City limits there are a number of park and recreational facilities, which are either private or publicly owned. Currently there are three parks, two ski resorts, two athletic fields, two lakes, an amusement park, and a golf course. The Big Bear Valley Recreation and Parks District operates Meadow and Moonridge Animal Park. The City of Big Bear Lake operates Rotary Pine Knot Park and Boulder Bay. The Municipal Water District oversees the maintenance of Big Bear Lake. The lake was originally created as an irrigation reservoir for agricultural purposes in the Redlands and San Bernardino area. It is 2,971 surface acres in size, has a storage capacity of 73,000 acre feet, and has 23 miles of scenic shoreline. There are 17 possible master marina permits issued by MWD for Big Bear Lake, and seven active permits. Privately owned marinas offer spring and summer recreational boating, as well as jet skiing, canoe rentals, boat slip rentals, and lake landing access. Other privately owned and operated recreational facilities include Bear Mountain and Snow Summit Ski Resorts, Alpine Trout Lake, Bear Mountain Golf Course and Magic Mountain.

### ■ Regulatory Framework

#### ***Federal***

There are no federal regulations that are applicable to the provisions of recreation, park, and trail facilities in Big Bear Lake.

#### ***State***

##### ***Quimby Act***

The Quimby Act (California Government Code Section 66477) is state legislation that requires the dedication of land and/or fees for park and recreational purposes as a condition of approval of tentative map or parcel map. The Quimby Act establishes procedures that can be used by local jurisdictions to provide neighborhood and community parks and recreational facilities and services for new residential subdivisions.

## Regional

### San Bernardino County Regional Parks Division

The San Bernardino County Regional Parks is administered by the San Bernardino County Regional Parks Division and the San Bernardino County Regional Parks Advisory Commission. The San Bernardino County Regional Parks division operates the Mojave Narrows Regional Park and Mojave River Forks Regional Park.

## Local

### City of Big Bear Lake Municipal Code

City Municipal Code Chapter 16.18 (Park and Recreation Dedication and Fees) requires that all new developments and significant construction projects pay the applicable Impact Fees to help fund park and recreation facilities.

### Big Bear Lake General Plan

The Big Bear Lake General Plan policies/principles that are applicable to recreational facilities<sup>16</sup> that include pedestrian and bicycle trail networks are as follows:

#### Circulation Element

- Policy C 3.1** Enhance accessibility and convenience for bicyclists and pedestrians, and plan for provision of scenic recreational trails in the City where practical.

#### Open Space, Parks, and Recreation Element

- Policy OPR 2.1** The City shall develop, adopt and implement a Master Plan for Trails which incorporates the following features:
- a. Bikeways. The Master Plan for Trails shall address bicycle transportation both as an alternate travel mode and for recreational purposes, including both on-street bike lanes (striped or unstriped) and separated bicycle paths. In particular, the plan shall evaluate the feasibility of creating a bicycle trail which passes as close as possible to Big Bear Lake, which may include both the lake frontage or parallel surface streets to create the most feasible route. Additionally, this portion of the Master Plan for Trails shall evaluate the feasibility of providing a bikeway in or adjacent to Big Bear Boulevard throughout the City limits, in cooperation with Caltrans.
  - b. Hiking, Mountain Biking and All-Purpose Trails, excluding motorized off-load vehicles. The Master Plan for Trails shall include design standards and locations for all-purpose recreational trails, which need not be paved but should be properly graded and compacted for erosion control and maintenance purposes. However, it is not the City's intent to develop a trail system for motorized vehicles within the City limits.

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<sup>16</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.

- c. Equestrian Trails. The Master Plan for Trails should delineate routes appropriate to convey riding horses from the commercial stables within the City to equestrian trails within adjacent non-urbanized areas, including those within the U. S. Forest Service boundaries; however, it is not the City's intent to provide a network of equestrian trails within the urbanized portions of the City.
- d. Connectivity. The Master Plan, when developed, shall ensure that trails are interconnected with other City, County and regional trails to the extent practical, to create a trail network providing the maximum flexibility for users.

## ■ 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 Big Bear Lake 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?
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Demand for existing parks and recreational facilities is based on population. The Regional Reduction Plan would not increase resident population in the City; therefore, implementation of the GHG reduction measures would not affect the demand for and use of existing recreational facilities such that significant adverse environmental effects would occur. Therefore, there would be ***no impact***.

Threshold	Would the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?
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The Regional Reduction Plan does not include recreational facilities. Therefore, there would be ***no impact***.

## ■ Cumulative Impacts

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

## ■ References

Big Bear Lake, City of. 1999a. *City of Big Bear Lake Final Environmental Impact Report for the Comprehensive General Plan*, July.

———. 1999b. *City of Big Bear Lake General Plan*, August.

———. n.d. *City of Big Bear Lake Municipal Code*.

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

## 4.2.16 Transportation/Traffic

This section of the EIR analyzes the potential environmental effects on transportation/traffic in the City of Big Bear Lake from implementation of the Regional Reduction Plan. Data for this section were taken from Big Bear Lake General Plan (1999a) and associated environmental document (1999b), the Southern California Association of Governments (SCAG) Regional Transportation Plan and SCS (2012), the SCAG Regional Comprehensive Plan (2009), and the San Bernardino Associated Governments (SANBAG) Congestion Management Program (2012). Full reference-list entries for all cited materials are provided at the end of this section.

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

### ■ Environmental Setting

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

The City of Big Bear Lake circulation system includes a highway, an airport, and a system of arterial and local streets with automobile, transit, pedestrian, and bicycle transportation options.

#### **Roadway Network**

The City of Big Bear Lake has the following roadway classifications for local roadways within the City:

- **Arterials** are types of roadways that provide a high degree of mobility as major traffic carriers with access to collectors and some local streets. Arterials are typically the widest streets in terms of right of way and pavement width, and they generally have the highest speed limits. Arterials may be further classified as primary or secondary, based upon width and capacity.
- **Collectors** are types of roadways that connect local streets with arterials and also provide access to adjacent land uses, thus balancing mobility with access. While a collector street is not as wide as the arterial, it is often wider than local streets in terms of right of way and land width.
- **Locals** are roadways intended to provide access to adjacent land uses exclusively and are not designed or intended to carry through-traffic or allow for high speeds.

#### ***Truck Routes***

The Big Bear Lake Circulation Element proposes designating State Route 18 (SR-18) as a truck route. This designation is intended to ensure that trucks do not use other streets for travel routes, other than to reach a delivery point.

## **Airports**

### **Big Bear City Airport**

Air transportation needs are served by Big Bear City Airport. Although the airport is located outside of the City of Big Bear Lake and the City has no jurisdiction over its operations, the airport provides a valuable transportation link which serves City residents.

## **Transit**

Bus transportation is provided by the Mountain Area Regional Transit Authority (MARTA). The agency is a joint powers authority formed by the City of Big Bear Lake, Crestline and San Bernardino.

MARTA provides bus service between Big Bear Lake, Lake Arrowhead, Crestline and San Bernardino. Off-the-mountain (OTM) service is provided Monday through Saturday, with three runs provided on weekdays and two on Saturdays. Destination points for OTM service within the mountain areas include Big Bear Lake, Fawnskin, Running Springs, Lake Arrowhead, Blue Jay, Rim Forest and Crestline. Destination points within San Bernardino include the Metrolink station, the Greyhound bus station, the transit mall, various shopping centers, the County hospital Saint Bernardine's Hospital and the Department of Motor Vehicles.

### **Fixed-Route Bus Service**

Within the Big Bear Lake area, fixed-route service is provided daily with stops at different locations throughout the city. Stops include Boulder Bay, the Village, Bear Valley Hospital, Snow Summit, Bear Mountain, Stater Brothers shopping center, Big Bear City, Sugarloaf, and Erwin Lake.

Dial-a-ride service is also available from MARTA on a year-round basis.

## **Pedestrian Facilities**

Pedestrian circulation in the City of Big Bear Lake is provided for through a limited number of sidewalks. Sidewalks are provided within the City only in a few areas, including portions of Big Bear Boulevard, two streets in the Village, along portions of Moonridge Road and within the larger shopping centers. There are no sidewalks leading from residential areas to nearby schools or parks. From Pine Knot Avenue west to the City limits along SR-18 there are no continuous sidewalks, and pedestrians walk on the shoulder of the roadway.

## **Bicycle Facilities**

The City's 1984 General Plan contained an exhibit showing bicycle routes and bicycle storage facilities. The routes included Fox Farm Road and Swan Drive, from the eastern City limit to Meadow Park; Starvation Flats Road from Big Bear Boulevard to Fox Farm Road; Moonridge Road and Garstin Drive from Fox Farm Road to Bear Mountain; and a route connecting the Village to Moonridge Road via Pennsylvania Avenue, Oak Avenue, and Brownie Lane. Implementation of this plan took the form of signs indicating bicycle routes within portions of the City. No on-street bike lanes have been striped, and not all the routes have been signed. No off-street bikeways were designated or have been constructed in the City.

A 1994 Regional Bicycle Plan prepared for San Bernardino County by SANBAG designated one bicycle route within the City. Specifically, the route followed the alignment of SR-18 with a connecting link along Stanfield Cutoff between SR-18 and SR-38. The City, however, has identified several constraints to designating an on-street bikeway along SR-18.

## ■ Regulatory Framework

### ***Federal***

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

The United States Department of Transportation (USDOT) oversees federal highway, air, railroad, and maritime and other transportation administration functions.

The Federal Highway Administration (FHWA) is an agency within the USDOT that supports state and local governments in the design, construction, and maintenance of the Nation's highway system (Federal Aid Highway Program) and various federally and tribal owned lands (Federal Lands Highway Program).

The Federal Transit Administration (FTA) is an agency within the USDOT that provides financial and technical assistance to local public transit systems. The FTA is headed by an Administrator who is appointed by the President of the United States and functions through a Washington, D.C. headquarters office and ten regional offices which assist local transit agencies throughout the United States.

The Federal Aviation Administration (FAA) is an agency within the USDOT that provides oversight and assistance to state and local airport authorities in the safety and improvements at airports throughout the United States. The FAA also provides technical assistance to airport operators, in conjunction with other local, state, and federal authorities, to prepare and execute appropriate airport compatibility planning and implementation programs.

### ***State***

#### **California Department of Transportation**

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

#### **California Air Resources Board**

The California Air Resources Board, a part of the California EPA (Cal/EPA) is responsible for the coordination and administration of both federal and state air pollution control programs within California. With respect to transportation the California Air Resources Board reviews and approves metropolitan planning organizations' (MPOs) implementation of Senate Bill 375 (SB 375) within each region of California.

## Senate Bill 375

SB 375, which establishes mechanisms for the development of regional targets for reducing passenger vehicle greenhouse gas emissions, was adopted by the State on September 30, 2008. On September 23, 2010, California ARB adopted the vehicular greenhouse gas emissions reduction targets that had been developed in consultation with the MPOs; the targets require a 7 to 8 percent reduction by 2020 and between 13 to 16 percent reduction by 2035 for each MPO. SB 375 recognizes the importance of achieving significant greenhouse gas reductions by working with cities and counties to change land use patterns and improve transportation alternatives. Through the SB 375 process, MPOs will work with local jurisdictions in the development of sustainable communities strategies (SCS) designed to integrate development patterns and the transportation network in a way that reduces greenhouse gas emissions while meeting housing needs and other regional planning objectives. MPOs will prepare their first SCS according to their respective regional transportation plan (RTP) update schedule.

## Regional

### Southern California Association of Governments (SCAG)

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

### Regional Comprehensive Plan

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

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

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

- Focusing growth in existing and emerging centers and along major transportation corridors
- Creating significant areas of mixed-use development and walkable, “people-scaled” communities
- Providing new housing opportunities, with building types and locations that respond to the region’s changing demographics
- Targeting growth in housing, employment, and commercial development within walking distance of existing and planned transit stations
- Injecting new life into under-used areas by creating vibrant new business districts, redeveloping old buildings and building new businesses and housing on vacant lots
- Preserving existing, stable, single-family neighborhoods
- Protecting important open space, environmentally sensitive areas and agricultural lands from development
- Reducing emissions of criteria pollutants to attain federal air quality standards by prescribed dates and state ambient air quality standards as soon as practicable
- Reversing current trends in greenhouse gas emissions to support sustainability goals for energy, water supply, agriculture, and other resource areas
- Minimizing land uses that increase the risk of adverse air pollution-related health impacts from exposure to toxic air contaminants, particulates (PM<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 RTP and SCS for the SCAG area aimed at attaining the reduction targets of an 8 percent per capita reduction in GHG emissions from passenger vehicles by the year 2020 and a 13 percent reduction by 2035. There are transportation-related reduction measures included in this Regional Reduction Plan that coordinate with efforts in SCAG’s SCS. The 2012 RTP strives to provide a regional investment framework to address the region’s transportation and related challenges, and looks to strategies that integrate land use into transportation planning with an emphasis on transit and other nonvehicle transportation modes. The RTP also provides the framework for aggregating sub-regional and local efforts to institute measures aimed at mitigating the adverse air pollution impacts from transportation activities. These measures are known as transportation control measures (TCMs). The RTP links the goal of sustaining mobility with the goals of fostering economic development, enhancing the environment, reducing energy consumption, promoting transit-friendly development patterns, and encouraging fair and equitable access to residents affected by socio-economic, geographic, and commercial limitations. The Regional Transportation Implementation Plan (RTIP) is the vehicle used to implement the RTP and SCS. The RTIP also provides the schedule and framework for the timely implementation of the Region’s TCM strategies. SCAG is currently in the process of developing the 2014 RTP and SCS for their jurisdiction aimed at updating the regional transportation modeling system and keeping on track to achieve the reduction targets.

## SCAG Compass Growth Visioning

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

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

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

## San Bernardino Associated Governments (SANBAG)

SANBAG is an association of local San Bernardino County governments. It is the MPO for the county, with policy makers consisting of mayors, council members, and county supervisors, and the funding agency for the county's transit systems, which include Omnitrans, Victor Valley Transit Authority, MBTA, Mountain Area Regional Transit Authority, Barstow Area Transport, and Needles Area Transit. SANBAG administers the Congestion Management Program (CMP), provides transit planning, and regional nonmotorized transportation infrastructure and regional bicycle and pedestrian path network planning within San Bernardino County.

## Congestion Management Program

The CMP defines a network of state highways and arterials, level of service standards and related procedures, a process for mitigation of the impacts of new development on the transportation system, and technical justification for the approach. The policies and technical information contained in this document are subject to ongoing review, with updates required each two years. The last update of the CMP was completed in 2012.

## Passenger Rail Short-Range Transit Plan

SANBAG, acting as the County Transportation Commission, requires each transit agency to prepare a multi-year operating and capital plan every other year. This Short-Range Transit Plan provides basic information about the transit services provided in San Bernardino County, including performance, needs, deficiencies and a proposed plan for operations and capital investments covering the next 5 years. The San Bernardino County Passenger Rail SRTP reflects SANBAG's share of the Metrolink operating and capital plan, as well as the future Redlands Passenger Rail and Gold Line Extension projects.

## San Bernardino County Non-Motorized Transportation Plan

The Non-Motorized Transportation Plan provides the planning for interconnected cycling and walking system within communities in San Bernardino County. The Plan is for the development of a

comprehensive system of cycling facilities, pathways, and trails. As of 2011, the combined total of centerline miles of bicycle infrastructure for all jurisdictions is 468 miles. This represents an eight-fold growth in the County's bicycle infrastructure. The challenge ahead involves developing a cohesive, integrated plan and identifying sources of funds to implement that plan. This is the goal of the San Bernardino County Non-Motorized Transportation Plan (NMTP). The NMTP of 2001 and the 2006 update have taken us part way there. The 2011 update identifies a comprehensive network, with a focus on the bicycle system. The Plan satisfies the State of California requirements of a Bicycle Transportation Plan (BTP) for purposes of Caltrans Bicycle Transportation Account (BTA) funding.

## **Local**

### **City of Big Bear Lake Municipal Code**

The City's Development Code (Municipal Code Title 17) is the primary regulatory tool to implement the Circulation Element of the General Plan. The Development Code prescribes classes of uses, area requirements, and standards of development for buildings, structures, improvements and premises for each zone. The City's Planning Department is responsible for ensuring projects comply with the City's General Plan and Development Code.

### **Big Bear Lake General Plan**

The Big Bear Lake General Plan Circulation Element contains the following policies<sup>17</sup> regarding transportation, mobility and traffic:

#### Circulation Element

##### **Policy C1-7**

Ensure that traffic impacts resulting from new development in the City are adequately evaluated and that applicants are required to construct or provide a fair share contribution towards the improvements needed to mitigate impacts to the local and regional circulation system which are attributable to each development project, through the following measures:

- a. Development proposals with the potential to generate traffic volumes or other impacts not adequately evaluated in the Circulation Element and General Plan Environmental Impact Report may be required to prepare and submit a traffic study or traffic impact analysis, as determined by the City Engineer;
- b. Projects will be conditioned to ensure that right-of-way is reserved wherever needed to implement the Circulation Plan;
- c. All development projects will be evaluated to ensure their conformance with the Circulation Plan;
- d. New development will be required to pay a fair share contribution towards the cost of needed regional improvements;
- e. In reviewing new development projects, the issue of connectivity will be evaluated as well as roadway capacity, in order to achieve an efficient overall circulation system;

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<sup>17</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.

- f. Cumulative and regional impacts of new development on the circulation system will be required to be mitigated to the extent feasible, concurrent with development;
- g. Ensure that new developments are required to provide improvements or mitigation necessary to maintain the existing or recommended level of service, whichever is less, which may include construction of improvements or payment of in-lieu fees.

**Policy C1-8**

Plan for the development of streetscapes on arterials which present an aesthetically pleasing appearance, promote ease of use for pedestrians and bicycles, and provide for maximum public safety through their design features, including the following measures:

- a. Encourage use of landscaping and construction materials which discourage graffiti on walls adjacent to public rights-of-way.
- b. Encourage the use of street furniture such as seating, light standards, trash receptacles and other similar features to establish design themes on arterial streets and provide amenities for pedestrians, where appropriate.
- c. Promote unified landscape treatment on arterial streets, where appropriate. Where a design theme has been established on a street, promote the extension of that theme along other portions of the street, where feasible and appropriate.

**Policy C1-9**

Participate in multi-jurisdictional efforts to upgrade and expand the regional street and highway network, and to plan for feasible alternate modes of transportation connecting the Big Bear Valley with other areas, through the following measures:

- a. Cooperate with other agencies and jurisdictions, including Caltrans, SANBAG, San Bernardino County and the U.S. Forest Service, regarding regional transportation issues relating to the City which may include but are not be limited to the SR-18 bridge project and improvements to State Highways 38, 18 and 330;
- b. Support local, regional, state and federal agencies in identifying and implementing funding alternatives to upgrade the circulation system within the City;
- c. Communicate regularly with Caltrans to obtain advance notice of construction schedules, road closures, winter road conditions, alternative routes and other conditions which affect the City's residents and visitors;
- d. Cooperate and coordinate with Big Bear Airport District regarding issues affecting the City.

**Policy C1-10**

Ensure adequate access within the planning area for trucks while protecting incompatible uses from through truck traffic, by designating SR-1S throughout the City limits as a truck route and by restricting through truck routes within residential neighborhoods.

**Policy C2-1**

Continue to participate in provision of public transit services for City and Valley residents, and expansion of transit service to meet growth when warranted and feasible.

**Policy C2-2**

Ensure compliance with the County's Congestion Management Plan (CMP).

- Policy C2-3** Evaluate the feasibility of providing shuttle service within the City for special events, to reduce congestion and provide more convenient access between parking and such events.
- Policy C3-1** Enhance accessibility and convenience for bicyclists and pedestrians, and plan for provision of scenic recreational trails in the City where practical.
- Policy C3-2** Expand opportunities for pedestrian access within the community by providing for sidewalks where needed for public safety and convenience.

### City of Big Bear Lake Valley Level of Service Criteria

Level of Service (LOS) is a qualitative approach to describe roadway performance based on volume-to-capacity (V/C) ratios. The V/C ratio is a comparison of the estimated daily traffic volume of a segment of roadway and its maximum theoretical capacity (in terms of number of vehicles). The lower the ratio, the better the segment of roadway performs, meaning freer flowing traffic. Traffic congestion occurs as the number rises and approaches 1.0. Descriptions of LOS standards used by the City of Big Bear Lake are provided in Table 4.2.16-1 (Roadway Level of Service Definitions).

<b>Table 4.2.16-1 Roadway Level of Service Definitions</b>		
<b>LOS</b>	<b>Volume-to-Capacity (V/C) Ratio</b>	<b>Quality of Traffic Flow</b>
A	0.00–0.60	Low volumes, high speeds
B	0.61–0.70	Operating speeds beginning to be affected by other traffic. Some drivers begin to feel restricted within platoons of vehicles.
C	0.71–0.80	Operating speeds and maneuverability closely controlled by other traffic; recommended ideal design standard “Design Capacity.” Occasionally, drivers may have to wait through more than one red signal. Most drivers feel somewhat restricted, but not objectionably so.
D	0.81–0.90	Tolerable operating speeds; often used as design standard in urban areas. Increasing restrictions at intersections, but no excessive backups. Drivers frequently have to wait through more than one red signal. This level is the lower limit of acceptable operation to most drivers.
E	0.91–1.00	The maximum traffic volume a roadway can accommodate during peak traffic periods; “Maximum Capacity.” All drivers wait through more than one red signal. At 100% capacity (V/V-1.0) it theoretically represents the most vehicles that a particular intersection or roadway can accommodate.
F	Not meaningful	System failure; long queues of traffic; unstable flows; stoppages of long duration; traffic volume and speed can drop to zero; traffic volume will actually be less than the volume which occurs at Level of Service E.

SOURCE: City of Big Bear Lake, *City of Big Bear Lake Final Environmental Impact Report for the Comprehensive General Plan* (July 1999).

## ■ Project Impact Evaluation

### **Thresholds of Significance**

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

- Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and nonmotorized travel and relevant components of the circulation system, including, but not limited to, intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit
- Conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)
- Result in inadequate emergency access
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities

### **Analytic Method**

The programs and measures contained in the Regional Reduction Plan were compared to applicable transportation plans and transportation policies to determine if any inconsistency exists. These plans include the SCAG's RTP with an adopted SCS, the Compass Growth Visioning, SANBAG CMP, and the San Bernardino County Non-Motorized Transportation Plan. The Regional Reduction Plan was also reviewed for potential traffic impacts that could result during implementation of the reduction measures.

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

Threshold	Would the project conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and nonmotorized travel and relevant components of the circulation system, including, but not limited to, intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?
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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 region. The reductions measure identified for the City of Big Bear Lake do not include any on-road measures specifically designed to reduce GHG emissions from passenger vehicles. However, the Regional Reduction Plan would not interfere with implementation of the Big Bear Lake General Plan policies related to mobility.

Implementation of Reduction Measure PS-1 under the Regional Reduction Plan would include several options, including energy efficiency measures, transportation reduction measure and/or renewable energy measures. Energy-producing facilities needed for implementation of the Regional Reduction Plan would consist of solar on rooftops of new or renovated buildings, adjacent to structures, or in open spaces. Construction of any new renewable energy infrastructure would require review by the City's Planning staff for approval to ensure that the improvements do not interfere with planned transportation facilities. Energy-producing facilities needed for implementation of the Regional Reduction Plan would be required to incorporate appropriate setbacks as specified in the Municipal Code to ensure there would be no impact to transportation routes as a result of implementation of the proposed project.

Therefore, the Regional Reduction Plan would not conflict with any 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 non-motorized travel. Further, because of City review of new construction to ensure that energy facilities do not negatively impact the traffic flow on roadways, the implementation of the Regional Reduction Plan will not conflict with the level of effectiveness for the performance of intersections, roadways, highways and freeways set by the City of Big Bear Lake, the CMP and Caltrans. This impact would be *less than significant*. No mitigation is required.

Threshold	Would the project conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?
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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 in the City of Big Bear Lake does not include an on-road measures that would require any infrastructure to be built on CMP roadways. As discussed in the previous section, implementation of the Regional Reduction Plan would not generate any new vehicle trips; therefore, it would not result in any new or worsened congestion in the City. New construction of renewable energy facilities would be required to comply with the setback in the City's Municipal Code and would be reviewed by the City to ensure that adverse impacts to circulation in the City would not occur. This impact would be *less than significant*. No mitigation is required.

Threshold	Would the project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?
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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. Implementation of Reduction Measure PS-1 under the Regional Reduction

Plan would include several options, including energy efficiency measures, transportation reduction measure and/or renewable energy measures. Energy-producing facilities needed for implementation of the Regional Reduction Plan would consist of solar on rooftops of new or renovated buildings, adjacent to structures, or in open spaces. Appropriate setbacks would be required as specified in the Municipal Code to ensure there would be no increase in hazards to vehicles as a result of implementation of the proposed project. This impact would be ***less than significant***. No mitigation is required.

Threshold	Would the project result in inadequate emergency access?
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The Regional Reduction Plan reduces GHG emissions city-wide and includes reduction measures such as energy efficiency goals, renewable energy generation, and transportation reduction. None of the reduction measures would alter emergency access or evacuation plans. 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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The Regional Reduction Plan reduces GHG emissions citywide by including a GHG performance standard reduction measure for new development in the City of Big Bear Lake. The reduction measure would not alter alternative transportation facilities or decrease the safety of any facilities. As described above, energy-producing facilities needed for implementation of the Regional Reduction Plan would be required to incorporate appropriate setbacks as specified in the Municipal Code to ensure there would be no impact to transportation routes as a result of implementation of the proposed project. 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

Big Bear Lake, City of. 1999a. *City of Big Bear Lake Final Environmental Impact Report for the Comprehensive General Plan*, July.

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## 4.2.17 Utilities/Service Systems

This section of the EIR analyzes the potential environmental effects on utilities in the City of Big Bear Lake from implementation of the Regional Reduction Plan, including water, wastewater, solid waste, natural gas, and electric services systems. Data for this section were taken from Big Bear Lake General Plan (1999a) and associated environmental document (1999b), the City of Big Bear Lake 2010 Urban Water Management Plan, and the Water Master Plan. Full reference-list entries for all cited materials are provided at the end of this section.

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

### ■ Environmental Setting

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

The City of Big Bear Department of Water and Power (DWP) primarily produces potable water from groundwater wells. These wells produce water from the subunits of the Bear Valley groundwater basin, through pumping or by gravity. The DWP does not currently use surface or imported water to meet its water demand in the City of Big Bear Lake (Big Bear Lake 2012).

#### **Local Water Supply and Reliability**

Bear Valley lies in the northeastern portion of the Santa Ana River Watershed. Groundwater underlying the DWP's service area is of good quality and requires little treatment before use in the potable water supply system. Maximum perennial yield for the Bear Valley groundwater basin has been estimated at 4,800 acre-feet per year (afy) with approximately 3,100 afy of that volume being available to the DWP. None of the groundwater basins in the DWP service area are adjudicated. At present, no subunit within the Bear Valley groundwater basin is in overdraft. Annual use of the groundwater has remained relatively constant over the reported timeframe (Big Bear Lake 2012).

#### **Water Distribution Systems**

The City water system infrastructure is governed by The City of Big Bear Lake DWP Water Master Plan. DWP currently operates 36 groundwater wells and 24 slant wells and 178 miles of pipelines that supply the various water systems in the service area. Approximately 49 percent of pipelines are in the Big Bear Lake system. The combined production capacity of groundwater wells is estimated at approximately 4,300 gallons per minute (gpm) with individual wells ranging in capacity from 20 to 515 gpm. As of 2006, DWP has sixteen aboveground reservoirs in the service area that provide operational, emergency, and fire protection storage. The combined storage capacity of all reservoirs is estimated at just over 9.12 million gallons. DWP has twelve booster stations to pump water between pressure zones or from forebays directly into the distribution system or storage reservoirs. Most booster stations have a firm capacity of 500 gpm or less and in most cases do not have adequate fire flow capacity to transfer water from one zone to another during a fire event. DWP maintains 41 pressure-reducing valves (PRVs) in the system to allow the transfer of water from higher to lower pressure zones (Big Bear Lake 2006).

## **Wastewater Collection and Treatment**

The Public Works Sanitation Division services 8,300 properties providing for the collection, transportation to the Big Bear Area Regional Wastewater Authority (BBARWA) facility and treatment of wastewater in the City. Wastewater collection systems deliver wastewater to BBARWA's interceptor system. Wastewater flows is conveyed to the BBARWA treatment plant located on a 94-acre parcel near Baldwin Lake in Big Bear City. The plant occupies about 11.2 acres, leaving 82.3 acres for evaporation ponds and other purposes. The plant has a peak hydraulic capacity of 9.1 million gallons per day (mgd), a secondary wastewater treatment capacity of 4.9 mgd and, as of 2010, is operating at about 2.5 mgd. Total wastewater flows for BBARWA are projected to increase gradually. BBARWA reports that DWP's service area accounts for approximately 62 percent of BBARWA flows (Big Bear Lake 2012). Currently, BBARWA discharges the secondary wastewater treatment plant effluent to a 480-acre site in Lucerne Valley where it is used to irrigate feed crops. The sludge is collected, dewatered, and hauled to disposal facilities. BBARWA is permitted to discharge treated wastewater for irrigation, construction compaction, dust control, and wildland firefighting in the Valley (Big Bear Lake 2012).

## **Solid Waste**

Waste disposal is conducted through a contract between the City and Big Bear Disposal which provides both residential and commercial services. The Public Works Waste Management Division maintains, operates, and facilitates operations for solid waste disposal in an effort to meet AB939 (50% diversion by the year 2000) and also in an effort to better serve the community. The City currently contracts to operate a CRV (California Redemption Value) Redemption Center, conducts public information events, contracts out with Big Bear Disposal for solid waste, and facilitates the operation of a hazardous waste disposal site. The City maintains two public trash sites for trash and recyclables disposal to serve both residents and visitors. Locations for the trash sites are: Fire House #2 (across from the Civic Center) and Garstin Road (next to Big Bear Disposal). In addition, the City does accept cardboard waste at Bartlett Road site (next to the Big Bear Chamber of Commerce) (City of Big Bear Lake Public Works Department). There are two transfer facilities owned and operated by the County of San Bernardino near the City of Big Bear Lake: Big Bear Lake Transfer Station and Heaps Peak Transfer Station.

The City is a member of the Mojave Desert Mountain Integrated Waste Joint Powers Authority (the JPA). The JPA shares the common powers of its nine members to plan for and implement elements of an Integrated Waste Management Plan within all or any part of its respective boundaries, including solid waste disposal, composting and recycling facilities, and waste diversion programs deemed necessary to meet state law. JPA facilities and programs may include solid waste transfer facilities, household hazardous waste management, composting facilities, materials collection, marketing and market development, public education, conversion technologies, and material recovery facilities (the JPA website).

## **Electricity**

Electricity is provided to the City by Southern California Edison (SCE). SCE's transmission system includes 500- and 220-kilovolt (kV) transmission lines, which are generally reduced to 66 kV transmissions at transformers at substations.

SCE has forecast energy demands for its service area to reach 118,497 gigawatt hours by 2016 (CEC 2007). Energy consumption per capita in 2006 for the SCE area is about 7,300 kilowatt-hours. This is forecast to remain constant through 2016 (CEC 2007).

### **Natural Gas**

The Southern California Gas Company (SoCalGas) provides natural gas service to the City of Big Bear Lake. SoCalGas has gas mains throughout urbanized areas of the City.

### **Telephone and Communications**

Communication services and telephone, mobile phone, cable, and internet services, are provided by private companies in the City of Big Bear Lake, including Verizon Communications, AT&T, and Time Warner Telecommunications. Cable service is provided to the City by local cable franchises, including Time Warner Cable, Comcast Cable, Cox Cable, and Charter Cable. Installation of cable services is provided by these private companies and supported by service fees.

For Internet service, transmission can be obtained through the phone lines for dial-up coverage or by broadband providers. Most Internet service providers are regulated by the California Public Utilities Commission. Broadband providers supply Internet services through cable lines or through Ethernet, a bundling of local area networks that are transmitted by fiber optics (DSL). Like cell phones, the Internet can also be provided through wireless connections. Infrastructure to support these services is therefore run over the associated local telephone and cable service provider lines.

## **■ Regulatory Framework**

Utilities within the City of Big Bear Lake tend to grow proportionally with the population. The following discussion of regulations helps to understand how public utilities are evaluated.

### **Safe Drinking Water Act**

The Safe Drinking Water Act (SDWA) is the main federal law that ensures the quality of Americans' drinking water. Under SDWA, the USEPA sets standards for drinking water quality and oversees the states, localities, and water suppliers who implement those standards. SDWA was originally passed by Congress in 1974 to protect public health by regulating the nation's public drinking water supply. The law was amended in 1986 and 1996 and requires many actions to protect drinking water and its sources: rivers, lakes, reservoirs, springs, and ground water wells. (SDWA does not regulate private wells which serve fewer than 25 individuals.)

### **Federal Energy Regulatory Commission (FERC)**

The Federal Energy Regulatory Commission (FERC) is the United States federal agency with jurisdiction over interstate electricity sales, wholesale electric rates, hydroelectric licensing, natural gas pricing, and oil pipeline rates. FERC also reviews and authorizes liquefied natural gas (LNG) terminals, interstate natural gas pipelines and nonfederal hydropower projects.

## **Federal Communications Commission (FCC)**

The Federal Communications Commission (FCC) regulates interstate and international communications by radio, television, wire, satellite and cable in all fifty states, the District of Columbia and U.S. territories. It was established by the Communications Act of 1934 and operates as an independent U.S. government agency overseen by Congress. Primary responsibilities of the FCC include promoting competition in broadband communications while maintaining the quality and integrity of the signal reaching the public, and ensuring broad access to telecommunications by the public even in rural areas of the United States. The FCC has oversight over telecommunications and media regulations in the United States.

## **State**

### **California Code of Regulations Title 22, Chapter 15 (Water Quality General Requirements)**

California Code of Regulations (CCR) Title 22, Chapter 15, requires general water quality standards for water and wastewater discharge. The law ensures that pathogens and other contamination does not enter surface water or groundwater supplies within the state

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

California Health and Safety Code Article 1, Section 116270, was established a drinking water regulatory program within the Department of Health Services and provide drinking water standards for all water purveyors and distribution systems within the state. The law also requires regular sampling and record keeping of water supplies to ensure that potable water supplies are meeting the standards.

### **Senate Bills 610 and 210 Water Supply Assessment and Planning**

To assist water suppliers, cities, and counties in integrated water and land use planning, the state passed Senate Bill (SB) 610 (Chapter 643, Statutes of 2001) and SB 221 (Chapter 642, Statutes of 2001), effective January 1, 2002. SB 610 and SB 221 improve the link between information of water supply availability and certain land use decisions made by cities and counties. SB 610 and SB 221 are companion measures that promote more collaborative planning between local water suppliers and cities and counties.

Both statutes require detailed information regarding water availability to be provided to city and county decision makers prior to approval of specified large development projects. Both statutes also require this detailed information be included in the administrative record as the evidentiary basis for an approval action by the city or county on such projects. Both measures recognize local control and decision making regarding the availability of water for projects and the approval of projects. Under SB 610, water supply assessments (WSA) must be furnished to local governments for inclusion in any environmental documentation for certain projects (as defined in Water Code Section 10912(a)) subject to CEQA. Under SB 221, approval by a city or county of certain residential subdivisions requires an affirmative verification of sufficient water supply. SB 221 is intended as a fail-safe mechanism to ensure that collaboration on finding the needed water supplies to serve a new large subdivision occurs before construction begins.

A WSA is required for any project if it is a residential development of 500 units or more; a shopping center or business establishment project employing more than 1,000 persons or having more than

500,000 square feet (sf) of floor space; a commercial office building employing more than 1,000 persons or having more than 250,000 sf of floor space; or an industrial, manufacturing, or processing plant or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 sf of floor area. Individual development projects implemented under the Proposed Land Use Plan would be required to prepare a WSA if they meet these requirements.

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

In 1983, the California Legislature enacted the Urban Water Management Planning Act (Water Code Sections 10610–10656). The act states that every urban water supplier that provides water to 3,000 or more customers, or that provides over 3,000 acre-feet of water annually, should make every effort to ensure the appropriate level of reliability in its water service to meet the needs of its various categories of customers during normal, dry, and multiple dry years. Both SB 610 and SB 221 repeatedly identify the UWMP as a planning document that, if properly prepared, can be used by a water supplier to meet the standards set forth in both statutes. Thorough and complete UWMPs are foundations for water suppliers to fulfill the specific requirements of these two statutes. UWMPs serve as important source documents for cities and counties as they update their General Plan. Conversely, General Plans are source documents as water suppliers update the UWMPs. These planning documents are linked, and their accuracy and usefulness are interdependent (CDWR 2003). The City of Big Bear Lake Department of Water and Power UWMP is a foundational document for compliance with both SB 610 and SB 221.

### **Assembly Bill 939—Integrated Waste Management Act**

Assembly Bill (AB) 939 (Chapter 1095, Statutes of 1989), the Integrated Waste Management Act, requires, among other things, every California city and county to divert 50 percent of its waste from landfills by the year 2000. In addition, AB 939 requires each county and each city within the county to prepare a Source Reduction and Recycling Element for its jurisdiction, identifying waste characterization, source reduction, recycling, composting, solid waste facility capacity, education and public information, funding, special waste (asbestos, sewage sludge, etc.), and household hazardous waste, and a countywide siting element, specifying areas for transformation or disposal sites to provide capacity for solid waste generated in the jurisdiction that cannot be reduced or recycled for a 15-year period.

### **California Energy Commission (CEC)**

The California Energy Commission (CEC) is the state's primary energy policy and planning agency. Created by the Legislature in 1974 the CEC has six basic responsibilities in setting state energy policy. They are:

- Forecasting Energy needs within the state
- Promoting energy efficiency and conservation by setting the appliance and building efficiency standards for the state of California
- Supporting energy research that advances energy science and technology, energy technology development, and demonstration projects
- Licensing all thermal electric power plants of 50 megawatts or larger
- Planning for and directing state responses to energy emergencies

## **Regional**

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

SCAG's Energy Planning Program focusing on renewable energy projects and energy efficiency enable the region to support state and federal energy goals while growing in accordance with SCAG's adopted plans, such as the Regional Transportation Plan and Sustainable Communities Strategy, Compass Growth Vision, and Regional Comprehensive Plan.

### **County of San Bernardino Solid Waste Management Division (SWMD)**

The County of San Bernardino Solid Waste Management Division (SWMD) is responsible for the operation and management of the County of San Bernardino's solid waste disposal system which consists of five regional landfills and nine transfer stations. SWMD administers the County's solid waste handling franchise program and the refuse collection permit program which authorizes and regulates trash collection by private haulers.

## **Local**

### **City of Big Bear Lake Municipal Code**

Municipal Code Title 8 (Health and Safety), Division V (Refuse and Garbage), requires the City to control the accumulation, collection, removal and disposal of solid waste for the protection of the public health, safety and welfare and to contribute toward the diminution of health hazards and pollution in the city.

The purpose of Municipal Code Chapter 17.11 (Water Conservation) is to provide water conservation measures in order to minimize the effect(s) of a water shortage on the citizens of, visitors to, and the economic well-being of the city and, by means of this chapter, to adopt provisions that will significantly reduce the wasteful and inefficient consumption of water over an extended period of time, thereby extending the available water resources required for the domestic, sanitation and fire protection needs of the citizens of, and visitors to, the city, while reducing the hardship of the city and the general public to the greatest extent possible.

Municipal Code Section 11.04.080 (Protection of the stormwater drainage system) prescribes regulations to effectively prohibit nonstormwater discharges into the City's stormwater drainage system. In addition, this section controls discharges from spills, dumping, or disposal of materials other than stormwater; reduces the discharge of pollutants in all stormwater discharges to the maximum extent practicable; and protects and enhances the water quality of local, state, and federal watercourses, water bodies, groundwater, and wetlands in a manner pursuant to and consistent with the Clean Water Act.

### **City of Big Bear Lake Urban Water Management Plan**

An urban water management plan (UWMP) prepared by a water purveyor documents the availability of an appropriate level of reliability of water service sufficient to meet the needs of various categories of customers during normal, single dry and multiple dry years. Having such a long-term reliable supply of water is essential to protect the productivity of California's businesses and economic climate. The California Water Management Planning Act of 1983, as amended, requires urban water suppliers to

develop an UWMP every 5 years in the years ending in zero and five. The City's 2010 Urban Water Management Plan was adopted in July 2012. The City of Big Bear Lake is charged with providing safe, good quality, uninterrupted water at a reasonable pressure, to meet health and fire protection needs of that portion of the Town served by the public water system.

### **City of Big Bear Lake Water Master Plan**

The purpose of the Water Master Plan is to evaluate the conditions of the various water systems operated by DWP and to determine their ability to provide reliable service to the communities served. In addition, the Master Plan will assist DWP to plan for the future, so that it can continue providing a high level of service, for the least cost, to both existing and future customers. The Plan also prepares and assessment of current and future water demands and evaluates existing supply sources and their ability to meet projected demands. It studies alternatives of water supply and the water system distribution system's capability to provide reliable service. Necessary system improvements are also analyzed as part of the study.

### **Big Bear Lake General Plan**

The Big Bear Lake General Plan policies that are applicable to the development of infrastructure pertinent to utilities and service<sup>18</sup> systems include:

- Program P 2.4** Bring the City's mobile home parks into conformance with City Zoning as much as possible. Coordinate rehabilitation of damaged units and promote weatherization programs with county and state agencies.
- Program H 4.2.2** As funds permit, provide a grant to a nonprofit community organization to assist in funding an outreach worker to inform residents of Big Bear Lake about available housing programs, such as the first time homebuyer programs, rehabilitation loan programs, weatherization program, senior loan program and the Section 8 tenant assistance program.
- Policy ER 7.1** Promote energy conservation in all areas of community development, including transportation, development planning, public and private sector office construction and operation, as well as in the full range of residential, commercial and industrial projects.
- Program PS 4.2.3** Support local, State and Federal programs and economic incentives for conservation and alternative energy programs, and consider establishing City incentives.
- Policy ER 6.4** The City shall encourage the use of clean alternative energy sources for transportation, heating and cooling whenever practical.
- Program ER 7.1.1** Encourage the use of passive solar energy for natural heating through design, construction and landscaping techniques.

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<sup>18</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.

- Program OPR 1.1.2** Investigate and coordinate development of a Village “green” as an active open space area within the Village Retail District of the Village Specific Plan area to be used for community activities and special events.
- Program PS 6.1.2** In cooperation with San Bernardino County and other affected agencies, assist in planning for a suitable site within the Valley for legal disposal, stockpiling and/ or recycling of paving materials and construction debris.
- Policy ER 7.1** Promote energy conservation in all areas of community development, including transportation, development planning, public and private sector office construction and operation, as well as in the full range of residential, commercial and industrial projects.
- Policy ER 6.4** The City shall encourage the use of clean alternative energy sources for transportation, heating and cooling whenever practical.
- Program PS 3.1.2** Cooperate with Big Bear Area Regional Wastewater Agency (BBARWA) in assuring that new development pays its fair share of future development, expansion, and operating costs for wastewater treatment.
- Policy ER 4.1** Encourage the use of low water-consuming, drought-tolerant landscape plantings as a means of reducing water demand, and strengthen education/public relations programs to inform residents of the full range of water saving techniques available.
- Program ER 4.2.1** The City shall provide information on the use of low-flush toilets, water conserving appliances and low-flow showerheads and faucets for existing development, and shall require the application of water conserving technologies in conformance with applicable state laws, for new development.
- Program P 4.1** Provide adequate water supply and storage. Promote such efforts as wastewater reuse, water conservation measures, and acquisition of new water sources.
- Program PS 2.1.3** Encourage conservation of ground water resources.

## ■ Project Impact Evaluation

### *Thresholds of Significance*

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

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which would cause significant environmental effects
- Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which would cause significant environmental effects
- Not have sufficient water supplies available to serve the project from existing entitlements and resources, or need new or expanded entitlements

- Result in a determination by the wastewater treatment provider that serves or may serve the project that it does not have adequate capacity to serve the project’s projected demand in addition to the provider’s existing commitments
- Be served by a landfill with insufficient permitted capacity to accommodate the project’s solid waste disposal needs
- Not comply with federal, state, or local statutes and regulations related to solid waste

**Analytic Method**

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

**Effects Not Found to Be Significant**

Threshold	Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?
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Implementation of the Regional Reduction Plan includes one local measure PS-1: GHG Performance Standard for New Development. Individual cities may adopt a GHG Performance Standard for New Development (PS) that would provide a streamlined and flexible program for new projects to reduce their emissions. The PS would be a reduction standard for new private developments as part of the discretionary approval process under CEQA. Under the PS, new projects would be required 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. The PS does not require project applicants to implement a predetermined set of measures. Rather, project applicants are allowed to choose the most appropriate measures for achieving the percent reduction goal, while taking into consideration cost, environmental or economic benefits, schedule, and other project requirements. Design features such as energy and water conservation strategies, including low flow toilets, and more efficient water using appliances such as dishwashers in new residential and commercial buildings. These conservation strategies will reduce the amount of wastewater going to the wastewater treatment facilities but will not change the treatment process at those facilities. The quality of wastewater is overseen by, the Santa Ana Regional Water Quality Control Board (RWQCB) and the California Department of Public Health (CDPH). The Santa Ana RWQCB has regional permitting authority over water quality issues and the CDPH oversees standards and health concerns. California Code of Regulations Title 22 provides the regulatory setting for drinking water quality in California and is followed by these agencies when they assess water quality. Therefore, there would be *no impact*.

Threshold	Would the project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which would cause significant environmental effects?
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Implementation of the Regional Reduction Plan includes water conservation strategies, such as water-efficient landscaping, low flow toilets, and more efficient water using appliances such as dishwashers in new residential and commercial buildings. The Regional Reduction Plan does not increase capacity or the need for additional water treatment. In fact, implementation of the Regional Reduction Plan will reduce

the need for water and wastewater treatment through the various water conservation strategies. Therefore, there would be *no impact*.

Threshold	Would the project require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which would cause significant environmental effects?
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New stormwater drainage facilities would be needed, if a project increased impervious surfaces causing additional runoff or a project changed the surface flow in a way that required stormwater new drainage facilities. However, implementation of the Regional Reduction Plan would not result in a substantial (if any) increase in impervious surfaces in the City. The Proposed Project would facilitate development in areas as provided for in the General Plan, which are already developed with impervious surfaces. The Proposed Project would not substantially change the drainage patterns on any site within the City. The impact would be *less than significant*. No mitigation is required.

Threshold	Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or need new or expanded entitlements?
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Implementation of the Regional Reduction Plan includes water conservation strategies, such as water-efficient landscaping, low flow toilets, and more efficient water using appliances such as dishwashers in new residential and commercial buildings. The net result of these measures is the reduction in water consumption. Therefore, the Regional Reduction Plan results in better management of existing water supplies within the City. For these reasons, the Regional Reduction Plan would have a beneficial impact on water supplies and impacts to water supply would be *less than significant*. No mitigation is required.

Threshold	Would the project result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?
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Implementation of the Regional Reduction Plan includes water conservation strategies, such as low flow toilets, and more efficient water using appliances such as dishwashers in new residential and commercial buildings. These water conservation strategies will reduce the amount of wastewater going to wastewater treatment facilities. Therefore, impacts would be *less than significant*. No mitigation is required.

Threshold	Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?
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Implementation of the Regional Reduction Plan would not affect the amount of waste going to landfills. Therefore, impacts would be *less than significant*. No mitigation is required.

Threshold	Would the project comply with federal, state, or local statutes and regulations related to solid waste?
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Implementation of the Regional Reduction Plan would not affect recycling of solid waste. Recycling of solid waste as part of the solid waste diversion would comply with all federal, state, and local statutes and

regulations related to the recycling of solid waste. Therefore, impacts would be *less than significant*. No mitigation is required.

## ■ Cumulative Impacts

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

## ■ References

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## 4.2.18 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 4.2-5 (Summary of Environmental Effects of Implementing Local Reduction Measures in Big Bear), 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 4.2.1 through 4.2.17 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 4.2.4 (Biological Resources) of this EIR fully addresses impacts related to the reduction of the fish or wildlife habitat, the reduction of fish or wildlife populations, and the reduction or restriction of the range of special-status species.

## ■ Impacts on Historical Resources

CEQA Guidelines Section 15065(a)(1) states that a lead agency shall find that a project might have a significant effect on the environment where there is substantial evidence that the project has the potential to eliminate important examples of a major period of California history or prehistory. Section 15065(a)(1) amplifies Public Resources Code (PRC) Section 21001(c) requiring that major periods of California history are preserved for future generations. It also reflects the provisions of PRC Section 21084.1 requiring a finding of significance for substantial adverse changes to historical resources. CEQA Guidelines Section 15064.5 establishes standards for determining the significance of impacts to historical resources and archaeological sites that are a historical resource. Section 4.2.5 (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 4.2.3, 4.2.6, 4.2.8, 4.2.9, 4.2.12, 4.2.13, 4.2.14, 4.2.16, and 4.2.17 of this EIR, respectively.

## ■ References

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