

4.0 EXISTING SETTING, IMPACTS, AND MITIGATION MEASURES

As stated previously, there are 16 environmental issue areas that are analyzed in this Environmental Impact Report (EIR) with respect to the proposed project. These issues are:

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|-------------------------------------|------------------------------------|
| 4.1 Aesthetics | 4.9 Land Use and Planning |
| 4.2 Agricultural Resources | 4.10 Mineral Resources |
| 4.3 Air Quality | 4.11 Noise |
| 4.4 Biological Resources | 4.12 Population and Housing |
| 4.5 Cultural Resources | 4.13 Public Services |
| 4.6 Geology and Soils | 4.14 Recreation |
| 4.7 Hazards and Hazardous Materials | 4.15 Transportation and Traffic |
| 4.8 Hydrology and Water Quality | 4.16 Utilities and Service Systems |

Within each subsection described in Chapter 4.0, the following information is presented relative to each environmental issue described:

- Description of the existing setting as it relates to the specific environmental issue;
- A summary of policies and regulations relevant to the specific environmental issue;
- Identification of the thresholds of significance;
- Evaluation of project-specific impacts and a determination of significance based on identified threshold levels;
- Identification of mitigation measures;
- A determination of the level of significance after mitigation measures are implemented; and
- Cumulative impacts.

The following environmental analysis provided in Sections 4.1 through 4.16 focuses on changes in the existing physical environment and identifies direct and indirect significant effects associated with the proposed project. Due to the complexities of the Wash Plan, the project includes nine main components. Nine components are listed and analyzed individually within the each environmental analysis topic as follows:

- Water Conservation Operations/Maintenance Activities of the District;
- Flood Control Operations/Maintenance Activities of the SBCFCD;
- Water Production Operations/Maintenance Activities of the EVWD and RMUD;
- Aggregate Mining;
- Adoption of General Plan Amendments;
- Roadway/Bridge Rights-of-Way;
- Recreational Trail Rights-of-Way;
- Land Exchange between the District and the BLM; and
- Land Exchange between the SBCFCD and Robertson's.

The following 16 subsections identify and address potential environmental impacts associated with implementation of the proposed project. The cumulative impacts for each of the proposed project components are analyzed within the discussion of each component for each threshold.

4.1 AESTHETICS

This section evaluates the environmental consequences and impacts of the proposed project on the aesthetics and visual resources in the Wash Plan. The analysis identifies the significance of those impacts and mitigation measures where appropriate.

4.1.1 Existing Setting

The Planning Area encompasses three land use jurisdictions: the City of Redlands, the City of Highland, and the County of San Bernardino. It begins at the mouth of the Santa Ana Canyon at Greenspot Road and extends westerly for approximately 6 miles to Alabama Street (previously referenced Figure 3.1). The Planning Area covers approximately 4,467 acres¹ and is about two miles wide. The Planning Area is generally bounded by the following land uses: urban and public facility uses and vacant land on the north, urban and agricultural uses and vacant land on the south, the San Bernardino International Airport on the west, and agricultural uses and the San Bernardino Mountains to the east.

Topography and Vegetation Features

The Planning Area is located at the base of the San Bernardino Mountains in an area created by periodic flooding of the Santa Ana River, City Creek, Mill Creek, and Plunge Creek. In the past, these waterways were not channelized and large flows in the mid-1800s created the wash surface and determined the location of the present channels. During heavy rainfall, usually occurring in the winter months, water flowed from the local mountains via the creeks and river, and combined to create a fast-moving, turbulent river with a high sediment load. When the rainfall subsided, the river and creeks returned to their smaller courses and left large areas between the waterways consisting of rocks, debris, and sediment, creating the Planning Area.

The limitations on land use imposed by potential flooding have contributed to the open, undeveloped character of the area. Vegetation consists of native scrub types with many plants growing only during the wet winter and spring months. The wash appears as an open sandy area interspersed with boulders and rocks. Vegetation is sparse and commonly is less than three feet in height.

Existing Viewsheds

The visual character of the area is dominated by mid-range and long-range views of the surrounding mountains and valley floor. The most significant views from Redlands are the San Bernardino Mountains, a central physical feature in the region. During periods of clear weather, these mountains dominate the landscape. Looking south from the City of Highland, the views are expansive and foothills can be seen in the distance. The Planning Area, like the mountains, is a dominant feature, primarily due to its lack of development and the patterns of vegetation. Quarries and mining operations are visible and together with the prominent State Route 30 (SR-30) freeway (above-grade alignment) contribute to complex patterns of form, texture, and color that make up the aesthetic environment.

Surrounding Land Uses

Adjacent uses include the Redlands Municipal Airport to the south and the Redlands Wastewater Treatment Facility to the southwest. Two north-south paved roadways cross the Planning Area: Orange Street-Boulder Avenue and SR-30. Greenspot Road forms a portion of the north and eastern

¹ There are approximately 52 acres of land encompassed within the boundaries of the Planning Area that are not part of the project.

boundary and Alabama Street is the western boundary. Existing land uses are shown in previously referenced Figure 3.2.

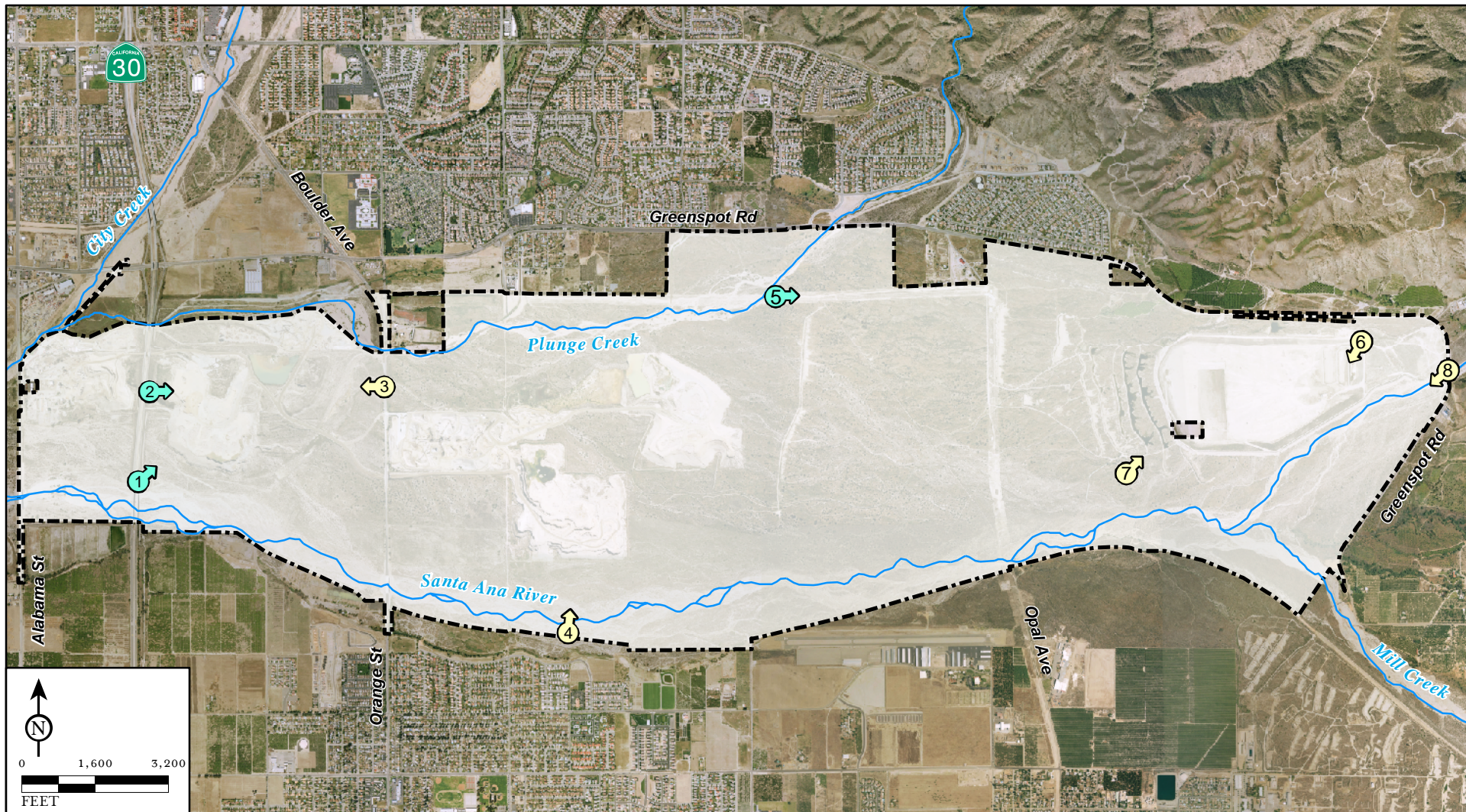
Existing Setting Photographs

Representative viewpoints were selected based on common visual access points of the local public and passers-by. A field visit was made to each of the viewpoints and photographs were taken. Viewsheds of the existing Planning Area are varied and highly dependent on the location and elevation of the viewpoint, intervening topography, vegetation, and buildings. Views of the Planning Area available to the majority of the viewers are located in the following areas:

- **Local Roads.** Three roadways traverse the Wash in a north-south direction; Alabama Street, Orange Street-Boulder Avenue, and SR-30. Greenspot Road circles the Planning Area along a portion of the northeast and southeast perimeter.
- **City of Highland.** Views of the Planning Area are limited to the southeastern areas of the City. Public roadways south of Greenspot Road are the closest to the proposed project although the views from this level are generally limited to immediate and distant areas. Hillside streets with their increased elevation provide expansive views of the Planning Area and the foothills beyond.
- **City of Redlands.** Bluff roadways along the south margin of the Santa Ana River channel (along Alta Street, Riverview Drive, and Sessums Drive) provide a direct view of the Planning Area and background hills except for the homes in areas along the bluff where large trees obscure the Planning Area and only the hillsides are visible above the trees.




To evaluate changes in the existing viewscape anticipated with the implementation of the proposed project, location at which viewpoints were taken are identified in Figure 4.1.1, and the eight existing viewpoints are shown in Figures 4.1.2A through 4.1.2D. These viewpoints were selected because they met at least one of the following criteria: (1) the viewpoint is seen by the average motorist traveling through the area; (2) the viewpoint is seen by local public in the area; and/or (3) the viewpoint is in an area where implementation of the project could possibly alter the viewshed. A description of the locations of the viewpoints and reasons for their selection is provided below.

- **View Point 1—Location: Looking north from SR-30.**
Reason for Selection: Area closest to the proposed new expansion in West Quarry and it provides an example of motorists' viewshed from SR-30.
- **View Point 2—Location: Looking northeast at the existing west quarry from SR-30.**
Reason for Selection: Motorist view of the eastern area of the project.
- **Viewpoint 3—Location: Looking northwest on Orange Street-Boulder Avenue about 1/3 mile south of Greenspot Road intersection in Highland.**
Reason for Selection: Proposed location of new Silt Pond Quarry.
- **View Point 4—Location: Looking north from the intersection of Riverview Drive and Church Street.**
Reason for Selection: Wide open viewscape seen by the public from the bluffs in the City of Redlands; area is the closest view of the proposed new East Quarry South.
- **View Point 5—Location: Looking east on Pole Line (access Road) in the north section of the Planning Area.**
Reason for Selection: Proposed location of recreational trails for public use.
- **View Point 6—Location: Looking southwest, just south of Greenspot Road, prior to the entrance to the historic Iron Bridge.**
Reason for Selection: Location and view of the ACOE borrow pit.



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FIGURE 4.1.1

-  PLAN BOUNDARY
-  VIEWPOINT LOCATION
-  VIEWPOINT AND SIMULATION LOCATION

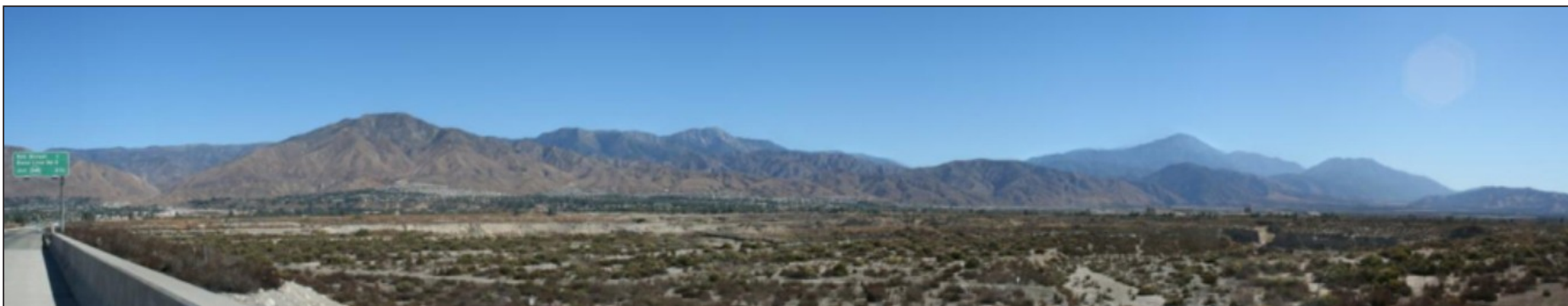
*Upper Santa Ana River Wash
Land Management Plan
Environmental Impact Report*

Viewpoint and Simulation Location

SOURCE: AirPhotoUSA (2007), Thomas Bros. (2007).

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VIEWPOINT 1: *View looking north from Highway 30.*



VIEWPOINT 2: *View looking northeast from Highway 30*

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FIGURE 4.1.2A

*Upper Santa Ana River Wash
Land Management Plan
Environmental Impact Report*

Site Photographs

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VIEWPOINT 3: *View of processing plant facing northwest from Orange Street.*



VIEWPOINT 4: *View of project site facing north.*

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FIGURE 4.1.2B

*Upper Santa Ana River Wash
Land Management Plan
Environmental Impact Report*

Site Photographs

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VIEWPOINT 5: *View of Pole Line Road Trail near Plunge Creek facing east*



VIEWPOINT 6: *View of San Bernardino County Water Conservation District spreading grounds facing southwest.*

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FIGURE 4.1.2C

*Upper Santa Ana River Wash
Land Management Plan
Environmental Impact Report*

Site Photographs

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VIEWPOINT 7: *View of project site facing northeast from Cone Camp.*



VIEWPOINT 8: *View of project site facing southwest from Greenspot Road near the iron bridge.*

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FIGURE 4.1.2D

*Upper Santa Ana River Wash
Land Management Plan
Environmental Impact Report*

Site Photographs

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- **View Point 7—Location: Looking northeast from the historic Cone Camp area.**
Reason for Selection: Potential viewscales for proposed recreational trails.
- **View Point 8—Location: Looking southwest from Greenspot Road, just before the historic Iron Bridge.**
Reason for Selection: Location and view of the historic Iron Bridge.

4.1.2 Existing Policies and Regulations

City of Highland General Plan

The following policies pertain to aesthetics and are applicable to the proposed project.

- Goal 3.3:** Preserve and enhance uniquely scenic or special visual resource areas along appropriate routes for the enjoyment of all travelers.
- Policies:**
- 1) Designate the following roadways as Scenic Highways and establish guidelines that protect visual resources in the community and allow for the development of additional recreational opportunities.
 - Boulder Avenue;
 - Base Line (east of City Creek);
 - Palm Avenue;
 - Greenspot Road;
 - Church Street; and
 - Highland Avenue (east of City Creek).
 - 2) Attractively landscape and maintain Highland's Secondary Highways, Special Secondary Highways, Major Highways, Primary Arterials, and Modified Primary Arterials and prepare/implement distinctive streetscape improvement plans.
 - 3) Take such actions as may be necessary to protect scenic routes, including but not limited to:
 - Regulation of land use and intensity of development;
 - Detailed land and site planning;
 - Control of outdoor advertising;
 - Careful attention to and control of grading and landscaping; and
 - Careful design and maintained appearance of structures and equipment.
- Goal 10.1:** Create a unified and attractive community identity within the context of diverse neighborhoods and land uses.
- Policies:** Identify, preserve, and enhance view corridors of major landmarks, community facilities, and natural open space in the planning and design of all public and private projects.
- Goal 2.7:** Encourage natural resource and open space preservation through appropriate land use policies that recognize their value and through the conservation of areas required for the protection of public health and safety.
- Policies:** Preserve areas designated as Open Space to provide for recreation, preservation of scenic and environmental values managed production of resources (agriculture, water reclamation, and conservation, mineral extraction) protection of public safety.

Promote joint development and use of open space resources with adjacent jurisdictions.

Goal 5.1 Preserve, maintain, and create views and vistas throughout the community to enhance the visual experience of Highland.

Policies: Incorporate view corridor planning in related development efforts and capital improvement programs.

Preserve mature trees, natural hydrology, native plant materials, and areas of visual interest.

City of Redlands 1995 General Plan

The following policies pertain to aesthetics and are applicable to the proposed project.

Guiding Policies: Historic and Scenic Preservation

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

Implementing Policies: Historic and Scenic Conservation Areas

3.21j Establish standards and incentives for preservation of scenic vistas.

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

Implementing Policies: Agricultural and Scenic Areas

3.29a Encourage preservation of citrus groves and other agricultural areas that are designated as having cultural or scenic significance.

3.29b Identify existing agricultural areas, scenic views, vistas, and streetscapes, including mountain, canyon, and valley vistas, urban view corridors, focal points, and focal buildings.

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

Bureau of Land Management (BLM)

The BLM lands within the Planning Area are designated as Visual Resource Management (VRM) Class III under the South Coast Resource Management Plan (SCRMP). The objective of VRM Class III is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract the attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant features of the characteristic landscape.

California Department of Transportation

The California Department of Transportation (Caltrans) defines a State Scenic Highway as any freeway, highway, road, or other public right-of-way that traverses an area of exceptional scenic quality. Suitability for designation as a State Scenic Highway is based on the following three visual concepts (*Guidelines for the Official Designation of Scenic Highways*, Caltrans, 1996):

- **Vividness:** The extent to which the landscape is memorable. This is associated with the distinctiveness, diversity, and contrast of visual elements. A vivid landscape makes an immediate and lasting impression on the viewer.

- **Intactness:** The integrity of visual order in the landscape and the extent to which the natural landscape is free from visual intrusions (i.e., buildings, structures, equipment, grading).
- **Unity:** The extent to which development is sensitive to and in visual harmony with the natural landscape.

Visual Resource Management Plan Methodology

Unlike other issues (e.g., air quality, traffic, and noise) where thresholds have been established to gauge the significance of potential impacts, the identification of potential impacts to the existing visual quality of an area is subjective. In an attempt to identify potential impacts to visual/scenic resources that may occur as a result of project implementation, the BLM VRM Plan Methodology was utilized in the preparation of the following evaluation. The BLM has developed this methodology to identify and quantify scenic values, and to analyze the impacts of proposed landscape modifications. This methodology is used to establish the scenic quality of an area, and then to evaluate the degree of contrast between the existing landscape and the proposed project alteration.

Using the VRM methodology, the scenic quality of an area is rated on seven key elements: Landform, vegetation, water, color, adjacent scenery, scarcity, and cultural modifications. These scenic quality elements are summarized below.

- **Landform.** Topography becomes more interesting as it gets steeper, more massive, or more severely or universally sculptured. Outstanding landforms may be monumental, as the Grand Canyon, the Sawtooth Mountain Range in Idaho, and the Wrangell Mountain Range in Alaska, or they may be exceedingly artistic and subtle as certain badlands, pinnacles, arches, and other extraordinary formations.
- **Vegetation.** Primary considerations are the variety of patterns, forms, and textures created by plant life, including short-lived displays when they are known to be recurring or spectacular. Other considerations include smaller scale vegetation features which add striking and intriguing detail elements to the landscape (e.g., gnarled or wind beaten trees, and Joshua trees).
- **Water.** Water adds movement or serenity to a scene. The degree to which water dominates the scene is the primary consideration in selecting the rating score.
- **Color.** The primary consideration is the overall color(s) of the basic components of the landscape (e.g., soil, rock, and vegetation) as they appear during seasons or periods of high use. Key factors include variety, contrast, and harmony.
- **Adjacent Scenery.** This is the degree to which scenery outside the scenery unit being rated enhances the overall impression of the scenery within the rating unit. The distance up to which adjacent scenery will influence scenery within the rating unit will normally range from 0–5 miles, depending upon the characteristics of the topography, the vegetative cover, and other such factors. The influence of an adjacent unit may enhance the visual quality and raise the score of a unit which may otherwise rate a low score.
- **Scarcity.** This factor provides an opportunity to give added importance to one or all of the scenic features that appear to be relatively unique or rare within one physiographic region. There may also be cases where a separate evaluation of each of the key factors does not give a true picture of the overall scenic quality of an area. Often it is a number of unremarkable elements in the proper combination that produces the most pleasing and memorable scenery. The scarcity factor can be used to recognize this type of area and give it added emphasis.
- **Cultural Modifications.** Cultural modifications in the landform/water, vegetation, and addition of structures should be considered and may detract from the scenery in the form of a negative intrusion or complement or improve the scenic quality of a unit.

In rating these elements, a score is assigned based on evaluation criteria, using a graduated range (0–5). Features or landscapes that exhibit little or no variety, contrast, color, uniqueness, or significant

topographic and natural elements are assigned scores at the lower end of the range (score 0–1). Conversely, features of landscapes that do exhibit such features are assigned scores at the high end of the scale (scores of 5). The evaluation criteria are described in detail in Appendix B. The scores of the elements are totaled, producing an overall scenic quality score, which may range from 0 to 33 points. Class A (19 to 33 points) is the highest rating and is defined as an area that combines the most outstanding characteristics of each rating factor. A Class B rating (12 to 18 points) denotes a combination of outstanding features and some that are fairly common to the physiographic region.

The scenic quality evaluation of the Planning Area was based on photographs and a visit to the Planning Area. Photographs of the Planning Area were taken from various viewpoints. As previously stated, these locations are identified as Viewpoints 1 through 8. As shown in Table 4.1.A, existing views of the Planning Area from the eight viewpoints ranged from the low score of 6 to the high score of 14.75 (producing a scenic quality rating of C). The results in Table 4.1.A refer to the average of four individual evaluations performed by LSA staff. The Scenic Quality Inventory and Evaluation Chart, Field Inventory Form and Rating Summary are included in Appendix B.

Table 4.1.A – Scenic Quality of Viewpoints, Score Quality Rating

View Point	Landform	Vegetation	Water	Color	Adjacent Scenery	Scarcity	Cultural Modification	Total Score	Score Quality Rating
1	2.25	2.75	0	2.75	3.75	2	-0.25	13	B
2	2.75	1.5	0	2.5	2.5	2.25	-2.5	9.25	C
3	1.75	1.5	0	1	2.5	1	-3.5	4.25	C
4	1.75	1.5	0	2.75	4.25	3.75	0	14.75	B
5	1.25	1.75	0	1.5	2.25	1.5	-1.5	6.75	C
6	1.25	2.75	0	1.5	1	2.5	-1	6	C
7	2.25	4	0	2.75	3.5	2.5	0	15	B
8	2.75	2	0	2.75	1.5	1.5	1.75	12	B

4.1.3 Thresholds of Significance

The proposed project would result in a significant aesthetic impact if it would result in any of the following:

- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings,¹ and historic buildings within a State scenic highway.
- Create a new source of substantial light or glare, which would adversely affect daytime or nighttime views in the area and/or;
- Have a substantial adverse effect on a scenic vista;
- Substantially degrade the existing visual character or quality of the site and its surroundings;

4.1.4 Impacts and Mitigation

4.1.4.1 Damage Scenic Resources within a State Scenic Highway

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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¹ A rock outcropping is the part of a rock formation that appears above the surface of the surrounding land.

There are no designated State scenic highways in or adjacent to the Planning Area; however, the City of Highland and the County of San Bernardino have designated the following roadways within the Planning Area as scenic resources:

The City of Highland

- Greenspot Road; and
- Boulder Avenue.

The County of San Bernardino

- Tennessee Freeway (State Route 30); and
- Alabama Street.

Water Conservation Operations/Maintenance Activities of the District

The District will continue to operate, maintain, and repair its water conservation facilities (access roads, canals, culverts, dikes, basins, and diversion structures) within the Planning Area in the same manner as existing conditions. As described in Section 3.6.1, while there is the potential for future water conservation facilities to be built within the Planning Area, at this point in time, the specific location, size, and type of facilities is unknown. Aside from this EIR's programmatic evaluation of impacts to biological resources associated with any potential future water conservation facilities, these facilities will be required to undergo project-specific environmental analysis prior to their construction and implementation. As described in Section 3.6.1, approximately ~~544~~ 520 fewer acres of water conservation activities would result from implementation of the Wash Plan; however, there would be no reduction in groundwater recharge basin acreage. The reduction in total acreage would result from the land exchange between the District and BLM and would be designated habitat conservation as depicted in Figure 3-16. The activities of the District within the Planning Area do not include the construction of new facilities that would alter the existing views. Operation and maintenance of the existing facilities within the project would continue to occur in the same manner as they presently do. These activities would not cause damage to scenic resources. No impact will occur in relation to this issue and no mitigation is required.

Cumulative. Cumulatively, water conservation activities in combination with other projects in the area will not create or contribute to new or increased impacts. There are no cumulative projects within the adjacent areas of the Planning Area that would combine with the proposed project to create a significant impact to scenic resources over and above the impacts discussed in this section.

Flood Control Operations/Maintenance Activities of the SBCFCD

As described in Section 3.6.2, approximately ~~6~~ 8 fewer acres of flood control activities would result from implementation of the Wash Plan. No new construction activities are proposed by the SBCFCD as part of the proposed project. The proposed project will allow the operation and maintenance of the existing SBCFCD facilities to continue. No changes to the current operations are proposed. Therefore no impact will occur in relation to this is issue and no mitigation is required.

Cumulative. Cumulatively, SBCFCD activities in combination with other projects in the area will not create or contribute to new or increased impacts. There are no cumulative projects within the adjacent areas of the Planning Area that would combine with the proposed project to create a significant impact to scenic resources over and above the impacts discussed in this section.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

The existing facilities operated and maintained by the EVWD are located off of Greenspot Road and Cone Camp Road. Greenspot Road is designated as a scenic roadway by the City of Highland General Plan. The EVWD facilities are currently in place and located approximately 1,000 feet to the south of the Greenspot Road right-of-way. These facilities will require no new construction as part of the proposed project.

The RMUD facilities to be operated and maintained as part of the proposed project are located near the Cemex Plant off of Orange Street-Boulder Avenue. No new construction or changes to these facilities are proposed as part of the project.

The maintenance and operation of RMUD and EVWD facilities will not cause damage to trees, rock outcroppings or historic buildings because they will require no new construction, or ground-disturbing activities. These facilities are not located adjacent to a State Scenic Highway; however, the existing EVWD facilities are adjacent to Greenspot Road, which has been identified as having scenic value in the City of Highland General Plan. As the water production activities will remain unchanged by the project, these facilities will have a less than significant impact in relation to this issue. No mitigation is necessary.

Cumulative. Cumulatively, the activities of the RMUD and the EVWD in combination with other projects in the area will not create or contribute to new or increased impacts. There are no cumulative projects within the adjacent areas of the Planning Area that would combine with the proposed project to create a significant impact to scenic resources over and above the impacts discussed in this section.

Aggregate Mining

Mining activities conducted at the proposed aggregate extraction locations would include modifications to existing mining operations. Minimal alteration of scenic resources would be encountered with future mining activities that would take place along Greenspot Road, Boulder Avenue, SR-30 and Alabama Street. Existing views of the Planning Area consist of the existing mining pits as shown in Figures 4.1.2A and 4.1.2B. The future views of the Planning Area would be similar with the exception of areas that have been reclaimed. Reclaimed portions of the mining areas will incorporate revegetation with native vegetation and recontouring of the pits. The recontouring will reduce the severity of the side slopes of the mines to 2:1 and create a more consistent appearing surface. Short-term near views of the Planning Area from existing scenic roadways would remain similar to the existing condition with an overall long-term improvement due to revegetation and recontouring of the mines. Implementation of the proposed project would not damage designated scenic resources within a scenic highway. A less than significant impact would result. No mitigation is necessary.

Cumulative. Cumulatively, aggregate mining activities in combination with other projects in the area will not create or contribute to new or increased impacts. There are no cumulative projects within the adjacent areas of the Planning Area that would combine with the proposed project to create a significant impact to scenic resources over and above the impacts discussed in this section.

Adoption of General Plan Amendments

The adoption of General Plan Amendments will allow the project to be implemented within each of the cities involved. These amendments will allow the trail right-of-way ~~dedications~~ designations and the alteration of land uses within each of the cities. These General Plan Amendments will change land uses adjacent to or near Greenspot Road, Orange Street-Boulder Avenue, State Route 30, and Alabama Street. However they will not allow the implementation of a project that would damage trees,

rock outcroppings, or historic buildings designated as scenic resources and therefore they will have a less than significant impact in relation to this issue and no mitigation is necessary.

Cumulative. Cumulatively the General Plan Amendments in combination with other projects in the area will not create or contribute to new or increased impacts. There are no cumulative projects within the adjacent areas of the Planning Area that would combine with the proposed project to create a significant impact to scenic resources over and above the impacts discussed in this section.

Roadway/Bridge Rights-of-Way

As part of the proposed project, additional rights-of-way will be dedicated for roads within the Planning Area. The right-of-way ~~dedications~~ designations will allow changes to the existing roads to occur. Neither of these facilities is a State Scenic highway but both are considered scenic highways by the City of Highland and San Bernardino County. Alabama Street would be widened to a 132-foot right-of-way. These projects would not damage resources such as trees, rock outcroppings or historic buildings. Views of the immediate area would remain essentially unchanged. Views from Greenspot Road, Orange Street-Boulder Avenue, Alabama Street, and SR-30 to the surrounding far views of the area would remain unchanged as a result of the proposed project; therefore a less than significant impact would occur and no mitigation is required.

Cumulative. Cumulatively, the designation of road and bridge rights-of-way in combination with other projects in the area will not create or contribute to new or increased impacts. There are no cumulative projects within the adjacent areas of the Planning Area that would combine with the designation of rights-of-way to create a significant impact to scenic resources over and above the impacts discussed in this section.

Recreational Trail Rights-of-Way

The ~~dedication~~ designation of trail rights-of-way within the project does not take place near or adjacent to a State scenic highway. As depicted in Figure 3.22, trail rights-of-way are located adjacent to Alabama Street, Greenspot Road, and Orange Street-Boulder Avenue. The trail rights-of-way will be dedicated as part of existing streets, service roads, or old railroad beds and will require physical barrier placement, small trail sign placement and minimal construction that will not damage any scenic resource. No impact will occur in relation to this issue and no mitigation is required.

Cumulative. Cumulatively, the designation of recreational trail rights-of-way in combination with other projects in the area will not create or contribute to new or increased impacts. There are no cumulative projects within the adjacent areas of the Planning Area that would combine with the designation of trail rights-of-way to create a significant impact to scenic resources over and above the impacts discussed in this section.

Land Exchange between the District and the BLM

The land exchange occurring between the District and BLM is illustrated in Figure 3.16. Mining activities will occur on the land exchanged to the District while the BLM portion will be used primarily for habitat and designated ACEC. The land exchange will take place in areas that are not directly adjacent to roadways and they are not easily visible to the public. No impact in relation to this issue would occur and no mitigation is required.

Cumulative. Cumulatively, the BLM land exchange with the District in combination with other projects in the area will not create or contribute to new or increased impacts. There are no cumulative projects within the adjacent areas of the Planning Area that would combine with the land exchange that would create a significant impact to scenic resources over and above the impacts discussed in this section.

Land Exchange between the SBCFCD and Robertson's

Mining activities will occur on portions of the property to be exchanged with Robertson's, while the SBCFCD's portion will be used primarily for habitat conservation. The mining activities that could take place upon the completion of the land exchange would occur near to Orange Street-Boulder Avenue. Near views of the land to be exchanged would be similar to what currently exist and those discussed in this section under "aggregate mining". Prime views to the surrounding areas would remain unchanged. Therefore, a less than significant impact will occur in relation to this issue and no mitigation is necessary.

Cumulative. Cumulatively, the SBCFCD land exchange with Robertson's in combination with other projects in the area will not create or contribute to new or increased impacts. There are no cumulative projects within the adjacent areas of the Planning Area that would combine with the land exchange that would create a significant impact to scenic resources over and above the impacts discussed in this section.

4.1.4.2 Light and Glare

Threshold	Create a new source of substantial light or glare, which would adversely affect daytime or nighttime views in the area.
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Water Conservation Operations/Maintenance Activities of the District

The continued operations and maintenance of water conservation facilities will not create a new source of light or glare. The District will continue to operate, maintain, and repair its water conservation facilities (access roads, canals, culverts, dikes, basins, and diversion structures) within the Planning Area in the same manner as existing conditions. As described in Section 3.6.1, while there is the potential for future water conservation facilities to be built within the Planning Area, at this point in time, the specific location, size, and type of facilities is unknown. Aside from this EIR's programmatic evaluation of impacts to biological resources associated with any potential future water conservation facilities, these facilities will be required to undergo project-specific environmental analysis prior to their construction and implementation. The existing facilities within the Planning Area are maintained on a basis ranging from once a year to once every five years. These facilities include access roads, canals, culverts, dikes, basins, and diversion structures. The maintenance operations for these structures will continue as they have prior to the implementation of the proposed project and will not create a new source of light or glare. Because there would be no new facilities constructed as a part of the project that would pose any light or glare impacts, a less than significant impact would occur with implementation of the proposed project and no mitigation is required.

Cumulative. Cumulatively, the water conservation activities of the District in combination with other projects in the area will not create or contribute to new or increased impacts related to light and glare. There are no cumulative projects within the adjacent areas of the Planning Area that would combine with the continued water conservation activities that would create a significant impact in regard to light and glare over and above the impacts discussed in this section.

Flood Control Operations/Maintenance Activities of the SBCFCD

The project proposes no new flood control areas or new flood control facilities. Maintenance activities required for flood control facilities will not change from what currently takes place and will not introduce a new source of substantial light or glare. A less than significant impact would result from the continuing operation and maintenance of SBCFCD facilities and no mitigation is required.

Cumulative. Cumulatively, the flood control activities of the SBCFCD in combination with other projects in the area will not create or contribute to new or increased impacts related to light and glare.

There are no cumulative projects within the adjacent areas of the Planning Area that would combine with the SBCFCD activities that would create a significant impact in regard to light and glare over and above the impacts discussed in this section.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

The proposed project proposes no change to the RMUD or EVWD water production operations. Future activities within the Planning Area will continue to include operation and maintenance of these facilities and no new source of light or glare will be created based on these activities, resulting in a less than significant impact. No mitigation is required.

Cumulative. Cumulatively, the continued water production activities of the EVWD and the RMUD in combination with other projects in the area will not create or contribute to new or increased impacts related to light and glare. There are no cumulative projects within the adjacent areas of the Planning Area that would combine with the EVWD and RMUD activities that would create a significant impact in regard to light and glare over and above the impacts discussed in this section.

Aggregate Mining

The aggregate mining operations would continue and expand in the Planning Area. The expansion of the existing mining operations within the Planning Area could create a new source of light or glare from the mining machinery used in the mining operation process.

Mining operations would occur from ~~5:00~~ 4:00 a.m. to 10:00 p.m. Monday through Friday and 6:00 a.m. to 6:00 p.m. on Saturdays, with no mining occurring on Sundays or holidays. Loading from the processing plants would occur 24 hours a day, seven days a week, the same as occurs today. In the proposed mining locations, lighting, consisting mainly of vehicle lights, would be necessary in the early morning hours and evening hours; however, the vehicle light sources would only illuminate the immediate mining areas. As the Planning Area is uninhabited, the foreground views are restricted to daylight or moonlight. No new or additional light sources would be added by the mining operations. However, existing lighting used for mining operations would be moved to other locations as new portions of the project are mined. (See Figures 3.2 and 3.6 for a comparison of existing and proposed mining activity locations.) As shown in Figure 3.19, access and haul roads constructed as part of the proposed project would be used for internal circulation by Robertson's and Cemex trucks. Light from these haul roads would be limited to the headlights of mining trucks using the roads at night. Light sources would create limited light intrusion and would not affect evening or early morning views, as most of the light sources would be within the pit areas and below eye-level views. Nighttime views would remain the same as they presently exist. Additionally, the views of the mountains that serve as a backdrop to the Planning Area would still be silhouetted against the sky above the Wash and would not be affected by any new lighting since the proposed project would lack a residential or commercial component. Therefore, implementation of the proposed project would have a less than significant impact on nighttime views and no mitigation is required.

Cumulative. Cumulatively, the aggregate mining activities within the Planning Area will not create or contribute to new or increased impacts related to light and glare in combination with other projects in the area. There are no cumulative projects within the adjacent areas of the Planning Area that would combine with the aggregate mining activities that would create a significant impact in regard to light and glare over and above the impacts discussed in this section.

Adoption of General Plan Amendments

The General Plan Amendments required by the Cities of Redlands and Highland would allow the changes in land use as proposed by the Wash Plan. The trail rights-of-way, and land use changes of this project that will require General Plan Amendments are discussed in this section of the EIR and

will not create a new significant new source of light or glare. Therefore the General Plan Amendments by the Cities of Highland and Redlands to reflect these uses will not have a significant impact. No mitigation is required.

Cumulative. Cumulatively, the adoption of General Plan Amendments within the Planning Area will not create or contribute to new or increased impacts related to light and glare in combination with other projects in the area. There are no cumulative projects within the adjacent areas of the Planning Area that would combine with the General Plan Amendments that would create a significant impact in regard to light and glare over and above the impacts discussed in this section.

Roadway/Bridge Rights-of-Way

The proposed project includes the setting aside of rights-of-way for subsequent improvements to Greenspot Road and the Greenspot Road Bridge (Figure 3.20), Alabama Street, and Orange Street-Boulder Avenue (Figure 3.21). The ~~dedication~~ designation of road rights-of-way will allow for future improvements to roads within the Planning Area. Light or glare from these future road improvements would be primarily from the headlights of vehicles traveling the roadway. The realignment of Greenspot Road within the Planning Area would cause a change in the location of lights from vehicles using the roadway. However, light and glare from these vehicles is not anticipated to create an impact in excess of what currently exists on the roadways present within the Planning Area. A less than significant impact would occur and no mitigation is required.

Cumulative. Cumulatively, the designation of additional roadway and bridge rights-of-way within the Planning Area will not create or contribute to new or increased impacts related to light and glare in combination with other projects in the area. The future widening and construction of roadways identified above would contribute light and glare impacts in the form of vehicular lighting; however, as existing roadways, light and glare impacts currently occur, new sources of light and glare would not be introduced. The volume of vehicles traveling on these roadways is not expected to increase to the point that a significant light and glare impact would result. There are no cumulative projects within the adjacent areas of the Planning Area that would combine with the rights-of-way that would create a significant impact in regard to light and glare over and above the impacts discussed in this section.

Recreational Trail Rights-of-Way

No construction activities are associated with the trails and motorized vehicles would not be allowed on trails within the interior of the Planning Area. Periodic maintenance would be required for these trails but they would not require the long-term presence of equipment or facilities that would cause glare. The ~~dedication~~ designation of rights-of-way and maintenance of the eight trails within the Planning Area as shown in Figure 3.22 will not create a new significant source of light or glare. A less than significant impact would result and no mitigation is required.

Cumulative. Cumulatively, the designation of recreational trail rights-of-way within the Planning Area will not create or contribute to new or increased impacts related to light and glare in combination with other projects in the area. There are no cumulative projects within the adjacent areas of the Planning Area that would combine with the designation of new recreational trail rights-of-way that would create a significant impact in regard to light and glare over and above the impacts discussed in this section.

Land Exchange between the District and the BLM

The land exchange occurring between the District and BLM is illustrated in Figure 3.16. Mining activities will occur on the land exchanged to the District while the BLM portion will be used primarily for habitat and designated ACEC. Conservation areas are to be left in their natural conditions and no construction activities will take place on them. No new sources of light or glare will be associated with

the exchange of land between the BLM and the District. A less than significant impact would result and no mitigation is required.

Cumulative. Cumulatively, the land exchange between the BLM and the District will not create or contribute to new or increased impacts related to light and glare in combination with other projects in the area. There are no cumulative projects within the adjacent areas of the Planning Area that would combine with the land exchange to create a significant impact in regard to light and glare over and above the impacts discussed in this section. While portions of the land exchange area are receiving biological clearance for potential, future water conservation facilities, none are presently proposed, and any future facilities would have to undergo successive environmental review. To the extent such future facilities would mirror existing facilities, no significant cumulative impacts to aesthetics are anticipated.

Land Exchange between the SBCFCD and Robertson's

This land exchange changes the location of habitat conservation areas and an area designated for mining. The areas to become habitat conservation areas to remain in their natural condition and no new construction will take place within these areas. Therefore, there would be no new source of light or glare. Robertson's will gain acreage to be used for mining activities that is presently disturbed habitat. The mining activities that may occur in the future as part of the land exchange will have impacts as discussed in the "aggregate mining" portion of this section. A less than significant impact would occur. No mitigation is required.

Cumulative. Cumulatively, the land exchange between the SBCFCD and the Robertson's will not create or contribute to new or increased impacts related to light and glare in combination with other projects in the area. There are no cumulative projects within the adjacent areas of the Planning Area that would combine with the land exchange to create a significant impact in regard to light and glare over and above the impacts discussed in this section.

4.1.4.3 Adverse Effect on Scenic Vistas/Characteristics of Site

Threshold	Would the project have a substantial adverse effect on a scenic vista?
Threshold	Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

To show the impacts of the proposed project in the Wash Plan, simulations were prepared to depict the assumed future changes at four of the eight previously mentioned viewpoints. The remaining four viewpoints would not experience any visual change with implementation of the proposed project. Viewpoints 3, 4, 6, and 7 would not consist of any visual change in relation to the components of the proposed project; therefore, there would be no change to the aforementioned viewpoints and there would be no impacts to aesthetic characteristics of the site at these locations.

At Viewpoints 1, 2, 5, and 8 the existing visual character would be altered by the proposed project. The expansion of the mining areas would remove the existing native plants and create large open pits. Depending on the viewpoint, all, a portion of, or no impacts to the Planning Area would be visible. The proposed project would have the following impacts:

- **Simulation for Viewpoint 1.** Views looking northeast from SR-30 would present a distant view for the proposed West Quarry. During the mining phase the expansion of the quarry would increase the existing visual impact into a more dominant contrast. The view of the mining operations depicted in Figure 4.1.3A show how the proposed quarry would remove the existing natural shrub vegetation and would disrupt the existing color pattern through the introduction of lighter hues created by the mining activities. However, under the BLM contrast rating scale, the change to the scenic vista at this viewpoint would be rated weak while mining operations

occurred in this area. In addition the proposed west quarry would be reclaimed and revegetated upon the completion of mining activities, leaving a more uniform and consistent appearance.

- **Simulation for Viewpoint 2.** Views looking east from SR-30 would overlook the proposed West Quarry. This quarry would increase the depth and size of the existing round quarry that is now visible from SR-30. In addition, the new quarry would remove the existing natural shrub vegetation. The change to the near view would be perceptible, as SR-30 is elevated above the Planning Area; however, due to the existing views at this location the change would be minor. The simulated change during the mining phase, prior to mine reclamation, is shown in Figure 4.1.3A. Figure 4.1.3C shows the West Quarry in the reclaimed condition with the native vegetation regrowth on the slopes and floor of the mines. The change would clear up existing irregular formations and produce an orderly aesthetic appearance within the pit. Under the BLM contrast rating scale, the change to the viewscape would be considered weak. The proposed view in comparison with the existing view would result in little change. Ultimately, the mine would be reclaimed and revegetated resulting in less severe slopes around the mine and the replacement of native vegetation.
- **Simulation of Viewpoint 5.** Views from Pole Line Road Trail are expected to remain as they exist today, with the exception of the placement of a physical barrier along the trail. The views observed from the trail by the public would be altered. The edges of the trail would be strongly defined by the placement of a physical barrier as illustrated in Figure 4.1.3B. It is necessary to install physical barriers to prevent incursions from the trail into sensitive habitat areas. Large boulders or other naturally occurring materials from the Wash area may be used to create boundaries for the public access trails within the Planning Area. The change to the existing views would be considered weak under the BLM contrast rating system.
- **Simulation of Viewpoint 8.** Views looking southwest from the existing Greenspot bridge will remain as they are today with the exception of the visibility of the realigned Greenspot Road and new Greenspot Road Bridge as illustrated in Figure 4.1.3B. The existing Greenspot Road Bridge and existing Greenspot Road will become part of the recreational trail system and will no longer be used for vehicular traffic. This area will be viewed primarily by pedestrians and recreational users of the area and vehicles as they approach the area from Greenspot Road.

Water Conservation Operations/Maintenance Activities of District

The District will continue to operate, maintain, and repair its water conservation facilities (access roads, canals, culverts, dikes, basins, and diversion structures) within the Planning Area in the same manner as existing conditions. As described in Section 3.6.1, while there is the potential for future water conservation facilities to be built within the Planning Area, at this point in time, the specific location, size, and type of facilities is unknown. Aside from this EIR's programmatic evaluation of impacts to biological resources associated with any potential future water conservation facilities, these facilities will be required to undergo project-specific environmental analysis prior to their construction and implementation. The project proposes no change in the maintenance or operation of the existing facilities and would not degrade a scenic vista or the visual character of the existing Planning Area. A less than significant impact will occur and no mitigation is required.

Cumulative. Cumulatively, the water conservation activities of the district will not create or contribute to new or increased impacts related to the alteration of scenic vistas or the existing character of the site in combination with other projects in the area. While portions of the land exchange area are receiving biological clearance for potential, future water conservation facilities, none are presently proposed, and any future facilities would have to undergo successive environmental review. To the extent such future facilities would mirror existing facilities, no significant cumulative impacts to aesthetics are anticipated. There are no cumulative projects within the adjacent areas of the Planning Area that would combine with the water conservation activities to create a significant impact in regard to scenic vistas or the characteristics of the Planning Area over and above the impacts discussed in this section.



SIMULATION FOR VIEWPOINT 1: *View looking north from Highway 30 with proposed mining operation expansion.*



SIMULATION FOR VIEWPOINT 2: *View looking northeast from Highway 30 during future mining conditions.*

LSA

FIGURE 4.1.3A

*Upper Santa Ana River Wash
Land Management Plan
Environmental Impact Report
Viewpoint Simulations*

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SIMULATION FOR VIEWPOINT 5: *View of Pole Line Road Trail near Plunge Creek facing east with rock and boulder barriers.*



SIMULATION FOR VIEWPOINT 8: *View of proposed Greenspot Road Bridge.*

LSA

FIGURE 4.1.3B

*Upper Santa Ana River Wash
Land Management Plan
Environmental Impact Report
Viewpoint Simulations*

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SIMULATION FOR VIEWPOINT 2: View looking northeast from Highway 30 with completed reclaimed mining aesthetics.

LSA

FIGURE 4.1.3C

*Upper Santa Ana River Wash
Land Management Plan
Environmental Impact Report
Viewpoint Simulations*

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Flood Control Operations/Maintenance Activities of the SBCFCD

Implementation of the proposed project would reduce flood control land by approximately 6.8 acres. However, there would be no change to the operations and maintenance of those lands with the proposed project. SBCFCD will not require additional construction work as part of the proposed project. SBCFCD operation and maintenance activities will not increase in comparison to the existing conditions. Therefore, the project would not have a significant impact on scenic vistas and would not degrade the existing visual character of the Planning Area. No mitigation is required.

Cumulative. Cumulatively, the flood control operations and maintenance activities of the SBCFCD will not create or contribute to new or increased impacts related to the alteration of scenic vistas or the existing character of the Planning Area in combination with other projects in the area. There are no cumulative projects within the adjacent areas of the Planning Area that would combine with the SBCFCD activities to create a significant impact in regard to scenic vistas or the characteristics of the Planning Area over and above the impacts discussed in this section.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Operation and maintenance of existing EVWD and RMUD water production facilities currently take place within the Planning Area. The operation and maintenance of the existing facilities will continue as part of the Planning Area. No changes in the operation or maintenance of the existing facilities and no new construction is proposed. No change to a scenic vista or the character of the existing Planning Area would occur as a result of the proposed project. A less than significant impact would occur and no mitigation is required.

Cumulative. Cumulatively, the operations and maintenance activities of the EVWD and the RMUD will not create or contribute to new or increased impacts related to the alteration of scenic vistas or the existing character of the site in combination with other projects in the area. There are no cumulative projects within the adjacent areas of the Planning Area that would combine with the activities of the RMUD and the EVWD to create a significant impact in regard to scenic vistas or the characteristics of the site over and above the impacts discussed in this section.

Impact 4.1.1 Aggregate mining would degrade the existing visual character or quality of the site and its surroundings.

Aggregate Mining

The project proposes to expand the existing sand and gravel mines, develop new sand and gravel mines and to reclaim mining facilities following the completion of extraction activities. These activities will create new open mining pits and new haul roads within the Planning Area. As shown in previously referenced Figures 4.1.2A and 4.1.3A, the mining expansion and the newly created mining pits would be similar to those existing and would be required to be revegetated as part of the reclamation process. The interim condition prior to reclamation would result in views of mining pits from outside of the Planning Area. These interim views would be similar to those that currently exist. Since the interim condition would not create a substantial change to the existing visual character or cause significant changes to a scenic vista a less than significant impact would occur. As a part of the reclamation process, side slopes of the mine areas would be required to maintain 2:1 slopes in most areas and the slopes would be revegetated.

Haul roads and access roads to be constructed as part of the project would be located outside of the view of the public with the exception of areas where haul roads tie into existing public streets as they currently do. These haul roads would not be located in an area that would be considered a scenic vista and would not degrade the existing visual character of the Planning Area.

Disturbances to the views of the Planning Area, caused by the continuing and expanding mining operations, would mainly affect the near views, which are not the prime views in the area. Near views

are considered to be points of view that are observed within a close range. Prime views are defined as the views of the mountains, which form the backdrop for the Plan Area and implementation of the proposed project would not change these views. Public views to the Planning Area would mainly consist of prime views, not near views. However, a potentially significant impact to near views would still occur and would require mitigation.

Mitigation Measures. To shield the proposed expansion of the quarry pits from public view and maintain the existing viewscape as much as possible, the following mitigation measures are prescribed:

- AES-1** Prior to initiating grading for the Silt Pond Quarry, where sufficient space is available, a berm shall be created and maintained by the mining operator on the northern and eastern boundaries of the quarry that parallel Greenspot Road and Orange Street-Boulder Avenue, respectively. This berm shall be planted by the mining operators with plant species common to the Riversidean Alluvial Fan Sage Scrub Community as approved by the District and the appropriate jurisdiction. Berm and landscaping plans shall be submitted to the District, the City of Highland and/or Caltrans (if applicable) for review and approval.
- AES-2** Within 6 months of the issuance of mining permits, trees at least 15 gallons in size and common to the Planning Area plant community shall be planted by the mining operator along the western perimeter of West Quarry, where sufficient space is available, at spacing of 15 feet on center to allow unrestricted growth and to be sufficient to shield the quarry from view of passing motorists on SR-30. Tree planting plans shall be submitted to the District, the City of Highland, the City of Redlands and/or Caltrans for review and as necessary. The trees shall be planted prior to the expansion of the quarry and shall be watered by the mining operators until established. The trees shall be maintained for the life of the quarry and replaced as necessary by the mining operator.
- AES-3** Trees of a species common to the Planning Area shall be planted by the mining operator along the eastern boundary of Alabama Street Quarry, where sufficient space is available, that parallels SR-30. The spacing of the trees shall be 15' on center to allow unrestricted growth and to be sufficient to mask the quarry from view of travelers on SR-30. Tree planting plans shall be submitted to the District, the City of Highland, the City of Redlands and Caltrans for review and approval.
- AES-4** As mining activities are completed, the slopes of the quarries shall be reclaimed and revegetated by the mining operators per the approved Reclamation Plans with plant species common to the Riversidean Alluvial Fan Sage Scrub Community. Reclamation and revegetation plans shall be submitted to the District and the City of Highland and the City of Redlands for review and approval.

Level of Significance after Mitigation. Actions proposed within the mitigation measures would shield near views of the proposed expansion of the quarry pits and maintain the existing viewscape as much as possible. With implementation of **Mitigation Measures AES-1** through **AES-4**, significant aesthetic impacts upon the proposed project with respect to the degradation of the visual character of the site and its surroundings would remain significant and unavoidable.

Cumulative. Cumulatively, the aggregate mining activities within the Planning Area will not create or contribute to new or increased impacts related to the alteration of scenic vistas or the existing character of the Planning Area in combination with other projects in the area. While individual impacts would be significant and unavoidable, there are no cumulative projects within the adjacent areas of the Planning Area that would combine with the aggregate mining activities to create a significant cumulative impact in regard to scenic vistas or the characteristics of the Planning Area over and above the impacts discussed in this section.

Adoption of General Plan Amendments

General Plan Amendments would be required to allow the components and activities of the project to occur. Each of the components of the proposed project is discussed separately within this section. The project components that would be allowed by General Plan Amendments are discussed under their related headings within this section and indicate the level of impact each would have. As a result, implementation of the General Plan Amendments will result in a less than significant impact. No mitigation is required.

Cumulative. Cumulatively, the General Plan Amendments will not create or contribute to new or increased impacts related to the alteration of scenic vistas or the existing character of the Planning Area in combination with other projects in the area. There are no cumulative projects within the adjacent areas of the Planning Area that would combine with the General Plan Amendments to create a significant impact in regard to scenic vistas or the characteristics of the Planning Area over and above the impacts discussed in this section.

Roadway/Bridge Rights-of-Way

The project includes the reservation of rights-of-way for Alabama Street, Orange Street-Boulder Avenue, Greenspot Road, and also a new Greenspot Road Bridge. Widening and realignment of Greenspot Road northwest of the existing Greenspot Road Bridge would occur in the future, which would straighten dangerous S-curves in the roadway, but would follow the same general path of the existing roadway. The realignment of Greenspot Road to the south of the existing bridge and the construction of the new bridge approximately 250 feet to the ~~south~~ west of the existing bridge will change the existing character of the Planning Area as shown in Figure 4.1.3B. The new roadway and bridge structures will be located in areas where currently no structures exist. However, due to the low profile of the roadway and the proposed bridge, they would be only partially visible from the existing residences and the public. The proposed project would not have a substantial adverse impact on a scenic vista or substantially degrade the existing character of the Planning Area. A less than significant impact would occur.

The rights-of-way to be reserved for Orange Street-Boulder Avenue and Alabama Street are along their existing alignments and will not degrade the existing character of the Planning Area. The rights-of-way ~~dedication~~ designation of these roads will not cause a change in their appearance and it is not anticipated that they will substantially degrade the existing character of the Planning Area. Therefore, a less than significant impact would result and no mitigation is required.

Cumulative. Cumulatively, the bridge and roadway rights-of-way will not create or contribute to new or increased impacts related to the alteration of scenic vistas or the existing character of the Planning Area in combination with other projects in the area. There are no cumulative projects within the adjacent areas of the Planning Area that would combine with the designation of the rights-of-way to create a significant impact in regard to scenic vistas or the characteristics of the Planning Area over and above the impacts discussed in this section.

Recreational Trail Rights-of-Way

The reservation and setting aside of trail rights-of-way will not include new construction within the proposed project. The new trails proposed as part of the project will utilize existing streets, service roads, and old railroad beds. In order to keep trail users from entering habitat preservation areas or from straying off of the provided trails, physical barriers or trail markers will be included as part of the trail. These trail demarcations will likely be made of materials native to the area such as rocks and boulders as shown in Figure 4.1.3B. These physical barriers and possibly trail signage would be the only additions to the trail areas. The trails would make a minor change to the existing area but the trails are low-lying and not visible from the surrounding Planning Area and would not degrade a

scenic vista or the character of the existing Planning Area. A less than significant impact would occur and no mitigation is required.

Cumulative. Cumulatively, the recreational trail rights-of-way will not create or contribute to new or increased impacts related to the alteration of scenic vistas or the existing character of the Planning Area in combination with other projects in the area. There are no cumulative projects within the adjacent areas of the Planning Area that would combine with the proposed designation of recreational trail rights-of-way to create a significant impact in regard to scenic vistas or the characteristics of the Planning Area over and above the impacts discussed in this section.

Land Exchange between the District and BLM

The District's land exchange with BLM will provide to BLM an unrestricted habitat corridor for wildlife movement while maintaining continued water conservation activity. The land the BLM will exchange to the District, which is already mostly disturbed, will be used for aggregate mining. The mining activities that would occur on this property would have similar impacts to those discussed under "Aggregate Mining" within this section. Similarly, with the implementation **Mitigation Measures AES-1** through **AES-4**, impacts would remain significant and unavoidable.

Cumulative. Cumulatively, the land exchanges between the District and the BLM will not create or contribute to new or increased impacts related to the alteration of scenic vistas or the existing character of the Planning Area in combination with other projects in the area. There are no cumulative projects within the adjacent areas of the Planning Area that would combine with the land exchange to create a significant impact in regard to scenic vistas or the characteristics of the site over and above the impacts discussed in this section.

Land Exchange between the SBCFCD and Robertson's

The land exchange would set aside undisturbed habitat conservation areas in exchange for land that is currently dedicated for habitat conservation but is disturbed. The newly formed habitat area proposed by this land exchange would remain undisturbed. The area that is currently disturbed habitat would be dedicated to Robertson's for the purposes of mining activities. The mining activities that would occur on this property would have similar impacts to those discussed under "Aggregate mining" within this section. Similarly, with the implementation of **Mitigation Measures AES-1** through **AES-4**, impacts would remain significant and unavoidable. The newly formed habitat conservation area would remain unchanged and no impact related to this issue would occur.

Cumulative. Cumulatively, the land exchanges between the SBCFCD and Robertson's will not create or contribute to new or increased impacts related to the alteration of scenic vistas or the existing character of the site in combination with other projects in the area. There are no cumulative projects within the adjacent areas of the Planning Area that would combine with the land exchange to create a significant impact in regard to scenic vistas or the characteristics of the site over and above the impacts discussed in this section.

4.2 AGRICULTURAL RESOURCES

This section provides a discussion of agricultural resources impacts attributable to the project. As part of the analysis, a description of existing agricultural resources and respective State farmland classifications for the project site have been provided. This section focuses on discussions involving applicable State, regional, and local policies regarding agricultural resources and the conversion of farmland to non-agricultural uses. This section is based in part on *A Guide to the Farmland Mapping and Monitoring Program*,¹ the *California Land Conservation (Williamson) Act Status Report*,² and the *California Agricultural Land Evaluation and Site Assessment Model Instruction Manual*.³

4.2.1 Existing Setting

Within the Planning Area, there is one existing citrus grove that is currently in agricultural production. This approximately 6-acre citrus grove is generally located southwest of the existing Greenspot Road "S" curve and north of the borrow pit. Although the project area has a small portion currently used for agricultural operations, much of the surrounding lands have been and are currently used for agricultural operations. Based on a 1-mile radius, the majority of the agricultural land is located south and east of the project area in the City of Redlands and in unincorporated areas of the County of San Bernardino. A summary of agricultural lands in and around the Planning Area are noted in Table 4.2.A.

Table 4.2.A – Existing Agricultural Lands within the Project Area and Adjacent Lands

Location	Acres	Farm Category
Santa Ana River Wash Planning Area	6	Orchards
City of Highland 1 mile outside Project Site	385	Orchards
City of Redlands 1 mile outside Project Site	870	Orchards
Community of Mentone and County of San Bernardino 1 mile outside Project Site	1,150	Orchards
Total Acres	2,411	

Source: LSA Associates, Inc. 2007.

State Designated Farmland

The California Government Code (§ 65570) requires the collection and reporting of agricultural land use acreage and conversion by June 30 of each even-numbered year. Utilizing data from the U.S. Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS) soil survey and current land use information, the California Department of Conservation (DOC), Farmland Mapping and Monitoring Program (FMMP) compiles farmland maps for each county within the State. Maps and statistics are produced biannually using a process that integrates aerial photo interpretation, field mapping, a computerized mapping system, and public review. Representing an inventory of agricultural soil resources within the county, these maps categorize land use into eight mapping categories:

- Prime Farmland
- Farmland of Statewide Importance
- Unique Farmland
- Farmland of Local Importance
- Grazing Land
- Urban and Built-Up Land
- Other Land
- Water

¹ California Department of Conservation, Division of Land Resource Protection, *A Guide to the Farmland Mapping and Monitoring Program*, 2004.

² California Department of Conservation, Williamson Act Program, *California Land Conservation (Williamson) Act Status Report*, 2006.

³ Department of Conservation, Office of Land Conservation, *California Agricultural Land Evaluation and Site Assessment Model Instruction Manual*, 1997.

The definitions of the mapping categories found within the project area are contained in the following paragraphs. Farmland of Local Importance and Water do not occur on the project site. Although water is occasionally found on the project site, the Department of Conservation's Farmland Mapping and Monitoring Program defines Water to be perennial water bodies with an extent of at least 40 acres.

Prime Farmland. "Prime Farmland" is farmland with the best combination of physical and chemical features able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. There is less than 1.0 acre of land designated as Prime Farmland on the project site.

Farmland of Statewide Importance. "Farmland of Statewide Importance" is land that is similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to hold and store moisture. There is less than 1.0 acre of land designated as Farmland of Statewide Importance on the project site plan.

Unique Farmland. "Unique Farmland" is farmland of lesser quality soils used for the production of the leading agricultural crops of the State. This land is usually irrigated, but may include non-irrigated orchards or vineyards that are found in some climatic zones in California. There is less than 1.0 acre of land designated as Unique Farmland on the project site.

Grazing Land. "Grazing Land" is land on which the existing vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities. The minimum mapping unit for Grazing Land is 40 acres. There are approximately 3,195 acres of land designated as Grazing Land on the project site; however, there are no existing grazing activities occurring on the project site.

Urban and Built-Up Land. "Urban and Built-Up" land is defined as land that is occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. "Urban and Built-Up" is used for:

- Residential
- Industrial
- Commercial
- Construction
- Institutional
- Public administration
- Railroad and other transportation yards
- Cemeteries
- Airports
- Golf courses
- Sanitary landfills
- Sewage treatment
- Water control structures
- Other developed purposes

Urban and Built-Up land must contain man-made structures or buildings under construction, and the infrastructure required for development (e.g., paved roads, sewers, water, electricity, drainage, or flood control facilities) that are specifically designed to serve that land. Because existing infrastructure for water conservation and flood control activities is man-made, the area in which these features are located is considered to be part of the Urban and Built-Up category. There are approximately 395.0 acres of land designated as Urban and Built-Up on the project site.

Other Land. "Other Land" is defined as land that is not included in any of the other farmland mapping categories. Uses with Other Land generally include the following:

- Rural development with a building density of less than one structure per 1.5 acres;
- Brush, timber, wetlands, and other lands not suitable for livestock grazing;
- Government lands not available for agricultural use;
- Road systems for freeway interchanges; and
- Vacant non-agricultural land larger than 40 acres in size that is surrounded on all sides by urban development.

There are approximately 871 acres of land designated as Other Land on the project site.

Defined by the Department of Conservation Farmland Mapping and Monitoring Program, six of the above-listed eight mapping categories can be found in the Planning Area. These six mapping categories and their associated acreage within the Planning Area are summarized in Table 4.2.B. The distribution of types of farmland within the project boundaries is illustrated in Figure 4.2.1.

Table 4.2.B – Farmland Mapping and Monitoring Program Land Use within Project Site

Land Category	Area (acres) ¹	Area (%)
Grazing Land	3,195	71.6
Other Land	871	19.5
Urban and Built-Up Land	395	8.7
Not Inventoried ²	5	< 1
Prime Farmland	< 1	< 1
Unique Farmland	< 1	< 1
Farmland of Statewide Importance	< 1	< 1
Total	4,467	100.0

¹ The number of acres has been rounded; more specific acreages are included in Appendix C.

² *Not Inventoried Land* is land that has not been categorized and inventoried by the Farmland Mapping and Monitoring Program.

4.2.2 Policies and Regulations

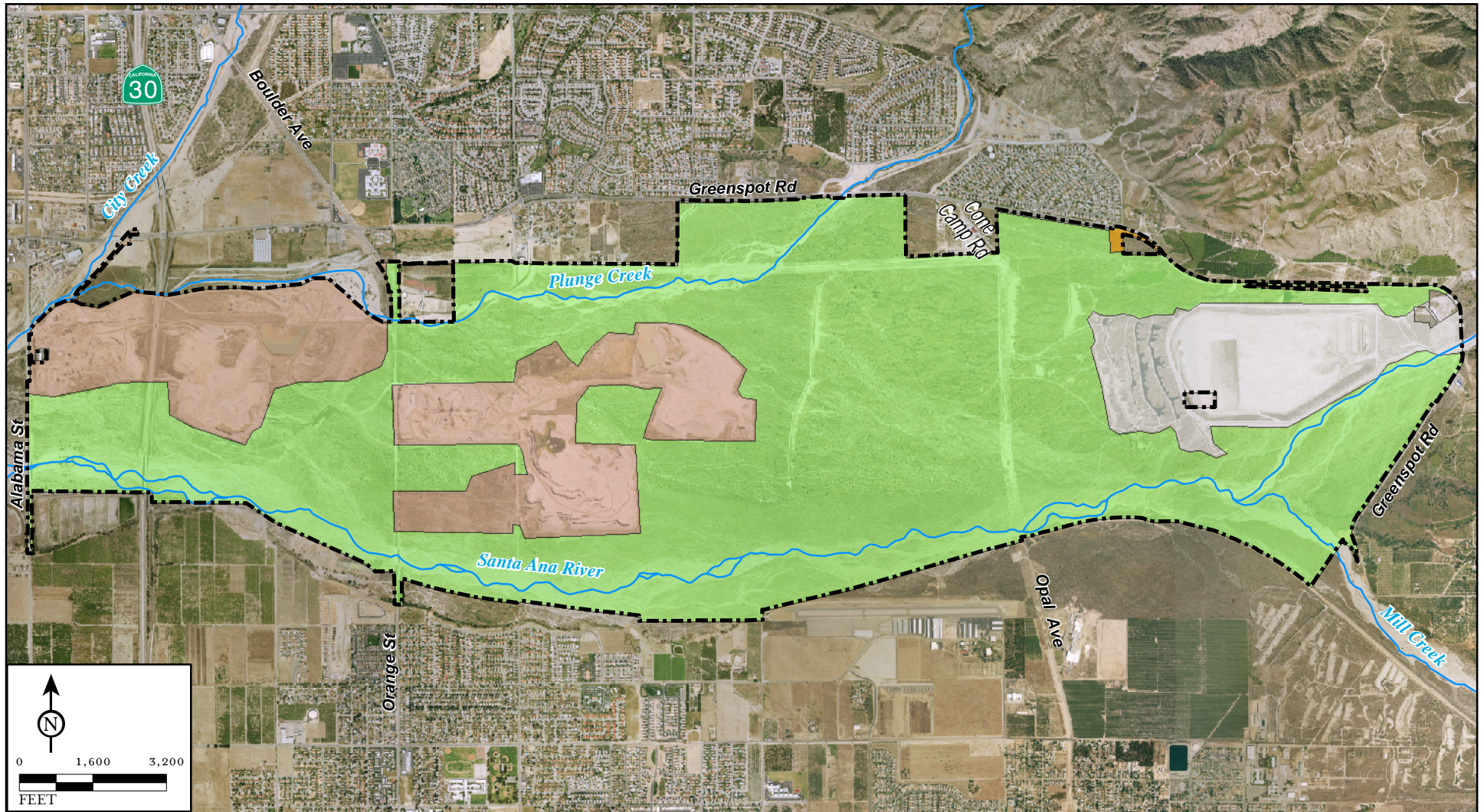
Local policies and regulations are those agricultural resources goals and policies that are relevant to the proposed project and contained in the applicable General Plans.

State of California Regulations

The California Land Conservation Act (California Government Code, § 51200, et seq.), also known as the Williamson Act, allows for the preservation of agricultural and open space lands through property tax incentives and voluntary restrictive use contracts. This program allows property owners to have their property assessed on the basis of its agricultural production rather than at the current market value, thus relieving the property owner of having to pay higher property taxes as long as the land remains in agricultural production. Local governments receive an annual subvention (i.e., subsidy) of forgone property tax from the State. The Williamson Act encourages property owners to continue to farm their land and to prevent the premature conversion of farmland to urban uses.

Based on *The California Land Conservation (Williamson) Act 2006 Status Report*, the Department of Conservation estimates that 16.6 million acres, representing over half the farmland and nearly a third of the State's privately owned land within the State of California, are enrolled under Williamson Act

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FIGURE 4.2.1

- PLAN BOUNDARY
- RIVERS OR CREEKS
- URBAN AND BUILT UP*
- GRAZING
- OTHER LAND (DOES NOT MEET THE CRITERIA OF ANY OTHER CATEGORY)
- AREA NOT MAPPED BY THE FARMLAND MAPPING AND MONITORING PROGRAM

*NOTE: MAN-MADE STRUCTURES (E.G., PERCOLATION BASINS AND LEVEES) ARE DESIGNATED AS URBAN AND BUILT-UP BY THE FARMLAND MAPPING AND MONITORING PROGRAM.

*Upper Santa Ana River Wash
Land Management Plan
Environmental Impact Report*

**Farmland Mapping and
Monitoring Program Designations**

SOURCE: SBV Water Conservation District; Farmland Mapping and Monitoring Program, 2004; AirPhotoUSA, 2007.

R:\SBW330\gis\Admin_Draft_EIR\Sect4_EnvironImpact\fig4-2-1_State-Farmland.mxd (03/20/07)

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contracts.¹ Williamson Act contracts have an initial term of 10 years, with renewal occurring automatically each year. The contracts run with the land and are binding on all succeeding landowners. Upon the expiration of the contract, the restrictions are removed and the property tax assessment, which had been gradually increasing over the previous 9-year non-renewal period, returns to full market value.

The Williamson Act contains limited provisions for the cancellation of contracts. A cancellation of a Williamson Act contract is the immediate termination, by a landowner, of an enforceable restriction. A Williamson Act contract cancellation requires payment of a cancellation fee as well as approval by the County Board of Supervisors or City Council. In this case, the approving authority would be the City of Highland and the City of Redlands. Specific findings regarding the non-viability of the agricultural use must be made, and a substantial penalty for the cancellation is assessed. Because of the rigorous findings required for such approvals, cancellations typically amount to a small fraction of total contract terminations each year. Local governments are required to notify the Department of Conservation of cancellation petitions and to consider Department of Conservation comments on such petitions.

The Department of Conservation was included in the State Clearinghouse's distribution of the Notice of Preparation for this EIR, and no comment on the proposed project has been received from the Department of Conservation.

City of Highland General Plan Update

Land Use Element. Goal 2.7 and its policies apply to the proposed project. The proposed project would encourage natural resource and open space preservation.

Goal 2.7 Encourage natural resource and open space preservation through appropriate land use policies that recognize their value and through the conservation of areas required for the protection of public health and safety.

Policy 1 Within the eastern portions of the City, utilize lower densities to protect agricultural lands, scenic resources, and topographic features.

Policy 2 Preserve agricultural lands within the eastern portions of the City and commercial operations if possible, or within residential developments if not. Utilize Planned Developments with joint ownership or agricultural uses or placement of low density housing within an overall grove setting.

Policy 4 Preserve areas designated as Open Space to provide for recreation, preservation of scenic and environmental values, managed production of resources (agriculture, water reclamation and conservation, mineral extraction), and protection of public safety.

City of Redlands 1995 General Plan

The following policies from the *City of Redlands 1995 General Plan* apply to agricultural lands and the protection of agricultural resources.

City Design and Preservation Element.

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

3.29b Identify existing agricultural areas, scenic views, vistas, and streetscapes, include mountain, canyon, and valley vistas, urban view corridors, focal points and focal buildings.

¹ *The California Land Conservation (Williamson) Act 2006 Status Report*, State of California Department of Conservation, May 2006.

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

Open Space and Conservation Element.

- 7.41a** Retain the maximum feasible amount of agricultural open space for its contributions to the local economy, lifestyle, air quality, habitat value, and sense of Redlands' heritage.
- 7.41d** Employ zoning for agricultural use, City ownership, transfer of density, and zoning for rural living to maintain citrus and other croplands in production where designated on the General Plan Diagram.
- 7.41e** Encourage formation of a land trust to make the most efficient use of funds available for agricultural preservation.

4.2.3 Thresholds of Significance

Potential impacts to agricultural resources would be considered significant if the proposed project resulted in any of the following:

- Conversion of Prime, Unique, or Statewide Important Farmland, as shown on the maps prepared by the Farmland Mapping and Monitoring Program;
- Conflict with existing zoning for agricultural use, or a Williamson Act contract; and/or
- Changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use.

The cumulative area for agricultural resource impacts is San Bernardino County. No local or regional program to mitigate cumulative impacts to agricultural resources is available. During the last available reporting period (2002 to 2004), 13,497 acres of Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance were converted to other uses.¹

4.2.4 Impact Analysis

4.2.4.1 Conversion of State Designated Farmland

Threshold	Would the proposed project result in the conversion of Prime, Unique, or Statewide Important Farmland as shown on the maps prepared by the Farmland Mapping and Monitoring Program?
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Water Conservation Operations/Maintenance Activities of the District

The primary operation of the District is groundwater recharge that includes percolation basins with a wetted area of 64 acres. Since the 1.0 acre of Prime, Unique, or Farmland of Statewide Importance is not located within the water conservation areas, no impacts associated with the conversion of Prime, Unique, or Statewide Important Farmland would occur. No mitigation would be required.

Cumulative. Cumulatively, the water conservation activities of the District will not create or contribute to new or increased impacts related to the conversion of State Designated Farmland in combination with other projects in the area. The proposed project will have no impact related to State Designated Farmland and therefore would not contribute to any cumulative impact.

¹ Table A-25: *San Bernardino County 2002-2004 Land Use Conversion*, Department of Conservation, Division of Land Resource Protection, http://www.consrv.ca.gov/DLRP/fmmp/county_info_results.asp, website updated May 19, 2006.

Flood Control Operations/Maintenance Activities of the SBCFCD

There are approximately 414 acres currently devoted to SBCFCD activities located within the northern, southern, and eastern portions of the proposed Planning Area. Since the 1.0 acre of Prime, Unique, or Farmland of Statewide Importance is not located within the flood control areas, no impacts associated with the conversion of Prime, Unique, or Statewide Important Farmland would occur. No mitigation would be required.

Cumulative. Cumulatively, the activities of the SBCFCD will not create or contribute to new or increased impacts related to the conversion of State Designated Farmland in combination with other projects in the area. The proposed project will have no impact related to State Designated Farmland and therefore would not contribute to any cumulative impact.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Activities conducted within the Planning Area include operation and maintenance of wells and pumps. Implementation of the proposed project would not change existing water production activities, which do not occur on State Designated Farmland. Therefore, no impacts associated with this issue would occur, as existing baseline conditions would remain in effect and would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use. No mitigation would be required.

Cumulative. Cumulatively, the activities of the EVWD and the RMUD will not create or contribute to new or increased impacts related to the conversion of State Designated Farmland in combination with other projects in the area. The proposed project will have no impact related to State Designated Farmland and therefore would not contribute to any cumulative impact.

Aggregate Mining

With the implementation of the proposed project plan, an additional 363 acres would be devoted to mining uses, bringing the total mining area to approximately 1,195 acres. Since the additional 363 acres devoted to mining would be located on the western portion of the Wash Plan Area, and because the 1.0 acre of Prime, Unique, or Farmland of Statewide Importance is located on the eastern portion of the planning area; the proposed aggregate mining activity would not affect on-site Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. No impact associated with this issue would occur. No mitigation would be required.

Cumulative. Cumulatively, the aggregate mining activities proposed will not create or contribute to new or increased impacts related to the conversion of State Designated Farmland in combination with other projects in the area. The proposed project will have no impact related to State Designated Farmland and therefore would not contribute to any cumulative impact.

Adoption of General Plan Amendments

With implementation of the proposed project, General Plan Amendments would be required by the City of Highland and the City of Redlands. With the adoption of the General Plan Amendments, the different project components analyzed in this section would occur. It is anticipated that each of the project components would have a less than significant impact associated with implementation of the proposed project. Therefore, the proposed General Plan Amendments would have a less than significant impact on Prime, Unique, and Statewide Important Farmland and no mitigation measures would be required.

Cumulative. Cumulatively, the adoption of General Plan Amendments as proposed will not create or contribute to new or increased impacts related to the conversion of State Designated Farmland in combination with other projects in the area. There are no cumulative projects within San Bernardino

County that would combine with the proposed General Plan Amendments to create a significant impact related to the conversion of State Designated Farmland over and above the impacts discussed in this section.

Roadway/Bridge Rights-of-Way

With the implementation of the proposed project, the ~~dedication~~ designation of additional rights-of-way for three streets—Alabama Street, Orange Street-Boulder Avenue, and Greenspot Road—would occur near the existing roadways. Because Alabama Street and Orange Street-Boulder Avenue are located within the west of the existing 1.0 acre of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, and Greenspot Road is located to the east, no impact which would result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance would occur. No mitigation is required.

Cumulative. Cumulatively, the proposed roadway and bridge rights-of-way will not create or contribute to new or increased impacts related to the conversion of State Designated Farmland in combination with other projects in the area. The proposed project will have no impact related to State Designated Farmland and therefore would not contribute to any cumulative impact.

Recreational Trail Rights-of-Way

All trails would be located on existing service roads, utility easements, and old railroad beds, such that there would be no construction activities associated with trails. Less than 1.0 acre of land is designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance within the eastern portion of the Wash Plan Area. Since trails would be placed on existing service roads, utility easements and old railroad beds, no impact associated with conversion of Prime, Unique, or Statewide Important Farmland would occur with implementation of the proposed project. No mitigation would be necessary.

Cumulative. Cumulatively, the designation of the proposed recreational trail rights-of-way will not create or contribute to new or increased impacts related to the conversion of State Designated Farmland in combination with other projects in the area. The proposed project will have no impact related to State Designated Farmland and therefore would not contribute to any cumulative impact.

Land Exchange between the District and BLM

The District's land exchange with the BLM will provide to the BLM an unrestricted habitat corridor for wildlife movement while maintaining continued water conservation activity. The land the BLM will exchange to the District, which is already mostly disturbed, will be used for aggregate mining. The land exchange would not result in the conversion of the existing 1.0 acre of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance within the Planning Area to non-agricultural uses. For these reasons, no impact to Prime Farmland, Unique Farmland, or Farmland of Statewide Importance would occur with implementation of the Wash Plan and no mitigation would be required.

Cumulative. The land exchange between the District and the BLM will not create or contribute to new or increased impacts related to the conversion of State Designated Farmland in combination with other projects in the area. The proposed project will have no impact related to State Designated Farmland and therefore would not contribute to any cumulative impact.

Land Exchange between the SBCFCD and Robertson's

The SBCFCD land exchange with Robertson's will allow mining activities to take place on property currently owned by the SBCFCD and habitat preservation to occur on land that is currently owned by Robertson's. There will be no changes associated with the property to become habitat. Because this

land would be set aside for habitat conservation, restrictions on aggregate mining would occur due to the presence of sensitive habitat and would not result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance as shown on the maps prepared by the Farmland Mapping and Monitoring Program. Because the expansion of the additional 363 acres devoted to mining uses would occur on the western portion of the project, and the current 1.0 acre of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared by the Farmland Mapping and Monitoring Program, is located on the eastern portion of the project; no impact related to this issue would occur and no mitigation would be required.

Cumulative. Cumulatively, the land exchange between the SBCFCD and Robertson's will not create or contribute to new or increased impacts related to the conversion of State Designated Farmland in combination with other projects in the area. The proposed project will have no impact related to State Designated Farmland and therefore would not contribute to any cumulative impact.

4.2.4.2 Termination of Williamson Act Contracts

Threshold	Would the proposed project conflict with a Williamson Act contract?
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Water Conservation Operations/Maintenance Activities of the District

The continuation of activities performed by the District would not conflict with a Williamson contract; because no Williamson Act contract exists within the Planning Area. No impact associated with a Williamson Act contract conflict would occur with implementation of the proposed project. No mitigation would be necessary.

Cumulative. Cumulatively, the water conservation activities of the District will not create or contribute to new or increased impacts related to the conversion of State Designated Farmland. The proposed project will have no impact related to Williamson Act contracts and therefore would not contribute to any cumulative impact.

Flood Control Operations/Maintenance Activities of the SBCFCD

Flood control activities include the continuation of an existing flood control program related to the Santa Ana River and its tributaries. In the absence of Williamson Act contract land existing within the Planning Area, no impact would occur to a Williamson Act contract with implementation of the proposed project. No mitigation would be required.

Cumulative. Cumulatively, the activities of the SBCFCD will not create or contribute to new or increased impacts related to the conversion of State Designated Farmland. The proposed project will have no impact related to Williamson Act contracts and therefore would not contribute to any cumulative impact.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Continuation of activities conducted within the Wash Area Plan would include operation and maintenance of water wells and pumps. Because the Santa Ana River Wash Planning Area does not lie within an area covered by an existing Williamson Act contract,¹ no impact associated with a Williamson Act contract would occur. No mitigation would be necessary.

Cumulative. Cumulatively, the proposed activities of the EVWD and the RMUD will not create or contribute to new or increased impacts related to the conversion of State Designated Farmland. The

¹ The California Land Conservation (Williamson) Act 2006 Status Report, Department of Conservation, Division of Land Resource Protection, 2006.

proposed project will have no impact related to Williamson Act contracts and therefore would not contribute to any cumulative impact.

Aggregate Mining

With implementation of the proposed project, an additional 363 acres would be devoted to mining uses, bringing the total mining area to approximately 1,195 acres. The Planning Area does not include any lands covered by an existing Williamson Act contract.¹ Therefore, there would be no Williamson Act contract impact associated with aggregate mining activities and no mitigation would be required.

Cumulative. Cumulatively, the aggregate mining activities will not create or contribute to new or increased impacts related to the conversion of State Designated Farmland. The proposed project will have no impact related to Williamson Act contracts and therefore would not contribute to any cumulative impact.

Adoption of General Plan Amendments

With implementation of the proposed project plan, the adoption of General Plan Amendments would be required by the City of Highland and the City of Redlands. With the adoption of the General Plan Amendments, the different project components analyzed in this section would occur. It is anticipated that each of the project components would have a less than significant impact. Therefore, the proposed General Plan Amendments would have a less than significant impact on Williamson Act contract and no mitigation measures would be required.

Cumulative. There are no cumulative projects San Bernardino County that would combine with the proposed General Plan Amendments to create a significant impact related to conflicts with a Williamson Act contract over and above the impacts discussed in this section.

Roadway/Bridge Rights-of-Way

The ~~dedication~~ designation of additional rights-of-way for Greenspot Road, Greenspot Road Bridge, Alabama Street, and Orange Street-Boulder Avenue would occur near the existing roadways. In the absence of Williamson Act contract land existing within the Wash Plan Area, no impact associated with a Williamson Act contract conflict would occur with implementation of the proposed project. No mitigation would be necessary.

Cumulative. There are no cumulative projects within San Bernardino County that would combine with the proposed road and bridge rights-of-way to create a significant impact related to conflicts with a Williamson Act contract over and above the impacts discussed in this section. The proposed project will have no impact related to Williamson Act contracts and therefore would not contribute to any cumulative impact.

Recreational Trail Rights-of-Way

All trails would be located on existing service roads, utility easements, and old railroad beds, such that there would be no construction activities associated with trails. As noted previously, the Planning Area does not lie within an area covered by an existing Williamson Act contract; therefore, there would be no Williamson Act contract impact. No mitigation would be necessary.

¹ *The California Land Conservation (Williamson) Act 2006 Status Report*, Department of Conservation, Division of Land Resource Protection, 2006.

Cumulative. There are no cumulative projects within San Bernardino County that would combine with the proposed recreational trail rights-of-way to create a significant impact related to conflicts with a Williamson Act contract over and above the impacts discussed in this section.

Land Exchange between the District and BLM

The District's land exchange with the BLM will provide to the BLM an unrestricted habitat corridor for wildlife movement while maintaining continued water conservation activity. The land the BLM will exchange to the District, which is already mostly disturbed, will be used for aggregate mining. Because the Planning Area does not lie within an area covered by an existing Williamson Act contract, there would be no Williamson Act contract impact and no mitigation would be necessary.

Cumulative. There are no cumulative projects San Bernardino County that would combine with the land exchange between the District and the BLM to create a significant impact related to conflicts with a Williamson Act contract over and above the impacts discussed in this section. The proposed project will have no impact related to Williamson Act contracts and therefore would not contribute to any cumulative impact.

Land Exchange between the SBCFCD and Robertson's

The SBCFCD land exchange with Robertson's will allow mining activities to take place on property currently owned by the SBCFCD and habitat preservation to occur on land that is currently owned by Robertson's. Because no land within the Planning Area is currently under a Williamson Act contract, no impact associated with the conflict of a Williamson Act contract would occur with implementation of the proposed project. No mitigation would be required.

Cumulative. There are no cumulative projects within San Bernardino County that would combine with the land exchange between the SBCFCD and the Robertson's to create a significant impact related to conflicts with a Williamson Act contract over and above the impacts discussed in this section. The proposed project will have no impact related to Williamson Act contracts and therefore would not contribute to any cumulative impact.

4.2.4.3 Conflict with an Existing Agricultural Zone

Threshold	Would the proposed project conflict with existing zoning for agricultural use?
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Because there are no existing agricultural zones located within the vicinity of the Planning Area, there would be no impacts to any of the nine components of the Wash Plan associated with conflicts with existing zoning for agricultural uses caused by the project. No mitigation measures would be required.

4.2.4.4 Conversion of an Existing Agricultural Operation to a Non-Agricultural Use

Threshold	Would the proposed project involve changes in the existing environment which, due to their location or nature, could result in the conversion of Farmland to non-agricultural use?
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Water Conservation Operations/Maintenance Activities of District

Continuation of activities performed by the District would not involve changes in the existing environment that would cause the conversion of existing agricultural operations to non-agricultural uses. No impact related to this issue would occur. No mitigation would be required.

Cumulative. There are no cumulative projects within San Bernardino County that would combine with the water conservation activities of the District to create a significant impact related to the conversion

of existing agricultural land over and above the impacts discussed in this section. The proposed project will have no impact related to the conversion of agricultural land and therefore would not contribute to any cumulative impact.

Flood Control Operations/Maintenance Activities of the SBCFCD

There are approximately 414 acres devoted to existing SBCFCD operations located within the northern, southern and eastern portions of the Planning Area. Flood control activities include the continuation of an existing flood control program related to the Santa Ana River and its tributaries. Since the approximately 6-acre citrus grove is not located within the flood control areas, no impacts associated with the conversion of Prime, Unique, or Statewide Important Farmland would occur. No mitigation would be required.

Cumulative. There are no cumulative projects within San Bernardino County that would combine with the flood control activities of the SBCFCD to create a significant impact related to the conversion of existing agricultural land over and above the impacts discussed in this section. The proposed project will have no impact related to the conversion of agricultural land and therefore would not contribute to any cumulative impact.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

The continuation of activities conducted within the Planning Area would include operation and maintenance of wells and pumps. Since these activities would not involve changes in the existing environment that would preclude the continuation of existing agricultural operations, no impact related to this issue would be anticipated and no mitigation would be required.

Cumulative. There are no cumulative projects within San Bernardino County that would combine with the water production operations and maintenance of the RMUD and the EVWD to create a significant impact related to the conversion of existing agricultural land over and above the impacts discussed in this section. The proposed project will have no impact related to the conversion of agricultural land and therefore would not contribute to any cumulative impact.

Aggregate Mining

The existing mining footprint covers approximately 832 acres. With the proposed project, the combined footprint of Cemex and Robertson's quarries and associated facilities would total 1,195 acres, an approximately 43.6 percent increase in acreage. Since the expansion of the additional 363 acres devoted to mining would be located on the western portion of the Planning Area, and because the current 6-acre citrus grove is located on the northeastern portion of the proposed project, no impact related to this issue would occur with implementation of the project and no mitigation would be necessary.

Cumulative. There are no cumulative projects within San Bernardino County that would combine with the aggregate mining to create a significant impact related to the conversion of existing agricultural land over and above the impacts discussed in this section. The proposed project will have no impact related to the conversion of agricultural land and therefore would not contribute to any cumulative impact.

Adoption of General Plan Amendments

With implementation of the proposed project, General Plan Amendments would be required by the City of Highland and the City of Redlands. With the adoption of the General Plan Amendments, the different project components analyzed in this section would occur. It is anticipated that each of the project components would have a less than significant impact associated with implementation of the

proposed project. Therefore, the General Plan Amendments would have a less than significant impact on converting agricultural land to non-agricultural uses and no mitigation measures would be required.

Cumulative. There are no cumulative projects within San Bernardino County that would combine with the adoption of the General Plan Amendments to create a significant impact related to the conversion of existing agricultural land over and above the impacts discussed in this section.

Roadway/Bridge Rights-of-Way

The designation of, and environmental mitigation for, expanded roadway rights-of-way for surrounding roads and bridges would not result in the conversion of an existing agricultural operation to a non-agricultural uses. Because the additional rights-of-way would not occur within the approximately 6-acre citrus grove, no impact that would result in the conversion of farmland to non-agricultural use would occur.

Cumulative. There are no cumulative projects within San Bernardino County that would combine with the designation of the roadway and bridge rights-of-way to create a significant impact related to the conversion of existing agricultural land over and above the impacts discussed in this section.

Recreational Trail Rights-of-Way

All trails would be located on existing service roads, utility easements, and old railroad beds, such that there would be no construction activities associated with trails that would result in the conversion of farmland to non-agricultural use. No impacts that would involve changes in the existing environment which, due to their location or nature, could result in the conversion of farmland to non-agricultural use would occur. No mitigation measures would be required.

Cumulative. There are no cumulative projects within San Bernardino County that would combine with the designation of the recreational trail rights-of-way to create a significant impacts related to the conversion of existing agricultural land over and above the impacts discussed in this section.

Land Exchange between the District and BLM

The District's land exchange with the BLM will provide to the BLM an unrestricted habitat corridor for wildlife movement while maintaining continued water conservation activity. The land the BLM will exchange to the District, which is already mostly disturbed, will be used for aggregate mining. The location of these lands and their future use would not result in the conversion of farmland to non-agricultural use. No impacts associated with this issue would occur with Wash Plan implementation and no mitigation measures would be required.

Cumulative. There are no cumulative projects within San Bernardino County that would combine with the land exchange between the District and the BLM to create a significant impact related to the conversion of existing agricultural land over and above the impacts discussed in this section. The proposed project will have no impact related to the conversion of agricultural land and therefore would not contribute to any cumulative impact.

Land Exchange between the SBCFCD and Robertson's

The SBCFCD land exchange with Robertson's will allow mining activities to take place on property currently owned by the SBCFCD and habitat preservation to occur on land that is currently owned by Robertson's. No conversion of farmland to non-agricultural uses would occur and no mitigation would be required.

Cumulative. There are no cumulative projects within San Bernardino County that would combine with the land exchange between the SBCFCD and Robertson's to create a significant impact related to the conversion of existing agricultural land over and above the impacts discussed in this section. The proposed project will have no impact related to the conversion of agricultural land and therefore would not contribute to any cumulative impact.

4.3 AIR QUALITY

This section analyzes the potential air quality impacts of the proposed project with regard to the physical setting of the Planning Area; regulatory framework for air quality; data on existing air quality; and air quality impacts.

This evaluation was prepared in conformance with procedures and methodologies from the *CEQA Air Quality Handbook* of the South Coast Air Quality Management District (SCAQMD), published in April 1993. SCAQMD is in the process of developing an *Air Quality Analysis Guidance Handbook*¹ to replace the *CEQA Air Quality Handbook*. Modeled air quality levels are based upon vehicle data and project trip generation included in the *Traffic Study*² prepared for the proposed project. (Appendix J). Air quality emissions and related calculations are contained in Appendix D.

4.3.1 Existing Setting

This section provides a discussion of the existing air quality environment and an analysis of potential air quality impacts and mitigation measures associated with the Upper Santa Ana River Wash Land Management Plan in the Cities of Highland and Redlands, and San Bernardino County. This analysis examines the short-term construction and long-term operational impacts and evaluates the effectiveness of project design features and mitigation measures.

Climate and Meteorology

The South Coast Air Basin (Basin), a geographic area that encompasses the coastal plain and connects broad inland valleys and low hills, is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Basin includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. This basin experiences a persistent temperature inversion (increasing temperature with increasing altitude) as a result of the Pacific High, a large subtropical high pressure system, which holds air contaminants relatively near the ground.

Winds in the Basin are predominantly of relatively low velocities, averaging about 4.0 miles per hour (mph). These low average wind speeds, together with a persistent temperature inversion, limit the vertical dispersion of air pollutants throughout the Basin. Strong, dry, north or northeasterly winds, known as Santa Ana winds, occur during the fall and winter months, dispersing air contaminants, and these conditions tend to last for several days at a time.

During periods of low inversions and low wind speeds, air pollutants generated in urbanized areas are transported predominantly onshore into Riverside and San Bernardino Counties. In the winter, the greatest pollution problems are carbon monoxide (CO) and oxides of nitrogen (NO_x), because of extremely low inversions and air stagnation during the night and early morning hours. In the summer, the longer daylight hours and the brighter sunshine combine to cause a reaction between hydrocarbons and NO_x to form photochemical smog.

Regional Air Quality

Both the State of California and the Federal government have established health-based ambient air quality standards (AAQS) for six air pollutants:

¹ South Coast Air Quality Management District, *Air Quality Analysis Guidance Handbook*, found at <http://www.aqmd.gov/CEQA/hdbk.html>, accessed on January 17, 2007.

² *Traffic Study, Upper Santa Ana River Wash, San Bernardino County, California*, prepared by LSA Associates, Inc., August 2007.

- Carbon monoxide (CO)
- Lead (Pb)
- Nitrogen dioxide (NO₂)
- Ozone (O₃)
- Particulate matter with a diameter of 10 microns or less (PM₁₀)
- Sulfur dioxide (SO₂)

Federal standards for 8-hour ozone and for fine particulate matter less than 2.5 microns in diameter (PM_{2.5}) have also been adopted. In addition, the State has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety and are listed in Table 4.3.A. The State AAQS are more stringent than the Federal AAQS.

In addition to setting out AAQS, the State has established a set of episode criteria for O₃, CO, NO₂, SO₂, and PM₁₀. These episode criteria refer to periods of short-term exposure to air pollutants that threaten public health. To protect public health, the SCAQMD has initiated a system to warn the public of severe pollution levels in the air. At times, meteorological conditions are so adverse to pollutant dispersion that concentrations of ozone exceed the State air quality standard by as much as a factor of three. The California Air Resources Board (CARB) has defined Episode Levels of ozone air pollution as follows:

- **Health Advisory Levels** occur when hourly ozone concentrations equal or exceed 0.15 parts per million (ppm). At this level, residents are advised to avoid prolonged, vigorous outdoor exercise, and persons with respiratory or coronary disease should avoid exercise.
- **Stage 1 Episodes** occur when hourly ozone concentrations equal or exceed 0.20 ppm. At these times, persons with respiratory or coronary artery disease should be notified to take precautions against exposure and should stay indoors as much as possible. Schools are also notified to advise against strenuous physical activity for their students. To this end, schools are in regular communication with the SCAQMD.
- **Stage 2 Episodes** occur when hourly ozone concentrations equal or exceed 0.35 ppm. The SCAQMD requires industry to take prompt actions to reduce emissions at those times. No Stage 2 episodes occurred between 1989 and 1992.
- **Stage 3 Episodes** occur when hourly ozone concentrations equal or exceed 0.50 ppm. The last Stage 3 episode occurred in the Basin in 1974.

Health effects are progressively more severe as pollutant levels increase from Stage 1 to Stage 3. These health effects will not occur unless the standards are exceeded by a large margin or for a prolonged period of time. Table 4.3.B lists the health effects of these criteria pollutants and their potential sources.

The California Clean Air Act (CCAA) provides the air districts, such as SCAQMD, with the authority to manage transportation activities at indirect sources. Indirect sources are defined as sources that by themselves may not emit air contaminants; however, they indirectly cause the generation of air pollutants by attracting vehicle trips or by consuming energy. Examples of this would be an office complex or commercial center that generates commuter trips and consumes energy resources through the use of electricity for lighting and space heating.¹ The SCAQMD also regulates stationary sources of pollution² throughout its jurisdictional area. Direct emissions from motor vehicles are regulated by the CARB.

¹ SCAQMD, *CEQA Air Quality Handbook*, 1993.

² Stationary sources can be divided into two major subcategories: Point and area sources. Point sources consist of one or more emission sources at a facility with an identified location and are usually associated with manufacturing and industrial projects. Area sources are widely distributed and produce many small emissions.

Table 4.3.A – Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards ^A		Federal Standards ^B			Notes
		Concentration ^C	Method ^D	Primary ^{C,E}	Secondary ^{C,F}	Method ^G	
Ozone (O ₃)	1-Hour	0.09 ppm (180 µg/m ³)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry	^A California standards for ozone; carbon monoxide (except Lake Tahoe); sulfur dioxide (1 and 24 hour); nitrogen dioxide; suspended particulate matter, PM ₁₀ ; and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations. ^B National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight-hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM ₁₀ , the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m ³ is equal to or less than one. For PM _{2.5} , the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact U.S. EPA for further clarification and current Federal policies. ^C Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas. ^D Any equivalent procedure that can be shown to the satisfaction of the California Air Resources Board to give equivalent results at or near the level of the air quality standard may be used. ^E National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health. ^F National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant. ^G Reference method as described by the EPA. An “equivalent method” of measurement may be used but must have a “consistent relationship to the reference method” and must be approved by the EPA. ^H The California Air Resources Board has identified lead and vinyl chloride as “toxic air contaminants” with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
	8-Hour	0.07 ppm (137 µg/m ³)		0.08 ppm (157 µg/m ³)			
Respirable Particulate Matter (PM ₁₀)	24-Hour	50 µg/m ³	Gravimetric or Beta Attenuation	150 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis	
	Annual Arithmetic Mean	20 µg/m ³		—			
Fine Particulate Matter (PM _{2.5})	24-Hour	No Separate State Standard		35 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis	
	Annual Arithmetic Mean	12 µg/m ³	Gravimetric or Beta Attenuation	15 µg/m ³			
Carbon Monoxide (CO)	8-Hour	9.0 ppm (10 mg/m ³)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m ³)	None	Non-Dispersive Infrared Photometry (NDIR)	
	1-Hour	20 ppm (23 mg/m ³)		35 ppm (40 mg/m ³)			
	8-Hour (Lake Tahoe)	6 ppm (7 mg/m ³)		—	—	—	
Nitrogen Dioxide (NO ₂)	Annual Arithmetic Mean	0.030 ppm (56 µg/m ³)	Gas Phase Chemiluminescence	0.053 ppm (100 µg/m ³)	Same as Primary Standard	Gas Phase Chemiluminescence	
	1-Hour	0.18 ppm (338 µg/m ³)		—			
Sulfur Dioxide (SO ₂)	Annual Arithmetic Mean	—	Ultraviolet Fluorescence	0.030 ppm (80 µg/m ³)	—	Spectrophotometry (Pararosaniline Method)	
	24-Hour	0.04 ppm (105 µg/m ³)		0.14 ppm (365 µg/m ³)	—		
	3-Hour	—		—	0.5 ppm (1,300 µg/m ³)		
	1-Hour	0.25 ppm (655 µg/m ³)		—	—		
Lead ^I (Pb)	30-Day Average	1.5 µg/m ³	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption	
	Calendar Quarter	—		1.5 µg/m ³	Same as Primary Standard		
Visibility-Reducing Particles	8-Hour	Extinction coefficient of 0.23 per kilometer—visibility of 10 miles or more (0.07-30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70%. Method: Beta Attenuation and Transmittance through Filter Tape.		No Federal Standards			
Sulfates	24-Hour	25 µg/m ³	Ion Chromatography				
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m ³)	Ultraviolet Fluorescence				
Vinyl Chloride ^H	24-Hour	0.01 ppm (26 µg/m ³)	Gas Chromatography				

Source: California Air Resources Board (February 22, 2007).

Table 4.3.B – Summary of Potential Health and Environmental Effects of the Major Criteria Air Pollutants

Pollutants	Sources	Primary Effects
Ozone (O ₃)	Formed when reactive organic gases (ROG) and nitrogen oxides react in the presence of sunlight. ROG sources include any source that burns fuels, (e.g., gasoline, natural gas, wood, and oil), solvents, petroleum processing and storage, and pesticides.	Breathing difficulties. Lung tissue damage. Damage to rubber and some plastics.
Nitrogen Dioxide (NO ₂)	Any source that burns fuel such as automobiles, trucks, heavy construction equipment, farming equipment and residential heating.	Lung irritation and damage. Reacts in the atmosphere to form ozone and acid rain.
Carbon Monoxide (CO)	Any source that burns fuel such as automobiles, trucks, heavy construction equipment, farming equipment, and residential heating.	Chest pain in heart patients. Headaches. Reduced mental alertness.
Respirable Particulate Matter (PM ₁₀)	Road dust, windblown dust (agriculture) and construction (fireplaces). Also formed from other pollutants (acid rain, NO _x , SO _x , organics). Incomplete combustion of any fuel.	Increased respiratory disease. Lung damage. Cancer. Premature death. Reduced visibility. Surface soiling.
Fine Particulate Matter (PM _{2.5})	Fuel combustion in motor vehicles, equipment, and industrial sources, residential and agricultural burning. Also formed from reaction of other pollutants (e.g., acid rain, NO _x , SO _x , and organics)	Increases respiratory disease. Lung damage. Cancer. Premature Death. Reduced Visibility. Surface Soiling.
Sulfur Dioxide (SO ₂)	Coal or oil burning, power plants and industries, refineries, diesel engines.	Increases lung disease and breathing problems for asthmatics. Reacts in the atmosphere to form acid rain.
Lead (Pb)	Metal smelters, resource recovery, leaded gasoline, deterioration of lead paint.	Learning disabilities. Brain and kidney damage.

Source: *Air Pollution Sources, Effects and Control*, California Air Resources Board 2001.

Local Air Quality

The CARB coordinates and oversees State and Federal air pollution control programs in California, oversees activities of local air quality management agencies, and maintains air quality monitoring stations throughout the State in conjunction with the U.S. Environmental Protection Agency (EPA) and local air districts. The CARB has divided the State into 15 air basins based on meteorological and topographical factors of air pollution. Based on air quality data for the most recent three calendar years compared with the AAQS, data collected at these stations are used by the CARB and EPA to classify air basins using the following four classifications:

- **Attainment:** A pollutant is designated attainment if the State standard for that pollutant was not violated at any site in the area during a three-year period.
- **Nonattainment:** A pollutant is designated nonattainment if there was at least one violation of a State standard for that pollutant in the area.
- **Nonattainment-transitional:** This is a subcategory of the nonattainment designation. An area is designated nonattainment-transitional to signify that the area is close to attaining the standard for that pollutant.
- **Unclassified:** A pollutant is designated unclassified if the data are incomplete and do not support a designation of attainment or nonattainment.

Nonattainment areas are imposed with additional restrictions as required by the EPA. The air quality data are also used to monitor progress in attaining air quality standards.

The SCAQMD, together with the CARB, maintains ambient air quality monitoring stations in the Basin. The air quality monitoring station closest to the Planning Area is in the City of Redlands, but it only monitors O₃ and PM₁₀. The closest station that monitors most of the criteria pollutants is located in the City of San Bernardino. SO₂ is not monitored at most stations, because there has been no exceedance of the Federal or State standards in the past 10 years; however, the Fontana station monitors SO₂. The ambient air quality data from these air quality monitoring stations are shown in Table 4.3.C.

To summarize, the existing levels in the Planning Area shown in Table 4.3.C can be sorted into three groups:

- Consistently below the relevant State and Federal standards for NO₂, SO₂, and CO;
- Regularly exceed State standards for O₃, PM₁₀, and PM_{2.5}; and
- Regularly exceed Federal standards for O₃ and PM_{2.5}.

Air Pollution Constituents and Attainment Status

The CARB has many responsibilities with respect to air quality, including the following:

- Coordinates and oversees State and Federal air pollution control programs in California;
- Oversees activities of local air quality management agencies (e.g., the SCAQMD);
- Responsible for incorporating air quality management plans for local air basins into a State Implementation Plan (SIP) for EPA approval; and
- Maintains air quality monitoring stations throughout the State in conjunction with local air districts.

Data collected at these stations are used by the CARB to classify air basins as “attainment” or “nonattainment” with respect to each pollutant and to monitor progress in attaining air quality standards. The State is divided geographically into air basins for the purpose of managing the air resources of the State on a regional basis. An air basin generally has similar meteorological and

Table 4.3.C – Ambient Air Quality in the Project Vicinity

State and Federal Standards	One-Hour Carbon Monoxide ^A		One-Hour Ozone ^B		Coarse Suspended Particulate (PM ₁₀) ^B		Nitrogen Dioxide ^A	
	Max. 1-Hour Concentration (ppm)	Number of Days Exceeded	Max. 1-Hour Concentration (ppm)	Number of Days Exceeded	Max. 24-Hour Concentration (µg/m ³)	Number of Days Exceeded	Max. Concentration (ppm)	Number of Days Exceeded
State Standards	> 20 ppm/1 hour		> 0.09 ppm/1 hour		> 50 µg/m³		> 0.25 ppm/1 hour	
2006	2.8	0	0.165	62	103	10	0.088	0
2005	3.8	0	0.146	36	61	8	0.098	0
2004	4.1	0	0.160	76	88	19	0.118	0
Maximum	4.1	N/A	0.165	N/A	103	N/A	0.118	N/A
Federal Standards	> 35 ppm/1 hour		No Federal Standard		> 150 µg/m³, 24 hours		> 0.053 ppm, annual average	
2006	2.8	N/A	0.165	N/A	103	0	0.025	N/A
2005	3.8	0	0.146	N/A	61	0	0.026	N/A
2004	4.1	0	0.160	N/A	88	0	0.026	N/A
Maximum	4.1	N/A	0.165	N/A	103	N/A	0.026	N/A
State and Federal Standards	Eight-Hour Carbon Monoxide ^A		Eight-Hour Ozone ^B		Fine Suspended Particulate (PM _{2.5}) ^A		Sulfur Dioxide ^C	
	Max. 8-Hour Concentration (ppm)	Number of Days Exceeded	Max. 8-Hour Concentration (ppm)	Number of Days Exceeded	Max. 24-Hour Concentration (µg/m ³)	Number of Days Exceeded	Max. 24-Hour Concentration (ppm)	Number of Days Exceeded
State Standards	> 9.0 ppm/8 hours		> 0.07 ppm/8 hours		No State Standard		> 0.04 ppm/24 hours	
2006	2.2	0	0.135	ND	55	N/A	0.003	0
2005	2.5	0	0.123	ND	106	N/A	0.004	0
2004	3.2	0	0.135	ND	93	N/A	0.003	0
Maximum	3.2	N/A	0.135	N/A	106	N/A	0.004	N/A
Federal Standards	> 9.0 ppm/8 hours		> 0.08 ppm/8 hours		> 65 µg/m³, 24 hours		> 0.14 ppm/24 hours	
2006	2.2	0	0.135	36	55	0	0.003	0
2005	2.5	0	0.123	24	106	1	0.004	0
2004	3.2	0	0.135	56	93	4	0.003	0
Maximum	3.2	N/A	0.135	N/A	106	N/A	0.004	N/A

^A Monitored at San Bernardino-4th Street station.

^B Monitored at Redlands-Dearborn station.

^C Monitored at Fontana-Arrow Highway station.

N/A-Not applicable.

ND-No data.

ppm = parts per million.

µg/m³ = micrograms per cubic meter.

Source: California Air Resources Board, *California Air Quality Data*, accessed at www.arb.ca.gov/aqd/aqdpag.htm on January 10, 2007.

geographic conditions throughout. The State is currently divided into 15 air basins. Significant authority for air quality control within them has been given to local air districts that regulate stationary source emissions and develop local nonattainment plans. Table 4.3.D identifies the attainment status for the criteria pollutants in the Basin based on 2006 data because 2007 data are still pending.

Table 4.3.D – Attainment Status of Criteria Pollutants in the Basin

Pollutant	State	Federal
O ₃ 1-hour	Nonattainment	Standard Revoked June 2005
O ₃ 8-hour	Not Established	Severe-17 Nonattainment
PM ₁₀	Nonattainment	Serious Nonattainment
PM _{2.5}	Nonattainment	Nonattainment
CO	Attainment	Attainment
NO ₂	Attainment	Attainment/Maintenance
SO ₂	Attainment	Attainment
Pb	Attainment	Attainment
All others	Attainment/Unclassified	Attainment/Unclassified

Source: California Air Resources Board, 2007 *State Area Designations*, 2007 (<http://www.arb.ca.gov/design/adm/adm.htm>).

- **Ozone.** O₃ (smog) is formed by photochemical reactions between NO_x and reactive organic gases (ROG) rather than being directly emitted. O₃ is a pungent colorless gas typical of southern California smog. Elevated O₃ concentrations result in reduced lung function, particularly during vigorous physical activity. This health problem is particularly acute in sensitive receptors such as the sick, the elderly, and young children. O₃ levels peak during summer and early fall. The entire Basin is designated as a nonattainment area for State one-hour O₃ standards. The EPA has classified the portion of the Basin in which the project is located as “Severe 17,” which means the Basin has until 2021 to attain the Federal eight-hour ozone standard.
- **Carbon Monoxide.** CO is formed by the incomplete combustion of fossil fuels, almost entirely from automobiles. It is a colorless, odorless gas that can cause dizziness, fatigue, and impairment to central nervous system functions. The entire Basin is designated as in attainment for Federal and State CO standards.
- **Nitrogen Oxides.** NO₂, a reddish brown gas, and nitric oxide (NO), a colorless, odorless gas, are formed from fuel combustion under high temperature or pressure. These compounds are referred to as nitrogen oxides, or NO_x. NO_x is a primary component of the photochemical smog reaction. It also contributes to other pollution problems, including a high concentration of fine particulate matter, poor visibility, and acid deposition (i.e., acid rain). NO₂ decreases lung function and may reduce resistance to infection. The entire Basin is designated as a maintenance area under the Federal NO₂ standards and an attainment area under the State NO₂ standards.
- **Sulfur Dioxide.** SO₂ is a colorless, irritating gas formed primarily from incomplete combustion of fuels containing sulfur. Industrial facilities also contribute to gaseous SO₂ levels. SO₂ irritates the respiratory tract, can injure lung tissue when combined with fine particulate matter, and reduces visibility and the level of sunlight. The entire Basin is in attainment or unclassified with both Federal and State SO₂ standards.
- **Lead.** Lead is found in old paints and coatings, plumbing, and a variety of other materials. Once in the blood stream, lead can cause damage to the brain, nervous system, and other body systems. Children are highly susceptible to the effects of lead. The entire Basin is in attainment for the Federal and State standards for lead.
- **Particulate Matter.** Particulate matter is the term used for a mixture of solid particles and liquid droplets found in the air. Coarse particles, PM₁₀, derive from a variety of sources, including windblown dust and grinding operations. Fuel combustion and resultant exhaust from power plants and diesel buses and trucks are primarily responsible for fine particle, PM_{2.5}, levels. Fine

particles can also be formed in the atmosphere through chemical reactions. PM₁₀ can accumulate in the respiratory system and aggravate health problems such as asthma. The EPA's scientific review concluded that PM_{2.5}, which penetrates deeply into the lungs, is more likely than PM₁₀ to contribute to the health effects listed in a number of recently published community epidemiological studies at concentrations that extend well below those allowed by the current PM₁₀ standards. These health effects include premature death and increased hospital admissions and emergency room visits (primarily the elderly and individuals with cardiopulmonary disease); increased respiratory symptoms and disease (children and individuals with cardiopulmonary disease such as asthma); decreased lung functions (particularly in children and individuals with asthma); and alterations in lung tissue and structure and in respiratory tract defense mechanisms. The entire Basin is a nonattainment area for the Federal and State PM₁₀ and PM_{2.5} standards.

Sensitive Land Uses in the Project Vicinity

Sensitive receptors include residences, schools, medical offices, convalescent facilities, and similar uses that are sensitive to air pollutants. The nearest sensitive receptors in the vicinity of the Planning Area are existing residences north of the Planning Area and east of Boulder Avenue in the City of Highland. These residences are located approximately 1,175 feet north of the aggregate mining area, which is the nearest land use that would emit pollutants of concern in potentially significant quantities.

Global Climate Change

History. In 1988, the United Nations established the Intergovernmental Panel on Climate Change (IPCC) to evaluate the impacts of global warming and to develop strategies that nations could implement to curtail global climate change from increased levels of atmospheric greenhouse gases as a result of human activities, most notably the burning of fossil fuels for transportation and electricity generation. In 1992, the United States joined other countries around the world in signing the United Nations Framework Convention on Climate Change (UNFCCC) Agreement with the goal of controlling greenhouse gas (GHG) emissions. Greenhouse gases include water vapor, carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), O₃, chlorofluorocarbons (CFCs), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride. As a result, the Climate Change Action Plan was developed to address the reduction of greenhouse gases in the United States. The Plan consists of more than 50 voluntary programs.

Additionally, the Montreal Protocol was originally signed in 1987 and substantially amended in 1990 and 1992. The Montreal Protocol stipulates that the production and consumption of compounds that deplete O₃ in the stratosphere—CFCs, halons, carbon tetrachloride, methyl chloroform—were to be phased out by 2000 (2005 for methyl chloroform).

California Code of Regulations Title 24, Part 6, enacted in 1978, established energy efficiency standards for residential and nonresidential buildings in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and incorporation of new energy efficiency technologies and methods. The latest amendments occurred in September 2006.

The science of global climate change is evolving and remains subject to extensive debate and uncertainties. The latest report of the Intergovernmental Panel on Climate Change (IPCC)—an international group of scientists and representatives of 113 governments—released February 2, 2007,¹ concludes “The widespread warming of the atmosphere and ocean, together with ice-mass loss, support the conclusion that it is extremely unlikely that global climate change of the past 50

¹ IPCC, 2007: *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, 996 pp.

years can be explained without external forcing, and very likely that it is not due to known natural causes alone.”

According to the 2006 California Climate Action Team Report,¹ the following climate change effects, which are based on the IPCG trends, can be expected in California over the course of the next century:

- A diminishing Sierra snowpack declining by 70 percent to 90 percent, threatening the State's water supply;
- Increasing temperatures from 8 to 10.4 degrees Fahrenheit under the higher emission scenarios, leading to a 25 percent to 35 percent increase in the number of days ozone pollution levels are exceeded in most urban areas;
- Increased vulnerability of forests due to pest infestation and increased temperatures; and
- Increased electricity demand, particularly in the hot summer months.

Currently, the United States EPA does not regulate greenhouse gas pollutants resulting from motor vehicle emissions, those pollutants that could contribute significantly to global warming. However, recently in the case of *Massachusetts v The Environmental Protection Agency*, the United States Supreme Court held that the EPA had a mandatory duty to enact rules regulating mobile emissions of greenhouse gas pursuant to the Federal Clean Air Act. The Court held that greenhouse gases do fit the definition of an air pollutant which causes and contributes to air pollution which may reasonably be anticipated to endanger public health or welfare. Accordingly, it appears that in the near future, the United States Federal Government through the EPA will promulgate regulations pertaining to emissions of greenhouse gases under the authority of the Federal Clean Air Act.

Although the Federal Government has not regulated emissions of greenhouse gases, the State of California has been proactive in studying the impacts of climate change. The following are summaries of the pertinent State legislation dealing with global climate change.

Assembly Bill 4420 (AB 4420). The State of California has been studying the impacts of climate change since 1988, when AB 4420 was approved. This legislation directed the California Energy Commission (CEC), in consultation with the CARB and other agencies, to study the implications of global warming on California's environment, economy, and water supply. The CEC was also directed to prepare and maintain the State's inventory of greenhouse gas emissions. That bill directed the CARB to adopt regulations to achieve the maximum feasible and cost-effective reduction of greenhouse gas emissions from motor vehicles. CARB staff's proposal implementing these regulations was approved by the CARB in September 2004. With implementation, the average reduction of greenhouse gases from new California cars and light trucks will be about 22 percent in 2012 and about 30 percent in 2016, compared to today's vehicles (CARB 2005, 2006).

Assembly Bill 1493 (AB 1493). California Assembly Bill 1493 Vehicular Emissions: Greenhouse Gases, signed into law on July 22, 2002, required that the CARB develop and adopt regulations that achieve the maximum feasible and cost effective reduction of greenhouse gases emitted by passenger vehicles and light-duty trucks. In response, CARB adopted landmark regulations in 2004 limiting greenhouse gas emissions from new vehicles sold in California beginning in the 2009 model year. New vehicles complying with this regulation will consume 30 percent less fuel than vehicles built prior to 2009. Assuming these regulations are not overturned in the courts, they could result in significant reductions in the demand for transportation fuel in California.

¹ California Environmental Protection Agency, *Climate Action Team Report to Governor Schwarzenegger and the Legislature*, April 2006 (www.climatechange.ca.gov/climate_action_team/reports/index.html).

Assembly Bill 32 (AB 32). Most recently, California adopted AB 32, the Global Warming Solutions Act of 2006. AB 32 codifies the State's goal by requiring that the State's global warming emissions be reduced to 1990 levels by 2020. This reduction will be accomplished through an enforceable statewide cap on global warming emissions that will be phased in starting in 2012. In order to effectively implement the cap, AB 32 directs the CARB to develop appropriate regulations and establish a mandatory reporting system to track and monitor global warming emissions levels.

While neither the Appendix G Guidelines, nor any judicial decision or CEQA regulation or statute require an EIR to address a project's impact on greenhouse gases, consistent with the public policy rationale underlying AB 32, this EIR does in fact analyze the project's emissions of three of the greenhouse gases: CO₂, CH₄, and N₂O.

Global Warming Potential. Greenhouse gases have varying global warming potential (GWP). The GWP is the potential of a gas or aerosol to trap heat in the atmosphere; it is the "cumulative radiative forcing effects of a gas over a specified time horizon resulting from the emission of a unit mass of gas relative to a reference gas" (EPA 2006¹). One teragram of carbon dioxide equivalent (Tg CO₂ Eq.) is essentially the emissions of the gas multiplied by the GWP. One teragram is equal to one million metric tons. The carbon dioxide equivalent is a good way to assess emissions because it gives weight to the GWP of the gas. A summary of the atmospheric lifetime and GWP of selected gases is summarized in Table 4.3.E. As shown in the table, GWP ranges from 1 to 23,900.

Table 4.3.E – Atmospheric Lifetime and Global Warming Potential of Greenhouse Gases

Gas	50-200	Global Warming Potential (100-year time horizon)
Carbon Dioxide	50–200	1
Methane	12 ± 3	21
Nitrous Oxide	120	310
HFC-23	264	11,700
HFC-134a	14.6	1,300
HFC-152a	1.5	140
PFC: Tetrafluoromethane (CF ₄)	50,000	6,500
PFC: Hexafluoromethane (C ₂ F ₆)	10,000	9,200
Sulfur Hexafluoride (SF ₆)	3,200	23,900

Source: EPA 2006.

Inventory. An analysis of data compiled by the UNFCCC, indicates that in 2004, total GHG emissions were 20,135 Tg CO₂ Eq., excluding emissions/removals from land use, land use change, and forestry (UNFCC 2006). In 2004, the U.S. contributed the most GHG emissions (35% of global emissions). In 2004, in the U.S., total GHG emissions were 7074.4 Tg CO₂ Eq., which is an increase of 15.8 percent from 1990 emissions (EPA 2006).

California is a substantial contributor of global greenhouse gases as it is the second largest contributor in the U.S. and the sixteenth largest in the world (CEC 2006). During 1990 to 2003, California's gross state product grew 83 percent while GHG emissions grew 12 percent. While California has a high amount of GHG emissions, it has low emissions per capita. In 2004, California produced 492 Tg CO₂ Eq. (CEC 2006), which is approximately 7 percent of U.S. emissions. The major source of GHG in California is transportation, contributing 41 percent of the State's total GHG emissions (CEC 2006). Electricity generation is the second largest generator, contributing 22 percent of the State's GHG emissions.

Emissions from fuel use in the commercial and residential sectors in California decreased 9.7 percent over the 1990 to 2004 period (CEC 2006). The decrease in greenhouse gases could demonstrate the effectiveness of energy conservation in buildings (Title 24 requirements) and appliances. The decrease in greenhouse gases attributed to these sources is even more substantial when the population increase in California is considered.

Health Effects. Health effects from global climate change may arise from temperature increases, climate-sensitive diseases, extreme events, and air quality. There may be direct temperature effects through increases in average temperature leading to more extreme heat waves and less extreme cold spells. Those living in warmer climates are likely to experience more stress and heat-related problems. Heat-related problems include heat rash and heat stroke. In addition, climate-sensitive diseases may increase, such as those spread by mosquitoes and other disease-carrying insects. Those diseases include malaria, dengue fever, yellow fever, and encephalitis. Extreme events such as flooding and hurricanes can displace people and agriculture, which would have negative consequences. Global warming may also contribute to air quality problems from increased frequency of smog and particulate air pollution (EPA 2006).

Water Vapor. *Description and Physical Properties:* Water vapor (H_2O) is the most abundant, important, and variable greenhouse gas in the atmosphere. Water vapor is not considered a pollutant; in the atmosphere it maintains a climate necessary for life. Changes in its concentration are primarily considered to be a result of climate feedbacks related to the warming of the atmosphere rather than a direct result of industrialization (EPA 2006). The feedback loop in which water is involved is critically important to projecting future climate change. As the temperature of the atmosphere rises, more water is evaporated from ground storage (rivers, oceans, reservoirs, soil). Because the air is warmer, the relative humidity can be higher (in essence, the air is able to hold more water when it is warmer), leading to more water vapor in the atmosphere. As a greenhouse gas, the higher concentration of water vapor is then able to absorb more thermal indirect energy radiated from the Earth, thus further warming the atmosphere. The warmer atmosphere can then hold more water vapor and so on. This is referred to as a “positive feedback loop.” The extent to which this positive feedback loop will continue is unknown as there are also dynamics that put the positive feedback loop in check. As an example, when water vapor increases in the atmosphere, more of it will eventually also condense into clouds, which are more able to reflect incoming solar radiation (thus allowing less energy to reach the Earth’s surface and heat it up).

Health Effects: There are no health effects from water vapor. When some pollutants come in contact with water vapor, they can dissolve and then the water vapor can be a transport mechanism to enter the human body.

Sources: The main source of water vapor is evaporation from the oceans (approximately 85%). Other sources include evaporation from other water bodies, sublimation (change from solid to gas) from sea ice and snow, and transpiration from plant leaves.

Carbon Dioxide. *Description and Physical Properties:* CO_2 is an odorless, colorless natural greenhouse gas.

Health Effects: Outdoor levels of CO_2 are not high enough to result in negative health effects.

Sources: CO_2 is emitted from natural and anthropogenic (human) sources. Natural sources include decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic out gassing. Anthropogenic sources are from burning coal, oil, natural gas, and wood. Since the Industrial Revolution began in the mid-1700s, the human-caused activities have increased in scale and distribution. Over the past 50 years, data have shown that concentrations of CO_2 are increasing. Prior to the Industrial Revolution, concentrations were fairly

stable at 280 ppm. Today, they are around 370 ppm, an increase of over 30 percent (EPA 2006). Left unchecked, the concentration of CO₂ in the atmosphere is projected to increase to a minimum of 540 ppm by 2100 as a direct result of anthropogenic sources (IPCC 2001). Some predict that this will result in an average global temperature rise of at least 2° Celsius (IPCC 2001).

Sinks: Sinks are mechanisms by which a gas or aerosol is taken out of the atmosphere. CO₂ is removed from the air by photosynthesis, dissolution into ocean water, transfer to soils and ice caps, and chemical weathering of carbonate rocks.

Methane. *Description and Physical Properties:* CH₄ is an extremely effective absorber of radiation, though its atmospheric concentration is less than CO₂ and its lifetime in the atmosphere is brief (10–12 years) compared to other greenhouse gases.

Health Effects: There are no health effects from CH₄.

Sources: CH₄ has both natural and anthropogenic sources. It is released as part of the biological processes in low-oxygen environments, such as in swamplands or in rice production (at the roots of the plants). Over the last 50 years, human activities such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of CH₄ (EPA 2006). Other anthropogenic sources include fossil-fuel combustion and biomass burning.

Nitrous Oxide. *Description and Physical Properties:* N₂O, also known as laughing gas, is a colorless greenhouse gas.

Health Effects: N₂O can cause dizziness, euphoria, and sometimes slight hallucinations. In small doses it is harmless. In some cases, heavy and extended use can cause Olney's Lesions (brain damage).

Sources: Concentrations of N₂O also began to rise at the beginning of the Industrial Revolution. In 1998, the global concentration was 314 ppb. N₂O is produced by microbial processes in soil and water, including those reactions that occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load (EPA 2006). It is used as an aerosol spray propellant, e.g., in whipped cream bottles. It is also used in potato chip bags to keep chips fresh. It is used in rocket engines and in race cars.

Sinks: N₂O can be transported into the stratosphere, be deposited on the earth's surface, and be converted to other compounds by chemical reaction.

Chlorofluorocarbons. *Description and Physical Properties:* CFCs are gases formed synthetically by replacing all hydrogen atoms in methane or ethane (C₂H₆) with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth's surface).

Health Effects: CFCs are no longer being used; nonetheless, in confined indoor locations, working with CFC-113 or other CFCs is thought to have resulted in death by cardiac arrhythmia (heart frequency too high or too low) or asphyxiation (NTOSH 1989).

Sources: CFCs have no natural source, but were first synthesized in 1928. They were used for refrigerants, aerosol propellants, and cleaning solvents. Due to the discovery that they are able to destroy stratospheric ozone, a global effort to halt their production was undertaken and was extremely successful, so much so that levels of the major CFCs are now remaining level or declining.

However, their long atmospheric lifetime means that some of the CFCs will remain in the atmosphere for over 100 years (NOAA 2005).

Hydrofluorocarbons. *Description and Physical Properties:* HFCs are synthetic man-made chemicals that are used as a substitute for CFCs. Out of all the greenhouse gases, they are one of three groups with the highest global warming potential. The HFCs with the largest measured atmospheric abundances are (in order) HFC-23 (CHF_3), HFC-134a ($\text{CF}_3\text{CH}_2\text{F}$), and HFC-152a (CH_3CHF_2) (EPA 2006). Prior to 1990, the only significant emissions were HFC-23. HFC-134a use is increasing due to its use as a refrigerant. Concentrations of HFC-23 and HFC-134a are now about 10 parts per trillion [ppt] each (EPA 2006). Concentrations of HFC-152a are about 1 ppt.

Health Effects: None.

Sources: HFCs are man-made for applications such as automobile air conditioners and refrigerants.

Perfluorocarbons. *Description and Physical Properties:* PFCs have stable molecular structures and do not break down through the chemical processes in the lower atmosphere. High-energy ultraviolet rays about 60 kilometers above Earth's surface are able to destroy the compounds. Because of this, PFCs have very long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane (CF_4) and hexafluoroethane (C_2F_6). Concentrations of CF_4 in the atmosphere are over 70 ppt (EPA 2006).

Health Effects: None.

Sources: The two main sources of PFCs are primary aluminum production and semiconductor manufacture.

Sulfur Hexafluoride. *Description and Physical Properties:* Sulfur hexafluoride (SF_6) is an inorganic, odorless, colorless, nontoxic, nonflammable gas. It also has the highest GWP of any gas evaluated, 23,900. Concentrations in the 1990s were about 4 ppt (EPA 2006).

Health Effects: In high concentrations in confined areas, the gas presents the hazard of suffocation because it displaces the oxygen needed for breathing.

Sources: SF_6 is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

Aerosols. *Description and Physical Properties:* Aerosols are particles emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light. Cloud formation can also be affected by aerosols.

Health Effects: Refer to health effects of particulate matter above.

Sources: Sulfate aerosols are emitted when fuel containing sulfur is burned. Another source of aerosols (in the form of black carbon or soot) is the result of incomplete combustion or the incomplete burning of fossil fuels. Although particulate matter regulation has been lowering aerosol concentrations in the United States, global concentrations are likely increasing as a result of other sources around the world.

Planning Area Existing Setting

The existing land uses in the Planning Area consist of water conservation, flood control, water production, habitat conservation, unmanaged open space, aggregate mining, arterial/highway, trails, agriculture, and vacant land. Of the current existing uses permitted within the Planning Area, water conservation and flood control activities have the tendency to emit coarse particulate matter (PM₁₀) due to the need to regularly maintain and monitor their respective facilities. Coarse particulate matter is primarily emitted from water conservation and flood control activities due to the lack of paved maintenance roads. Additionally, mining activities would emit coarse particles from the daily operations (mining and processing of aggregate material) of the mining activities as well as from the proposed construction of vehicle haul roads and access roads.

To combat the emission of PM₁₀ into the air, the San Bernardino Valley Water Conservation District (District) and the San Bernardino County Flood Control District (SBCFCD) enforce speed limits of 15 mph for their service vehicles on all roads within the Planning Area. In addition, water spraying efforts are conducted as often as needed during the day depending on conditions (e.g., during high winds) along with the application of dust-suppressants (e.g., chloride-based salts). Proper and regular maintenance of roads is also implemented to reduce the emission of coarse particulate matter.

Currently, Cemex is permitted to produce up to 5.4 million tons of aggregate materials per year and Robertson's is permitted to produce up to 2.55 million tons per year as per their SCAQMD permits. Existing mining operations include excavation, transport, and processing of materials in the Planning Area. Excavation operations require the use of excavators, and transporting operations require the use of haul trucks and water trucks. The processing of materials requires the use of crushers, screens, conveyors, and stacking conveyors. The existing rate of production at both Cemex and Robertson's facilities is approximately 4.5 million tons per year (MTPY).

Existing Cemex and Robertson's mining activities and District and SBCFCD activities contribute fugitive dust and fuel-combustion emissions generated during operations within the Planning Area. Emissions associated with the proposed project include the following categories:

- **Off-Site Mobile Emissions:** Vehicle emissions resulting from traffic traveling to and from the processing facilities.
- **On-Site Stationary Emissions:** Cemex and Robertson's currently operate the following stationary sources: (1) a rock plant used for crushing and screening of quarried materials; and (2) a ready mix plant. Commercial electric power is used for all plant operations; and operations are scheduled around peak energy demands in coordination with Southern California Edison.
- **On-Site Mobile Emissions:** Vehicle and heavy-duty mobile equipment exhaust emissions.
- **On-Site Fugitive Emissions:** Dust from heavy-duty mobile equipment used on site for quarry and loading operations and wind erosion of disturbed areas including topsoil stockpiles.

With respect to the many air quality policies contained in the General Plans of the City of Highland and City of Redlands, Cemex, Robertson's, SBCFCD, and the District implement policies to reduce the amount of emissions emitted from their respective activities within the Planning Area.

- Enforced speed limits;
- Watering of road surfaces on a regular basis;
- Maintaining a smooth road bed through grading and filling of any potholes to reduce spillage;
- Shut down of plant and quarry operations in winds over 25 mph;
- Shifts at non-peak traffic hours;
- Reduced power usage during peak consumption hours when applicable (summer);

- Spraying of water in active mining areas during removal and loading of haul trucks;
- Specific control measures (not all inclusive) to meet standards of SCAQMD Rules 403 and 1157:
 - Paved entrances (driveways), scales, washing areas, and front office area.
 - Water wash racks to wash truck sides and wheels and to moisten load.
 - Rumble grates to reduce track-out.
 - Loading of trucks per California Vehicle Code 23114 including covering of load or maintaining a 6-inch freeboard.
 - Loading of some trucks from bins with drop chutes to reduce dust.
 - Wet sweeping paved plant areas and surrounding paved public streets as needed to remove track-out every 8-hour shift or two times per day.
 - Application of dust suppressants on other heavily used internal roads.
 - Restricting unauthorized traffic on internal roads.
 - Water spraying of stockpiles.
 - Operate stationary plant equipment per SCAQMD permit conditions including controlling dust with baghouses, water sprays, enclosures, and production limits.
 - Maintenance of the 20-foot high landscaped berm on the west side of the Orange Street plant to reduce blowing dust.

In addition, managers and other selected employees receive dust control training and certification at the SCAQMD in order to have a certified dust control employee on site at all times. A person must be trained and/or certified to conduct opacity or visibility readings as required by Rule 1157, and employees are provided instruction on how to reduce dust during scheduled safety and training sessions. Dust is not only a nuisance for the public. Dust can cause major costly maintenance issues for on-site equipment and engines, so it is to the benefit of the operator to reduce dust.

Tables 4.3.F and 4.3.G list the on-site emissions, both existing and proposed, for the Cemex and Robertson's operations, respectively.

Table 4.3.F – Planning Area Existing CEMEX Mining-Related Emissions

Emissions	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.
	ROG		NO _x		CO		PM ₁₀		PM _{2.5}	
Processing Plant	—	—	—	—	—	—	24	28	7.1	8.5
Plant Mobile Equipment	8.3	9.5	76	83	28	31	3.6	3.9	3.3	3.6
Plant Stockpiles	—	—	—	—	—	—	5.0	6.0	1.5	1.8
Mining Mobile Equipment & Haul Trucks	13	15	130	140	42	48	5.2	5.8	4.8	5.4
Exhaust Emissions Subtotals	22	25	210	220	70	79	38	44	17	19
Exhaust Emission Increase	3.0		10		9.0		6.0		2.0	
On-site Unpaved Haul Road Dust	—	—	—	—	—	—	260	170	79	51
On-site Unpaved Non-Haul Roads	—	—	—	—	—	—	77	93	23	28
On-site Paved Non-Haul Roads	—	—	—	—	—	—	27	33	8.2	9.8

Table 4.3.F – Planning Area Existing CEMEX Mining-Related Emissions

Emissions	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.
	ROG		NO _x		CO		PM ₁₀		PM _{2.5}	
Fugitive Dust, Mining	—	—	—	—	—	—	4.3	5.1	1.3	1.5
Fugitive Emissions Subtotals	—	—	—	—	—	—	370	300	110	90
Fugitive Emission Increase	—		—		—		-70		-20	

Sources: Cemex, Lilburn Corporation 2008.

Note that numbers may not be exact due to rounding to two significant digits.

Table 4.3.G – Planning Area Existing Robertson's Mining-Related Emissions

Emissions	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.
	ROG		NO _x		CO		PM ₁₀		PM _{2.5}	
Processing Plant	—	—	—	—	—	—	17	25	5.1	7.6
Plant Mobile Equipment	4.3	4.5	35	36	14	14	1.9	2	1.8	1.8
Plant Stockpiles	—	—	—	—	—	—	0.3	0.4	0.1	0.1
Mining Mobile Equipment & Haul Trucks	14	17	130	150	44	54	5.4	6.6	5.0	6.1
Exhaust Emissions Subtotals	18	21	160	190	58	68	25	34	12	16
Exhaust Emission Increase	3.0		30		10		9.0		4.0	
On-site Unpaved Haul Road Dust	—	—	—	—	—	—	320	400	95	120
On-site Unpaved Non-Haul Roads	—	—	—	—	—	—	54	81	16	24
Fugitive Dust, Mining	—	—	—	—	—	—	4.4	6.3	1.3	1.9
Ready Mix Plant – West Basin Plant	—	—	—	—	—	—	35	35	11	11
Fugitive Emissions Subtotals	—	—	—	—	—	—	410	520	120	160
Fugitive Emission Increase	—		—		—		110		40	

Sources: Robertson's, Lilburn Corporation 2008.

Note that numbers may not be exact due to rounding to two significant digits.

Assumptions:

Orange Street Processing Plant

Existing Operations – 2.5 million tons/year, 8,500 tpd, up to 10 hours/day, 300 days/year

Proposed Operations – 3 million tons/year, 10,000 tpd, up to 17 hours/day, 300 days/year

Mining Operations

Existing Operations – 2.5 million tons/year, 10,000 tpd, up to 17 hours/day, 260 days/year

Proposed Operations – 3 million tons/year, 12,000 tpd, up to 17 hours/day, 260 days/year

Sources:

- Hours of Operations for plant, mining, and mobile equipment – Cemex 2007
- Total emissions for Processing Plant, Unpaved and Paved Roads, and Stockpiles - SCAQMD 2006-2007 Annual Emissions Report, Cemex August 2007

- Plant and Mining Mobile Equipment Emission Factors – Off-Road Mobile Source Emission Factors (composite) – SCAQMD for 2007 and Proposed used 2008 factors

Assumptions:

East Basin Processing Plant

Existing Operations – 2 million tons/year, 6,700 tpd, 10 hours/day, 300 days/year

Proposed Operations – 3 million tons/year, 10,000 tpd, 10 hours/day, 300 days/year

Mining Operations

Existing Operations – 2 million tons/year, 8,000 tpd, 10 hours/day, 260 days/year

Proposed Operations – 3 million tons/year, 12,000 tpd, 10 hours/day, 260 days/year

Sources:

- Hours of Operations for plant, mining, and mobile equipment – Robertson's 2007
- Total emissions for Processing Plant, Ready Mix Plant and Stockpiles - SCAQMD 2006-2007 Annual Emissions Report, Robertson's August 2007
- Unpaved Haul Road Dust emissions estimated using SCAQMD Particulate Matter Emission Factors, June 2007
- Plant and Mining Mobile Equipment Emission Factors – Off-Road Mobile Source Emission Factors (composite) – SCAQMD for 2007 (existing) and Proposed used 2008 factors
- Fugitive Dust Mining – AP-42 Section 11.9 for dozing/grading and AP-42 Section 13.2.4 for excavating/loading

Table 4.3.H lists the emissions from haul trucks operating off-site. The trips per day are based on the Ready-Mix Plant processing 580,500 tons annually, using haul trucks with 14¼ ton capacity and the Rock Plants processing 4,056,975 tons annually, using haul trucks with 25 ton capacity, both for 310 days per year.

Table 4.3.H – Planning Area Existing Off-site Emissions

Traffic Source (Off-site Emissions)	Estimated Emissions Rates (lbs./day)						
	CO	ROG	NO _x	SO _x	PM ₁₀	PM _{2.5}	CO ₂
Ready-Mix Plant (146 trips per day)	3.8	1.3	7.1	0.0072	0.49	0.44	750
Rock Plants (582 trips per day)	15	5.1	28	0.029	1.9	1.8	3,000
Off-site Emissions Total	19	6.4	35	0.036	2.4	2.2	3,800

Sources: CEMEX, Robertson's, Lilburn Corporation 2008.

Note that numbers may not be exact due to rounding.

The estimated emissions rates were calculated using emission factors from SCAQMD's website.¹ The amount of equipment, duration of use, and emission factor are the components required to estimate daily emissions in pounds per hour. As presented in Table 4.3.I, the on-site and off-site project-related generated emissions rates are below all SCAQMD thresholds except for NO_x, PM₁₀ and PM_{2.5}.

Table 4.3.I – Summary – Existing Planning Area Emissions

Emission Source	Emission Rate Change (lbs/day)					
	CO	ROG	NO _x	PM ₁₀	PM _{2.5}	CO ₂
Offsite Exhaust Sources	19	6.4	35	2.4	2.2	3,800
Onsite Exhaust Sources	128	40	364	62	29	N/C
Fugitive Dust Sources	—	—	—	781	234	—

¹ <http://www.aqmd.gov/ceqa/handbook/offroad/offroad.html>, downloaded 10/11/2007.

Table 4.3.I – Summary – Existing Planning Area Emissions

Emission Source	Emission Rate Change (lbs/day)					
	CO	ROG	NO _x	PM ₁₀	PM _{2.5}	CO ₂
SCAQMD Thresholds	550	55	55	150	55	No Threshold
Significant Increase?	No	No	Yes	Yes	Yes	

Sources: CEMEX, Robertson's, Lilburn Corporation 2008.

Note that numbers may not be exact due to rounding.

N/C = Not Calculated

Existing vehicular trips associated with the project contribute to the congestion at intersections and along roadway segments in the project vicinity. The primary mobile source pollutant of local concern is CO. CO is a direct result of vehicle idling time and, thus, traffic flow conditions. CO transport is extremely limited; it disperses rapidly with distance from the source under normal meteorological conditions. However, under certain extreme meteorological conditions, CO concentrations proximate to a congested roadway or intersection may reach unhealthful levels affecting local sensitive receptors (residents, school children, the elderly, hospital patients, etc.). Typically, high CO concentrations are associated with roadways or intersections operating at unacceptable levels of service or with extremely high traffic volumes. In areas with high ambient background CO concentration, modeling is recommended to determine a project's effect on local CO levels.

Ambient CO concentrations in the immediate project vicinity are not available. Ambient CO levels monitored at the San Bernardino station, the closest station with monitored CO data approximately 4 miles to the west of the site, showed a highest recorded 1-hour concentration of 4.1 ppm (State standard is 20 ppm) and a highest 8-hour concentration of 3.2 ppm (State standard is 9 ppm) during the past three years (see Table 4.3.A).

The highest CO concentrations would occur during peak traffic hours; hence, CO impacts calculated during peak traffic conditions represent a worst-case analysis. Based on the *Traffic Study* (LSA Associates, Inc., January 2007), CO hot spot analyses were conducted for existing conditions. The impact on local CO levels was assessed with the CARB-approved CALINE4 air quality model, which allows microscale CO concentrations to be estimated along roadway corridors or near intersections. This model is designed to identify localized concentrations of CO hot spots. Table 4.3.J shows the existing CO concentrations at principal intersections affected by project traffic.

Table 4.3.J – Existing CO Concentrations

Intersection	Receptor Distance to Road Centerline (Meters)	Existing 1-hour CO Concentration (ppm)	Existing 8-hour CO Concentration (ppm)	Exceeds State Standards	
				1-Hr	8-Hr
Palm Avenue and 5 th Street	12	6.5	5.1	No	No
	12	6.5	5.1	No	No
	10	6.3	4.9	No	No
	10	6.2	4.9	No	No
Palm Avenue and 3 rd Street	14	5.7	4.5	No	No
	14	5.6	4.5	No	No
	12	5.6	4.5	No	No
	7	5.6	4.5	No	No
Palm Avenue and Robertson's Access	10	5.5	4.4	No	No
	7	5.5	4.4	No	No
	7	5.5	4.4	No	No
	7	5.4	4.3	No	No

Table 4.3.J – Existing CO Concentrations

Intersection	Receptor Distance to Road Centerline (Meters)	Existing 1-hour CO Concentration (ppm)	Existing 8-hour CO Concentration (ppm)	Exceeds State Standards	
				1-Hr	8-Hr
Palm Avenue and Cemex Access	14	5.3	4.2	No	No
	12	5.3	4.2	No	No
	7	5.2	4.2	No	No
	7	5.2	4.2	No	No
Church Avenue and 5 th Street	14	5.9	4.7	No	No
	14	5.8	4.6	No	No
	14	5.7	4.5	No	No
	12	5.5	4.4	No	No
Truck Access Road and 5 th Street	17	5.7	4.5	No	No
	17	5.5	4.4	No	No
	17	5.5	4.4	No	No
	15	5.4	4.3	No	No
State Route 30 Southbound Ramps and 5 th Street	10	6.4	5.0	No	No
	10	6.3	4.9	No	No
	10	6.2	4.9	No	No
	10	5.9	4.7	No	No
State Route 30 Northbound Ramps and 5 th Street	7	6.8	5.3	No	No
	7	6.6	5.2	No	No
	7	6.5	5.1	No	No
	7	6.4	5.0	No	No
Boulder Avenue and Greenspot Road	7	6.6	5.2	No	No
	7	6.4	5.0	No	No
	7	6.3	4.9	No	No
	7	6.3	4.9	No	No
Orange Street and Cemex Access	7	6.4	5.0	No	No
	7	6.4	5.0	No	No
	7	6.3	4.9	No	No
	7	6.3	4.9	No	No

Includes ambient 1-hour concentration of 3.8 ppm and ambient 8-hour concentration of 2.9 ppm. Measured at the 24302 4th Street, San Bernardino, California, AQ Station (San Bernardino County).

Source: LSA Associates, Inc. February 2007.

4.3.2 Regulatory Setting

City of Highland General Plan Update

The following goal and its policies within the *City of Highland General Plan Update*¹ relate to air quality and apply to the proposed project.

Goal 6.8. Reduce mobile and stationary source air pollutant emissions through cooperation and endorsement of the San Bernardino Regional Air Quality Plan and support of feasible techniques, incentives, and regulatory measures to achieve significant air quality improvements and any necessary air quality related lifestyle and economic changes while sustaining continued economic growth.

¹ *City of Highland General Plan Update*, prepared by The Planning Network, March 14, 2006.

Policies for Goal 6.8

- 1) Ensure consistency of Federal, State, and County legislation with Highland's Air Quality goal and policies.
- 2) Participate in formulating regional policies and solutions to air quality problems established by the San Bernardino County Regional Air Quality Plan.
- 9) Reduce work trips in the City and peak period auto travel by enforcing the City's Transportation Demand Ordinance; supporting current staggered, flexible, and compressed work schedules in public agencies; working with private agencies to encourage work schedule flexibility programs for employers with more than 25 employees in a single location; educating City residents on the advantages of ride sharing and public transit; and encouraging the development of job-intensive uses within designated employment centers for local residents.
- 10) Reduce vehicle emissions by supporting the design and implementation of the Citywide system of bikeways and pedestrian trails as a non-polluting circulation alternative by requiring as part of the development review process the installation of planned bicycle routes, paths, and lanes where designated; and the construction of necessary bicycle parking and storage areas within convenient commercial, employment and recreation activity areas.
- 11) Reduce particulate emissions from construction sites, grading activities, temporary roads and parking lots, and agricultural operations by enforcing requirements that minimize fugitive dust.
- 12) Reduce particulate and stationary emissions attributed to the removal, transportation and processing of mineral resources by enforcing required permits and physical barrier requirements that minimize the effects of dust from day-to-day operations of mineral extraction, transportation, and processing facilities.

City of Redlands 1995 General Plan

Policies within the *City of Redlands 1995 General Plan*¹ that are related to air quality and are relevant to the proposed project include those for the following issues:

- Air quality and ground transportation;
- Air quality and land use; and
- Air quality and particulates.

8.12 Air Quality and Ground Transportation

Guiding Policies

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

Implementing Policies

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

8.12q Establish incentive and regulation to spread work trips over a longer period to reduce peak period congestion.

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

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

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

¹ *City of Redlands 1995 General Plan*, prepared by City of Redlands Community Development Department, August 1995.

8.14 Air Quality and Land Use

Guiding Policy

- 8.14a Support a regional approach to regulating the location and design of land uses which are especially sensitive to air pollution.

Implementing Policy

- 8.14k Support and encourage the maximum use of plants and trees to provide oxygen enrichment through the photosynthesis process.

8.15 Air Quality and Particulates

Guiding Policies

- 8.15a Aim for the minimum practicable particulate emissions from the construction and operation of roads and buildings.
- 8.15b Reduce particulate emissions from roads, parking lots, construction sites, mining operations and agricultural lands.
- 8.15c Reduce emissions from building materials and methods which generate excessive pollutants.

Implementing Policies

- 8.15d Adopt incentives, regulations, and procedures to manage paved roads so they produce the minimum practicable level of particulates.
- 8.15e Adopt incentives, regulations, and procedures to minimize particulate emissions during grading, and road, parking lot, and building construction.
- 8.15f Adopt incentives, regulations, and procedures to control particulate emissions from unpaved roads, drives, vehicle maneuvering areas, parking lots, and disturbed land that is not developed.
- 8.15g Adopt incentives, regulations, and procedures to limit dust from agricultural lands and operations.
- 8.15h Adopt incentives, regulations, and procedures to prohibit the use of building materials and methods which generate excessive pollutants.

County of San Bernardino General Plan

The following policies within the *San Bernardino County General Plan*¹ relate to air quality and apply to the proposed project.

- Goal CO 4.** The County will ensure good air quality for its residents, businesses, and visitors to reduce impacts on human health and the economy.

Policies

- CO 4.1** Because developments can add to the wind hazard (due to increased dust, the removal of wind breaks, and other factors), the County will require either as mitigation measures in the appropriate environmental analysis required by the County for the development proposal or as conditions of approval if no environmental document is required, that developments in areas identified as susceptible to wind hazards to address site-specific analysis of:
- a. Grading restrictions and/or controls on the basis of soil types, topography, or season.

¹ *San Bernardino County General Plan*, prepared by County of San Bernardino Land Use Services, updated April 12, 2007.

- b. Landscaping methods, plant varieties, and scheduling to maximize successful revegetation.
 - c. Dust-control measures during grading, heavy truck travel, and other dust generating activities.
- CO 4.2** Coordinate air quality improvement technologies with the South Coast Air Quality Management District (SCAQMD) and the Mojave Air Quality Management District (MAQMD) to improve air quality through reductions in pollutants from the region.
- CO 4.3** The County will continue to ensure through coordination and cooperation with all airport operators a diverse and efficient ground and air transportation system, which generates the minimum feasible pollutants.
- CO 4.4** Because congestion resulting from growth is expected to result in a significant increase in the air quality degradation, the County may manage growth by insuring the timely provision of infrastructure to serve new development.
- CO 4.5** Reduce emissions through reduced energy consumption.

Regional Standards

Regional Air Quality Planning Framework. The 1976 Lewis Air Quality Management Act established SCAQMD and other air Districts throughout the State. The Federal Clean Air Act Amendments of 1977 required that each state adopt an implementation plan outlining pollution control measures to attain the Federal standards in nonattainment areas of the State.

The CARB is responsible for incorporating air quality management plans for local air basins into a State Implementation Plan (SIP) for EPA approval. Significant authority for air quality control within them has been given to local air Districts that regulate stationary source emissions and develop local nonattainment plans.

Regional Air Quality Management Plan (AQMP). The SCAQMD and the Southern California Association of Governments (SCAG) are responsible for formulating and implementing the AQMP for the Basin. Every three years, the SCAQMD prepares a new AQMP, updating the previous plan and having a 20-year horizon. The SCAQMD adopted the 2003 Air Quality Management Plan, which updates the attainment demonstration for the Federal standards for O₃ and PM₁₀; replaces the 1997 attainment demonstration for the Federal CO standard, and provides a basis for a maintenance plan for CO for the future; and updates the maintenance plan for the Federal NO₂ standard that the Basin has met since 1992. The 2003 AQMP proposes policies and measures to achieve Federal and State standards for healthful air quality in the Basin.

The SCAQMD adopted the 2007 AQMP on June 1, 2007, which it describes as a regional and multiagency effort (the SCAQMD Governing Board, CARB, SCAG, and EPA). State and Federal planning requirements will include developing control strategies, attainment demonstration, reasonable further progress, and maintenance plans. The 2007 AQMP also incorporates significant new scientific data, primarily in the form of updated emission inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools. The SCAQMD has forwarded the 2007 AQMP to the CARB and EPA for their review and approval.

State Regulations/Standards

The State began to set California ambient air quality standards (CAAQS) in 1969 under the mandate of the Mulford-Carrell Act. The CAAQS are generally more stringent than the national ambient air quality standards (NAAQS). In addition to the six criteria pollutants covered by the NAAQS, there are CAAQS for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These

standards are listed in previously referenced Table 4.3.A. In addition to the existing 1-hour O₃ State standard of 0.09 ppm, the State adopted an 8-hour O₃ standard of 0.070 ppm on May 17, 2006.

Originally, there were no attainment deadlines for CAAQS; however, the CCAA of 1988 provided a time frame and a planning structure to promote their attainment. The CCAA required nonattainment areas in the State to prepare attainment plans and proposed to classify each such area on the basis of the submitted plan, as follows: moderate, if CAAQS attainment could not occur before December 31, 1994; serious, if CAAQS attainment could not occur before December 31, 1997; and severe, if CAAQS attainment could not be conclusively demonstrated at all. The attainment plans are required to achieve a minimum 5 percent annual reduction in the emissions of nonattainment pollutants unless all feasible measures have been implemented.

The EPA has designated the SCAG as the Metropolitan Planning Organization (MPO) responsible for ensuring compliance with the requirements of the CAA for the Basin.

Federal Regulations/Standards

Pursuant to the Federal Clean Air Act of 1970, the EPA established NAAQS. The NAAQS were established for six major pollutants, termed “criteria” pollutants. Criteria pollutants are defined as those pollutants for which the Federal and State governments have established ambient air quality standards, or criteria, for outdoor concentrations in order to protect public health.

The EPA established new national air quality standards for ground level ozone and fine particulate matter in 1997. On May 14, 1999, the Court of Appeals for the District of Columbia Circuit issued a decision ruling that the CAA, as applied in setting the new public health standards for ozone and particulate matter, was unconstitutional as an improper delegation of legislative authority to the EPA. On February 27, 2001, the U.S. Supreme Court upheld the way the government sets air quality standards under the CAA. The court unanimously rejected industry arguments that the EPA must consider financial cost as well as health benefits in writing standards. The justices also rejected arguments that the EPA took too much lawmaking power from Congress when it set tougher standards for ozone and soot in 1997. Nevertheless, the court threw out the EPA’s policy for implementing new ozone rules, saying that the agency ignored a section of the law that restricts its authority to enforce such rules.

In April 2003, the EPA was cleared by the White House Office of Management and Budget (OMB) to implement the eight-hour ground-level ozone standard. The EPA issued the proposed rule implementing the eight-hour ozone standard in April 2003. The EPA completed final eight-hour nonattainment status on April 15, 2004. The EPA revoked the one-hour ozone standard on June 15, 2005.

The EPA issued the final PM_{2.5} implementation rule in fall 2004. The EPA issued final designations on December 14, 2004. The EPA lowered the 24-hour PM_{2.5} standard from 65 to 35 µg/m³ and revoked the annual PM₁₀ standard on December 17, 2006.

4.3.3 Thresholds of Significance

A project would have a significant effect on air quality if it would:

- Violate any AAQS;
- Contribute substantially to an existing air quality violation;
- Expose sensitive receptors to substantial pollutants concentrations;
- Create objectionable odors affecting a substantial number of people; and/or

- Conflict with adopted environmental plans and goals of the community in which it is located.

In addition to the Federal and State AAQS, there are daily and quarterly emissions thresholds for construction and operation of a proposed project in the Basin. The Basin is administered by the SCAQMD, and guidelines and emissions thresholds established by the SCAQMD in its CEQA Air Quality Handbook (SCAQMD, April 1993) are used in this analysis. It should be noted that the emission thresholds were established based on the attainment status of the air basin in regard to air quality standards for specific criteria pollutants. Because the concentration standards were set at a level that protects public health with an adequate margin of safety (EPA), these emission thresholds are regarded as conservative and would overstate an individual project's contribution to health risks. The air quality assessment for the proposed project includes estimating emissions associated with the long-term operation of the proposed project.

Thresholds for Construction Emissions

The following CEQA significance thresholds for construction emissions have been established by the SCAQMD for the Basin:

- 75 pounds per day of reactive organic compounds (ROC).
- 100 pounds per day of NO_x.
- 550 pounds per day of CO.
- 150 pounds per day of SO_x.
- 150 pounds per day of PM₁₀.
- 55 pounds per day of PM_{2.5}.

Projects in the Basin with construction-related emissions that exceed any of the emission thresholds are considered to be significant under CEQA.

Thresholds for Operational Emissions

The daily operational emissions "significance" thresholds for the Basin are discussed in the following sections. These thresholds include emission thresholds for pollutants with regional effects and local microscale concentration standards.

Emission Thresholds for Pollutants with Regional Effects. Projects with operations-related emissions that exceed any of the emission thresholds listed below are considered significant with respect to CEQA.

- | | |
|--|--|
| • 55 pounds per day of ROG | • 150 pounds per day of SO _x |
| • 55 pounds per day of NO _x | • 150 pounds per day of PM ₁₀ |
| • 550 pounds per day of CO | • 55 pounds per day of PM _{2.5} |

Local Microscale Concentration Standards. The significance of localized project impacts pursuant to CEQA depends on whether ambient CO levels in the vicinity of the project are above or below State and Federal CO standards. If ambient levels are below the standards, a project is considered to have a significant impact if project emissions result in an exceedance of one or more of these standards. If ambient levels already exceed a State or Federal standard, project emissions are considered significant if they increase 1-hour CO concentrations by 1.0 part per million (ppm) or more

or 8-hour CO concentrations by 0.45 ppm or more. The following are applicable local emission concentration standards for CO:

- California State 1-hour CO standard of 20.0 ppm; and
- California State 8-hour CO standard of 9.0 ppm.

Health Risk Thresholds. For pollutants without defined significance standards or air contaminants not covered by the standard criteria cited above, the definition of substantial pollutant concentrations varies. For toxic air contaminants (TAC), “substantial” is taken to mean that the individual cancer risk exceeds a threshold considered to be a prudent risk management level. If best available control technology for toxics (T-BACT) has been applied, the individual cancer risk to the maximum exposed individual (MEI) must not exceed 10 in 1 million if an impact is to be considered not significant.

The following limits for maximum individual cancer risk (MICR), cancer burden, and non-cancer acute and chronic hazard indices (HI) from project emissions of TACs have been established for the Basin:

- **MICR and Cancer Burden.** MICR is the estimated probability of a potential maximally exposed individual contracting cancer as a result of exposure to TACs over a period of 70 years for residential and 46 years for worker receptor locations. The MICR calculations include multi-pathway consideration, when applicable. Cancer burden is the estimated increase in the occurrence of cancer cases in a population subject to a MICR of greater than or equal to one in one million (1.0×10^{-6}) resulting from exposure to TACs.

The cumulative increase in MICR that is the sum of the calculated MICR values for all TACs emitted from the project will not result in any of the following:

- (A) An increased MICR greater than 10 in 1 million (1.0×10^{-5}) at any receptor location (assumes the project will be constructed with T-BACT); or
- (B) A cancer burden greater than 0.5.

- **Chronic HI.** This is the ratio of the estimated long-term level of exposure to a TAC for a potential maximally exposed individual to its chronic reference exposure level. The chronic hazard index calculations include multi-pathway consideration, when applicable.

The cumulative increase in total chronic HI for any target organ system due to total emissions from the project will not exceed 1.0 at any receptor location.

- **Acute HI.** This is the ratio of the estimated maximum one-hour concentration of a TAC for a potential maximally exposed individual to its acute reference exposure level.

The cumulative increase in total acute HI for any target organ system due to total emissions from the project will not exceed 1.0 at any receptor location.

Additionally, according to *CEQA Guidelines*, Appendix G, the proposed project would result in significant air quality impacts if it would:

- 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 with respect to an applicable Federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations; and/or

- Create objectionable odors affecting a substantial number of people.

Global Climate Change (Green House Gas Emissions) Thresholds. Based on the lack of a threshold for analyzing the significance of project level impacts associated with GHG emissions, it is not possible to develop a quantifiable emissions threshold. Furthermore, it is reasonable to conclude that an individual development project cannot generate a high enough quantity of GHG emissions to affect global climate change. However, individual projects incrementally contribute toward the potential for global climate change on a cumulative basis in concert with all other past, present, and reasonably foreseeable projects.

Because of the lack of a project-specific impact on global climate change resulting from any development project and the lack of a quantifiable emissions threshold, cumulative impact assessment has been conducted based on the following methodology:

- Calculation of GHG emissions. The purpose of this step is for informational purposes, as there is no quantifiable GHG emissions threshold.

Compliance/Compatibility with GHG Emission Reduction Strategies. The purpose of this step is to assess the project's compliance or compatibility with the GHG emission reduction strategies contained in the California Climate Action Team's (CAT's) Report to the Governor. If a project is compatible or consistent with the applicable CAT strategies, then the project's cumulative impact on global climate change is considered less than significant.

4.3.4 Impact Analysis

Methodology

Impacts related to air quality are primarily from activities associated with mining operations, construction of a new access road, and the continuation of flood control and water conservation operations. Evaluation of air quality impacts associated with the proposed project includes the following:

- Determine the short-term air quality impacts on both on-site and off-site air quality-sensitive uses;
- Determine the long-term air quality impacts, including vehicular traffic, on both on-site and off-site air quality-sensitive uses; and,
- Determine the required mitigation measures to reduce short-term and long-term on-site air quality impacts from all sources.

For long-term air quality impacts, the overall project emissions rate changes were determined and compared to SCAQMD thresholds, and air dispersion modeling was conducted to assess the project's impact on local air quality. Additional localized air quality impacts (i.e., CO concentrations [CO hot spots]) at intersections in the Planning Area would be affected due to off-site traffic flow from the proposed project. The California Department of Transportation (Caltrans) CALINE4 model was used to assess the project's impact on the local CO concentrations. There are currently no Federal project-level requirements for air toxics analysis, and CEQA only requires a consideration of the risks from toxics, with the SCAQMD providing the Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis (March 2003) and the Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics "Hot Spots" Information and Assessment Act (AB 2588) (July 2005) for guidance.

4.3.4.1 Consistency with the Air Quality Management Plan

Threshold	Would the proposed project conflict with or obstruct implementation of the applicable air quality plan?
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Ambient air quality within the Planning Area is administered by SCAQMD's AQMP. The AQMP provides a program for obtaining attainment status for key monitored air pollutants, based on existing and future air pollution emissions resulting from employment and residential growth projections. The 2007 AQMP is the current AQMP for the Basin.

A consistency determination plays an essential role in local agency project review by linking local planning and unique individual projects to the air quality plans. It fulfills the CEQA goal of fully informing local agency decision-makers of the environmental costs of the project under consideration at a stage early enough to ensure that air quality concerns are addressed. Only new or amended General Plan elements, Specific Plans, and significantly unique projects need to undergo a consistency review due to the air quality plans' strategy being based on projections from local General Plans.

Water Conservation Operations/Maintenance Activities of the District

As described in Section 3.6.1, approximately ~~544~~ 520 fewer acres of water conservation activities would result from implementation of the Wash Plan; however, there would be no reduction in groundwater recharge basin acreage. The reduction in total acreage would result from the land exchange between the District and BLM and would be designated habitat conservation as depicted in Figure 3-16. As previously described, the AQMP provides a program for obtaining attainment status based on existing and future air pollution emissions resulting from employment and residential growth projections. Because activities associated with water conservation would not increase employment and population, and additional emissions are not anticipated from this activity, it is consistent with the current AQMP and would not obstruct implementation of the attainment plan. Therefore, a less than significant impact associated with this activity would occur and no mitigation is required.

Cumulative. As identified above, the operations/maintenance activities of the District would not result in an increase in population or employment and would not result in an increase in emissions that were not accounted for in the current AQMP. Similarly, cumulative projects identified in Table 2.A are not anticipated to result in a substantial increase in population or employment projections that were included in the formulation of the current AQMP. Because no substantial increase in the population or growth projections would occur, it is reasonable to assume that emissions would not substantially increase and thus hinder implementation of the AQMP. Therefore, no significant cumulative impacts would occur.

Flood Control Operations/Maintenance Activities of the SBCFCD

Flood control operations and activities would not change as a result of the proposed project. Similar to the discussion for water conservation, because activities associated with flood control would not increase employment and population, and additional emissions are not anticipated with this activity, it is consistent with the current AQMP and would not obstruct implementation of the attainment plan. A less than significant impact associated with this activity would occur and no mitigation is required.

Cumulative. As identified above, the operations/maintenance activities of the SBCFCD would not result in an increase in population or employment and would not result in an increase in emissions that were not accounted for in the current AQMP. Similarly, cumulative projects identified in Table 2.A are not anticipated to result in a substantial increase in population or employment projections that were included in the formulation of the current AQMP. Because no substantial increase in the

population or growth projections would occur, it is reasonable to assume that emissions would not substantially increase and thus hinder implementation of the AQMP. Therefore, no significant cumulative impacts would occur.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Similar to the discussion of flood control activities, there is no change associated with water production operations/maintenance of the EVWD and RMUD. Existing water supply wells, tanks, and pipelines of the EVWD and RMUD are expected to remain and would not be affected by the proposed project. As there is no change, activities associated with water production would be consistent with the current AQMP. A less than significant impact associated with this activity would occur and no mitigation is required.

Cumulative. As identified above, the operations/maintenance activities of the EVWD and RMUD would not result in an increase in population or employment and would not result in an increase in emissions that were not accounted for in the current AQMP. Similarly, cumulative projects identified in Table 2.A are not anticipated to result in a substantial increase in population or employment projections that were included in the formulation of the current AQMP. Because no substantial increase in the population or growth projections would occur, it is reasonable to assume that emissions would not substantially increase and thus hinder implementation of the AQMP. Therefore, no significant cumulative impacts would occur.

Aggregate Mining

The proposed project would result in changes to existing operations and land uses associated with aggregate mining. As discussed in Section 4.12, although a change in land use would occur, the project itself is not growth inducing and an increase in employment or population is not expected to occur as a result of this activity. Therefore, the proposed uses of the Planning Area have been included in growth projections for the Cities of Highland and Redlands, which were subsequently used as input in development of the approved AQMP. The proposed project would be consistent with the AQMP and would not obstruct implementation of its programs. A less than significant impact associated with this activity would occur and no mitigation is required.

Cumulative. As identified above, aggregate mining activities would not result in an increase in population or employment and would not result in an increase in emissions that were not accounted for in the current AQMP. Similarly, cumulative projects identified in Table 2.A are not anticipated to result in a substantial increase in population or employment projections that were included in the formulation of the current AQMP. Because no substantial increase in the population or growth projections would occur, it is reasonable to assume that emissions would not substantially increase and thus hinder implementation of the AQMP. Therefore, no significant cumulative impacts would occur.

Adoption of General Plan Amendments

The General Plan Amendments proposed under the Wash Plan are for trails and land use designations within the Cities of Highland and Redlands. To maintain an interconnecting trail system between the two cities, the City of Redlands would be required to make amendments to its General Plan for both the Alabama Street Trail and the Church Street Trail to align with the Alabama Street Trail and Orange Street/Boulder Avenue Trail identified by the City of Highland. To remain consistent with General Plan land use designations for each respective City, General Plan Amendments would be required with the proposed new land uses that would occur from the land exchange and the expansion of the mineral extraction areas. The General Plan Amendments would not result in an

increase in employment or population; rather, they make better use of the land within the proposed project and facilitate the operations of the existing land uses. Similarly, General Plan Amendments for the trails component would not result in an increase in employment or population; rather, they coordinate trail plans for the Cities of Highland and Redlands to increase regional mobility. Therefore, the proposed project would remain consistent with growth projections incorporated into the AQMP. A less than significant impact associated with this activity would occur and no mitigation is required.

Cumulative. As identified above, the adoption of General Plan Amendments would not result in an increase in population or employment and would not result in an increase in emissions that were not accounted for in the current AQMP. Similarly, cumulative projects identified in Table 2.A are not anticipated to result in a substantial increase in population or employment projections that were included in the formulation of the current AQMP. Because no substantial increase in the population or growth projections would occur, it is reasonable to assume that emissions would not substantially increase and thus hinder implementation of the AQMP. Therefore, no significant cumulative impacts would occur.

Roadway/Bridge Rights-of-Way

The proposed project includes the setting aside of rights-of-way for subsequent improvements to Greenspot Road and the Greenspot Road Bridge, Alabama Street, and Orange Street-Boulder Avenue. The setting aside of rights-of-way for the roadways and bridge would not conflict with the adopted AQMP because no increase in employment or population would be generated as a result. This activity is not considered growth inducing. Therefore, this activity is consistent with the AQMP and would not obstruct implementation of attainment. A less than significant impact associated with this activity would occur and no mitigation is required.

Cumulative. As identified above, the ~~dedication~~ designation of roadway/bridge rights-of-way would not result in an increase in population or employment and would not result in an increase in emissions that were not accounted for in the current AQMP. Similarly, cumulative projects identified in Table 2.A are not anticipated to result in a substantial increase in population or employment projections that were included in the formulation of the current AQMP. Because no substantial increase in the population or growth projections would occur, it is reasonable to assume that emissions would not substantially increase and thus hinder implementation of the AQMP. Therefore, no significant cumulative impacts would occur.

Recreational Trails Rights-of-Way

Similar to the previously described activity, the proposed project includes the setting aside of rights-of-way for eight recreational trails. All trails would be located on existing streets, service roads, and an old railroad bed. The setting aside of rights-of-way for these trails would not conflict with the adopted AQMP because no increase in employment or population would occur. This activity is not considered growth inducing. Therefore, this activity is consistent with the AQMP and would not hinder implementation of attainment. A less than significant impact associated with this activity would occur and no mitigation is required.

Cumulative. As identified above, the ~~dedication~~ designation of recreational trail rights-of-way would not result in an increase in population or employment and would not result in an increase in emissions that were not accounted for in the current AQMP. Similarly, cumulative projects identified in Table 2.A are not anticipated to result in a substantial increase in population or employment projections that were included in the formulation of the current AQMP. Because no substantial increase in the population or growth projections would occur, it is reasonable to assume that emissions would not

substantially increase and thus hinder implementation of the AQMP. Therefore, no significant cumulative impacts would occur.

Land Exchange Between the District and BLM

The land exchange occurring between the District and BLM is illustrated in Figure 3.10. the land exchange will result in approximately 300 acres of property being designated as ACEC, and incorporated into managed habitat. The land exchange will make additional acreage available for aggregate mining, discussed above, but such aggregate mining is not inconsistent with the AQMP. No change in employment or population projections would result from this activity and this activity remains consistent with the adopted AQMP. A less than significant impact associated with this activity would occur and no mitigation is required.

Cumulative. As identified above, the land exchange occurring between the District and BLM would not result in an increase in population or employment and would not result in an increase in emissions that were not accounted for in the current AQMP. Similarly, cumulative projects identified in Table 2.A are not anticipated to result in a substantial increase in population or employment projections that were included in the formulation of the current AQMP. Because no substantial increase in the population or growth projections would occur, it is reasonable to assume that emissions would not substantially increase and thus hinder implementation of the AQMP. Therefore, no significant cumulative impacts would occur.

Land Exchange Between the SBCFCD and Robertson's

The land exchange occurring between the SBCFCD and Robertson's is illustrated in Figure 3.1. Lands included in this land exchange would be designated for the Santa Ana River Woollystar Preservation Area and aggregate mining. No change in employment or population projections would result from this activity and this activity remains consistent with the adopted AQMP. A less than significant impact associated with this activity would occur and no mitigation is required.

Cumulative. As identified above, the land exchange occurring between the SBCFCD and Robertson's would not result in an increase in population or employment and would not result in an increase in emissions that were not accounted for in the current AQMP. Similarly, cumulative projects identified in Table 2.A are not anticipated to result in a substantial increase in population or employment projections that were included in the formulation of the current AQMP. Because no substantial increase in the population or growth projections would occur, it is reasonable to assume that emissions would not substantially increase and thus hinder implementation of the AQMP. Therefore, no significant cumulative impacts would occur.

4.3.4.2 Short-Term Construction Impacts

Threshold	<p>Would the proposed project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable Federal or State ambient air quality standard?</p> <p>For short-term construction, the applicable daily thresholds are:</p> <p>75 pounds of reactive organic gases/volatile organic compounds (ROG/VOC); 100 pounds of NO_x; 550 pounds of CO; 150 pounds of PM₁₀; 55 pounds of PM_{2.5}; and 150 pounds of SO_x.</p>
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Water Conservation Operations/Maintenance Activities of the District

The District will continue to operate, maintain, and repair its water conservation facilities (access roads, canals, culverts, dikes, basins, and diversion structures) within the Planning Area in the same manner as existing conditions. As described in Section 3.6.1, while there is the potential for future water conservation facilities to be built within the Planning Area, at this point in time the specific location, size, and type of facilities are unknown. Aside from this EIR's programmatic evaluation of impacts to biological resources associated with any potential future water conservation facilities, these facilities will be required to undergo project-specific environmental analysis prior to their construction and implementation. However, as a result of the expansion of aggregate mining area, the District's Observation Well No. 4 would be displaced and relocated outside of the mining area upstream on future BLM land. The specific site will be determined in coordination with the BLM and USFWS at the time the well would need to be relocated. Air quality impacts associated with the relocation of this well will be addressed in future environmental review when the site and construction details are available to complete an environmental review. Because there is no proposed construction related to this activity for the proposed project, a less than significant impact associated with this activity would occur and no mitigation is required.

Cumulative. The future expansion of facilities associated with water conservation could create or contribute to new or increased impacts to an area in nonattainment for criteria pollutants because of cumulative projects that would involve construction activities. As shown in previously referenced Figure 2.2, all projects that would involve construction activities would emit pollutants during the construction phase of each project. However, these cumulative projects are subject to their own environmental review including impact assessment and mitigation formulation. The proposed project did not identify any significant project-specific construction-related impacts; however, the proposed project would still emit pollutants on a cumulative basis. With implementation of mitigation measures, cumulative impacts from the cumulative projects would be no greater than the impacts defined for the proposed project; however, would still emit criteria pollutants to a nonattainment area. The incremental increase in emissions of criteria pollutants from the proposed project and from cumulative projects would be considered a significant cumulative impact.

Flood Control Operations/Maintenance Activities of the SBCFCD

Flood Control operations would not change as a result of the proposed project. The SBCFCD will not require additional construction work associated with the Santa Ana River, Mill Creek, Plunge Creek, or City Creek as a result of the proposed project. Operation and maintenance activities of the SBCFCD would continue to occur as currently implemented. Because no construction is proposed related to this activity, no impact associated with this activity would occur and no mitigation is required.

Cumulative. Cumulatively, SBCFCD operations and maintenance activities would not create or contribute to new or increased impacts in combination with other projects in regard to construction impacts over and above the impacts discussed in this section. The SBCFCD activities do not involve construction and will have no impact in relation to this issue and therefore would not contribute to cumulative impacts associated with this issue.

Water Production Operations/Maintenance Activities of EVWD and RMUD

Operation and maintenance activities of the EVWD and RMUD would not change as a result of the proposed project. There are no proposed construction activities associated with EVWD and RMUD

activities. Because there are no construction activities proposed for this activity, no impact associated with this activity would occur and no mitigation is required.

Cumulative. Cumulatively, EVWD and RMUD operations and maintenance activities would not create or contribute to new or increased impacts in combination with other projects in regard to construction impacts over and above the impacts discussed in this section. The EVWD and RMUD activities do not involve construction and will have no impact in relation to this issue and therefore would not contribute to cumulative impacts associated with this issue.

Aggregate Mining

Construction activities associated with aggregate mining include the construction of a new paved Access Road, approximately 30 feet wide, along the existing City Creek levee located on the east side of City Creek between 5th Street and the east-west boundary of the project (Figure 3.19). In addition, a new paved road would be constructed, approximately 30 feet wide, connecting Cemex's Orange Street crossing to the proposed 5th Street Access Road described above. The new Access Road would be constructed on an easement granted to Robertson's by the SBCFCD and would be a private roadway. The new levee access road would serve as the ingress and egress route for the trucks serving both Cemex and Robertson's processing plants. Typical grading of a roadway without trenching for utilities is assumed for this construction project.

Grading and other construction activities would result in combustion emissions from heavy-duty construction vehicles, haul trucks, utility engines, and vehicles transporting the construction crew. Exhaust emissions during these construction activities will vary daily as construction activity levels change. Grading and construction activities would cause combustion emissions from utility engines, heavy-duty construction vehicles, haul trucks, and vehicles transporting the construction crew. Peak grading days typically generate a larger amount of air pollutants than during other project construction days.

Construction equipment assumed includes one grader, one rubber-tired dozer, one water truck, one paver, one paving equipment unit, one roller, one surfacing equipment unit, and two tractors/loaders/backhoes. Table 4.3.K shows emissions associated with this construction scenario.

As shown in Table 4.3.K, total emissions that would result from grading activities and from equipment exhaust under the proposed construction scenario do not exceed SCAQMD thresholds. Because there is no exceedance of established thresholds, there would be no significant impact associated with this activity. No mitigation is required.

Table 4.3.K – Total Emissions from Grading Construction Equipment Exhaust Per Day

	Pollutants ¹ (lbs./day)					
	CO	ROC	NO _x	SO _x	PM ₁₀ ²	PM _{2.5} ²
Total	23	7.4	47	0.011	13	3.6
SCAQMD Threshold	550	75	100	150	150	55
Exceeds Threshold?	No	No	No	No	No	No

¹ Emission factors provided in SCAQMD CEQA Handbook, April 1993.

² Includes twice daily watering

Source: LSA Associates, Inc., August 2007.

Cumulative. The expansion of mining activities could create or contribute to new or increased impacts to an area in nonattainment for criteria pollutants because of cumulative projects that would involve construction activities. As shown in previously referenced Figure 2.2, the East Branch Extension Phase II, Plunge Pool Pipeline, Line C Drainage Realignment, and Alabama Street Arch

Culvert Projects will be constructed within portions of the Planning Area. However, these cumulative projects are subject to their own environmental review including impact assessment and mitigation formulation. The proposed project did not identify any significant project-specific construction-related impacts; however, the proposed project would still emit pollutants. With implementation of mitigation measures, cumulative impacts from the cumulative projects would be no greater than the impacts defined for the proposed project; however, would still emit criteria pollutants to a nonattainment area. The incremental increase in emissions of criteria pollutants from the proposed project and from cumulative projects would be considered a significant cumulative impact.

Adoption of General Plan Amendments

There are no construction activities associated with the adoption of General Plan Amendments. Therefore, no impact is anticipated to occur under this activity and no mitigation is required.

Cumulative. Cumulatively, the adoption of General Plan Amendments would not create or contribute to new or increased impacts in combination with other projects in regard to construction impacts over and above the impacts discussed in this section. The adoption of General Plan Amendments do not involve construction activities and will have no impact in relation to this issue and therefore would not contribute to cumulative impacts associated with this issue.

Roadway/Bridge Rights-of-Way

The ~~dedication~~ designation of rights-of-way for subsequent improvements to Greenspot Road and the Greenspot Road Bridge, Alabama Street, and Orange Street-Boulder Avenue would not include construction activities. Therefore, no impact is anticipated to occur under this activity and no mitigation is required.

Cumulative. Cumulatively, the implementation of roadway/bridge rights-of-way would not create or contribute to new or increased impacts in combination with other projects in regard to construction impacts over and above the impacts discussed in this section. The ~~dedication~~ designation of roadway/bridge rights-of-way do not involve construction activities and will have no impact in relation to this issue and therefore would not contribute to cumulative impacts associated with this issue. Moreover, to the extent that designation of the roadway rights of way suggest potential cumulative impacts from actual roadway construction, temporary construction emissions are anticipated to approximate those indicated for the construction of the Fifth Street access road, in Table 4.3K. No such anticipated emissions exceed SCAQMD threshold criteria, and as such, potential cumulative impacts from roadway construction following the designation of rights of way would not be cumulatively significant.

Recreational Trail Rights-of-Way

The ~~dedication~~ designation of rights-of-way for recreational trails would not result in construction of trails. As previously described, all trails would be located on existing streets, service roads, and an old railroad bed. No construction is associated with recreational trails, with the exception of the placement of signs or barriers. A less than significant impact would occur and no mitigation is required.

Cumulative. Cumulatively, the ~~dedication~~ designation of recreation trail rights-of-way would not create or contribute to new or increased impacts in combination with other projects in regard to construction impacts over and above the impacts discussed in this section. While it is anticipated that the placement of signs or barriers would be necessary in the future, it is not expected that the

placement of signs or barriers would require construction equipment that would have a cumulative impact. The ~~dedication~~ designation of recreational trail rights-of-way does not involve substantial construction activities and will have no impact in relation to this issue and therefore would not contribute to cumulative impacts associated with this issue.

Land Exchange Between the District and BLM

Lands included in this land exchange would be designated for Habitat Conservation with joint-use Water Conservation, and mining. No construction activities are associated with this land exchange. No impact associated with this activity would occur and no mitigation is required.

Cumulative. Cumulatively, the land exchange occurring between the District and BLM would not create or contribute to new or increased impacts in combination with other projects in regard to construction impacts over and above the impacts discussed in this section. The land exchange does not involve construction activities already addressed and will have no additional impact in relation to this issue and therefore would not contribute to additional cumulative impacts associated with this issue.

Land Exchange Between the SBCFCD and Robertson's

Lands included in this land exchange would be designated for the Santa Ana River Woollystar Preservation Area and aggregate mining. No construction activities are associated with this land exchange. No impact associated with this activity would occur and no mitigation is required.

Cumulative. Cumulatively, the land exchange occurring between the SBCFCD and Robertson's would not create or contribute to new or increased impacts in combination with other projects in regard to construction impacts over and above the impacts discussed in this section. The land exchange does not involve construction activities and will have no impact in relation to this issue and therefore would not contribute to cumulative impacts associated with this issue.

4.3.4.3 Long-Term Microscale (CO Hotspot) Impacts

Threshold	<p>Would the proposed project violate any air quality standard or contribute substantially to an existing or projected air quality violation?</p> <p>For CO, the applicable thresholds are:</p> <ul style="list-style-type: none"> - California State one-hour CO standard of 20.0 ppm; and - California State eight-hour CO standard of 9.0 ppm.
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As shown in previously referenced Table 4.3.J, CO concentrations from existing off-site mobile emissions are below SCAQMD thresholds.

Vehicular trips associated with the project contribute to the congestion at intersections and along roadway segments in the project vicinity. Localized air quality effects would occur when emissions from vehicular traffic change in local areas as a result of the proposed project. The primary mobile source pollutant of local concern is CO.

An assessment of project-related impacts on localized ambient air quality requires that future ambient air quality levels be projected. The SCAQMD AQMP has projections for CO concentrations that are lower than existing levels and are not specifically for the area of the Planning Area. Thus, to be conservative, existing ambient CO concentrations measured at the San Bernardino station were used for all future scenarios.

The highest CO concentrations would occur during peak traffic hours; hence, CO impacts calculated during peak traffic conditions represent a worst-case analysis. Based on the *Traffic Study* (LSA Associates, Inc., January 2007), CO hot spot analyses were conducted for future cumulative conditions. The impact on local CO levels was assessed with the CARB-approved CALINE4 air quality model, which allows microscale CO concentrations to be estimated along roadway corridors or near intersections. This model is designed to identify localized concentrations of CO hot spots. Tables 4.3.L and 4.3.M show the future CO concentrations at principal intersections affected by project traffic for 2008 and 2030.

Table 4.3.L – 2008 Proposed Project CO Concentrations without/with Proposed Project

Intersection	Receptor Distance to Road Centerline (Meters)	Project-Related Increase 1-hr/8-hr (ppm)	Without/With Project 1-hour CO Concentration (ppm)	Without/With Project 8-hour CO Concentration (ppm)	Exceeds State Standards	
					1-Hr	8-Hr
Palm Avenue and 5 th Street	12 / 12	-0.1 / -0.1	6.3 / 6.2	4.7 / 4.6	No	No
	12 / 12	0.0 / 0.0	6.2 / 6.2	4.6 / 4.6	No	No
	10 / 10	0.0 / 0.0	6.0 / 6.0	4.4 / 4.4	No	No
	10 / 10	-0.1 / -0.1	5.9 / 5.8	4.4 / 4.3	No	No
Palm Avenue and 3 rd Street	14 / 14	0.0 / 0.0	5.2 / 5.2	3.9 / 3.9	No	No
	14 / 14	-0.1 / -0.1	5.2 / 5.1	3.9 / 3.8	No	No
	12 / 12	0.0 / 0.0	5.1 / 5.1	3.8 / 3.8	No	No
	7 / 7	0.0 / 0.0	5.1 / 5.1	3.8 / 3.8	No	No
Palm Avenue and Robertson's Access	10 / 14	-0.1 / -0.1	5.1 / 5.0	3.8 / 3.7	No	No
	10 / 12	-0.1 / -0.1	5.1 / 5.0	3.8 / 3.7	No	No
	10 / 10	-0.1 / -0.1	5.1 / 5.0	3.8 / 3.7	No	No
	7 / 8	-0.2 / -0.1	5.1 / 4.9	3.8 / 3.7	No	No
Palm Avenue and Cemex Access	14 / 14	0.0 / 0.0	5.0 / 5.0	3.7 / 3.7	No	No
	12 / 12	0.0 / 0.0	4.9 / 4.9	3.7 / 3.7	No	No
	10 / 10	0.0 / 0.0	4.9 / 4.9	3.7 / 3.7	No	No
	7 / 7	0.0 / 0.0	4.8 / 4.8	3.6 / 3.6	No	No
Church Avenue and 5 th Street	14 / 14	-0.1 / 0.0	5.7 / 5.6	4.2 / 4.2	No	No
	14 / 14	0.0 / 0.0	5.5 / 5.5	4.1 / 4.1	No	No
	14 / 14	-0.1 / -0.1	5.5 / 5.4	4.1 / 4.0	No	No
	14 / 14	0.0 / 0.0	5.3 / 5.3	4.0 / 4.0	No	No
Truck Access Road and 5 th Street	17 / 17	0.0 / 0.0	5.5 / 5.5	4.1 / 4.1	No	No
	17 / 17	0.0 / 0.0	5.4 / 5.4	4.0 / 4.0	No	No
	17 / 17	0.0 / 0.0	5.3 / 5.3	4.0 / 4.0	No	No
	15 / 15	0.0 / 0.0	5.2 / 5.2	3.9 / 3.9	No	No
State Route 30 Southbound Ramps and 5 th Street	10 / 10	0.0 / 0.0	6.3 / 6.3	4.7 / 4.7	No	No
	10 / 10	0.0 / 0.0	6.2 / 6.2	4.6 / 4.6	No	No
	10 / 10	0.0 / 0.0	6.1 / 6.1	4.5 / 4.5	No	No
	10 / 10	0.0 / 0.0	5.7 / 5.7	4.2 / 4.2	No	No
State Route 30 Northbound Ramps and 5 th Street	7 / 7	0.0 / 0.0	6.6 / 6.6	4.9 / 4.9	No	No
	7 / 7	0.0 / 0.0	6.5 / 6.5	4.8 / 4.8	No	No
	7 / 7	0.0 / 0.0	6.2 / 6.2	4.6 / 4.6	No	No
	7 / 7	0.0 / 0.0	6.1 / 6.1	4.5 / 4.5	No	No

Table 4.3.L – 2008 Proposed Project CO Concentrations without/with Proposed Project

Intersection	Receptor Distance to Road Centerline (Meters)	Project-Related Increase 1-hr/8-hr (ppm)	Without/With Project 1-hour CO Concentration (ppm)	Without/With Project 8-hour CO Concentration (ppm)	Exceeds State Standards	
					1-Hr	8-Hr
Boulder Avenue and Greenspot Road	7 / 7	0.0 / 0.0	6.5 / 6.5	4.8 / 4.8	No	No
	7 / 7	0.0 / 0.0	6.3 / 6.3	4.7 / 4.7	No	No
	7 / 7	-0.1 / -0.1	6.3 / 6.2	4.7 / 4.6	No	No
	7 / 7	0.0 / 0.0	6.2 / 6.2	4.6 / 4.6	No	No
Orange Street and Cemex Access	7 / 7	0.0 / 0.0	6.0 / 6.0	4.4 / 4.4	No	No
	7 / 7	0.0 / 0.0	6.0 / 6.0	4.4 / 4.4	No	No
	7 / 7	0.0 / 0.0	5.9 / 5.9	4.4 / 4.4	No	No
	7 / 7	0.0 / 0.0	5.9 / 5.9	4.4 / 4.4	No	No

Includes ambient 1-hour concentration of 3.8 ppm and ambient 8-hour concentration of 2.9 ppm. Measured at the 24302 4th Street, San Bernardino, California, Air Quality Monitoring Station (San Bernardino County).
Source: LSA Associates, Inc. February 2007.

Table 4.3.M – 2030 Proposed Project CO Concentrations without/with Proposed Project

Intersection	Receptor Distance to Road Centerline (Meters)	Project-Related Increase 1-hr/8-hr (ppm)	Without/With Project 1-hour CO Concentration (ppm)	Without/With Project 8-hour CO Concentration (ppm)	Exceeds State Standards	
					1-Hr	8-Hr
Palm Avenue and 5 th Street	12 / 7	0.3 / 0.2	4.8 / 5.1	3.6 / 3.8	No	No
	12 / 7	0.2 / 0.1	4.8 / 5.0	3.6 / 3.7	No	No
	10 / 7	0.2 / 0.2	4.7 / 4.9	3.5 / 3.7	No	No
	10 / 7	0.2 / 0.2	4.7 / 4.9	3.5 / 3.7	No	No
Palm Avenue and 3 rd Street	14 / 14	-0.2 / -0.1	4.8 / 4.6	3.6 / 3.5	No	No
	14 / 12	0.0 / 0.0	4.6 / 4.6	3.5 / 3.5	No	No
	12 / 8	0.0 / 0.0	4.6 / 4.6	3.5 / 3.5	No	No
	7 / 8	0.1 / 0.1	4.5 / 4.6	3.4 / 3.5	No	No
Palm Avenue and Robertson's Access	10 / 15	0.1 / 0.0	4.6 / 4.7	3.5 / 3.5	No	No
	10 / 14	0.0 / 0.0	4.6 / 4.6	3.5 / 3.5	No	No
	10 / 14	-0.1 / -0.1	4.6 / 4.5	3.5 / 3.4	No	No
	10 / 8	-0.1 / -0.1	4.6 / 4.5	3.5 / 3.4	No	No
Palm Avenue and Cemex Access	14 / 21	-0.7 / -0.5	4.5 / 3.8	3.4 / 2.9	No	No
	12 / 21	-0.7 / -0.5	4.5 / 3.8	3.4 / 2.9	No	No
	7 / 17	-0.7 / -0.5	4.5 / 3.8	3.4 / 2.9	No	No
	7 / 14	-0.7 / -0.5	4.5 / 3.8	3.4 / 2.9	No	No
Church Avenue and 5 th Street	14 / 17	-0.1 / -0.1	4.5 / 4.4	3.4 / 3.3	No	No
	14 / 17	-0.1 / 0.0	4.4 / 4.3	3.3 / 3.3	No	No
	14 / 17	-0.1 / 0.0	4.4 / 4.3	3.3 / 3.3	No	No
	14 / 17	-0.1 / 0.0	4.4 / 4.3	3.3 / 3.3	No	No
Truck Access Road and 5 th Street	17 / 21	0.7 / 0.5	3.8 / 4.5	2.9 / 3.4	No	No
	17 / 17	0.6 / 0.4	3.8 / 4.4	2.9 / 3.3	No	No
	17 / 17	0.6 / 0.4	3.8 / 4.4	2.9 / 3.3	No	No
	15 / 15	0.6 / 0.4	3.8 / 4.4	2.9 / 3.3	No	No

Table 4.3.M – 2030 Proposed Project CO Concentrations without/with Proposed Project

Intersection	Receptor Distance to Road Centerline (Meters)	Project-Related Increase 1-hr/8-hr (ppm)	Without/With Project 1-hour CO Concentration (ppm)	Without/With Project 8-hour CO Concentration (ppm)	Exceeds State Standards	
					1-Hr	8-Hr
State Route 30 Southbound Ramps and 5 th Street	10 / 13	-0.1 / 0.0	4.7 / 4.6	3.5 / 3.5	No	No
	10 / 10	0.0 / 0.0	4.6 / 4.6	3.5 / 3.5	No	No
	10 / 10	0.0 / 0.0	4.6 / 4.6	3.5 / 3.5	No	No
	10 / 10	0.1 / 0.1	4.4 / 4.5	3.3 / 3.4	No	No
State Route 30 Northbound Ramps and 5 th Street	7 / 7	0.1 / 0.1	4.7 / 4.8	3.5 / 3.6	No	No
	7 / 7	0.1 / 0.0	4.6 / 4.7	3.5 / 3.5	No	No
	7 / 7	0.0 / 0.0	4.6 / 4.6	3.5 / 3.5	No	No
	7 / 7	0.0 / 0.0	4.6 / 4.6	3.5 / 3.5	No	No
Boulder Avenue and Greenspot Road	7 / 7	-0.2 / -0.2	4.9 / 4.7	3.7 / 3.5	No	No
	7 / 7	-0.2 / -0.2	4.9 / 4.7	3.7 / 3.5	No	No
	7 / 7	-0.1 / -0.1	4.8 / 4.7	3.6 / 3.5	No	No
	7 / 7	-0.1 / 0.0	4.7 / 4.6	3.5 / 3.5	No	No
Orange Street and Cemex Access	7 / 7	-0.1 / -0.1	4.8 / 4.7	3.6 / 3.5	No	No
	7 / 7	-0.1 / -0.1	4.8 / 4.7	3.6 / 3.5	No	No
	7 / 7	-0.1 / -0.1	4.8 / 4.7	3.6 / 3.5	No	No
	7 / 7	-0.1 / -0.1	4.8 / 4.7	3.6 / 3.5	No	No

Includes ambient 1-hour concentration of 3.8 ppm and ambient 8-hour concentration of 2.9 ppm. Measured at the 24302 4th Street, San Bernardino, California, Air Quality Monitoring Station (San Bernardino County).

Source: LSA Associates, Inc. February 2007.

The CO hot spots analysis was conducted because of the direct impact of increased vehicular activity associated with aggregate mining activities; however, the remaining activities would be impacted indirectly as a result. Therefore, Tables 4.3.L and 4.3.M would also apply to the remaining activities. As shown for both the 2008 opening year condition and 2030 forecast year condition, no CO impacts on local air quality would occur for the remainder of the activities.

Water Conservation Operations/Maintenance Activities of the District

Operation and maintenance activities of the District would not change as a result of the proposed project. As described in Section 3.6.1, while there is the potential for future water conservation facilities to be built within the Planning Area, at this point in time the specific location, size, and type of facilities are unknown. Aside from this EIR's programmatic evaluation of impacts to biological resources associated with any potential future water conservation facilities, these facilities will be required to undergo project-specific environmental analysis prior to their construction and implementation. Vehicular traffic would not increase as a result of this activity. Therefore, this activity would not contribute to increased CO concentrations at intersections in the project vicinity. A less than significant impact associated with this activity would occur and no mitigation is required.

Cumulative. The CO hot spot analysis is cumulative in nature in that it is based on the traffic study which included vehicular trips from all present and future projects in the project vicinity. Therefore, the CO hot spot concentrations calculated at the intersections identified in Tables 4.3.L and 4.3.M include the cumulative traffic effect. Based on the tables, no significant cumulative CO impacts would occur.

Flood Control Operations/Maintenance Activities of the SBCFCD

Operation and maintenance activities of the SBCFCD would not change as a result of the proposed project. Vehicular traffic would not increase as a result of this activity. Therefore, this activity would not contribute to increased CO concentrations at intersections in the project vicinity. A less than significant impact associated with this activity would occur and no mitigation is required.

Cumulative. The CO hot spot analysis is cumulative in nature in that it is based on the traffic study which included vehicular trips from all present and future projects in the project vicinity. Therefore, the CO hot spot concentrations calculated at the intersections identified in Tables 4.3.L and 4.3.M include the cumulative traffic effect. Based on the tables, no significant cumulative CO impacts would occur.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Operation and maintenance activities of the EVWD and RMUD would not change as a result of the proposed project. Vehicular traffic would not increase as a result of this activity. Therefore, this activity would not contribute to increased CO concentrations at intersections in the project vicinity. A less than significant impact associated with this activity would occur and no mitigation is required.

Cumulative. The CO hot spot analysis is cumulative in nature in that it is based on the traffic study which included vehicular trips from all present and future projects in the project vicinity. Therefore, the CO hot spot concentrations calculated at the intersections identified in Tables 4.3.L and 4.3.M include the cumulative traffic effect. Based on the tables, no significant cumulative CO impacts would occur.

Aggregate Mining

This activity would contribute to increased CO concentrations at intersections in the project vicinity; however, as shown in Table 4.3.J, under existing conditions, all ten intersections analyzed would experience 1-hour and 8-hour CO concentrations below the Federal and State standards. The existing CO concentrations are from current traffic in the vicinity of these intersections, including existing project-related traffic.

Two future year scenarios were evaluated for traffic impacts from the proposed project: the project opening year (2008) and forecast year (2030). All of Robertson's and Cemex trucks would access the plants via a new direct connection to 5th Street, west of State Route 30. Cemex trucks would travel on a new private road connecting to Orange Street at the signalized entrance to the Cemex plant and continue on an internal haul road that would join the new direct connection to 5th Street. Cemex trucks would not travel on Orange Street or 5th Street east of State Route 30.

CO is the only criteria pollutant that can be modeled locally as it can be produced in high concentrations by idling vehicles to create "hotspots." Therefore, the following emission analysis only covers CO. For the opening year scenario, traffic volumes projected for 2008 were used, with the 2008 emissions factors for CO. For the cumulative scenario, traffic volumes projected for 2030 were used, with 2030 emissions factors for CO. Table 4.3.L shows that, under the 2008 opening year condition with the proposed project, none of the ten intersections analyzed would exceed either the 1-hour or the 8-hour CO concentration Federal and State standards. The proposed project would not contribute to any increase to the 1-hour and 8-hour CO concentrations at these intersections.

Table 4.3.M shows that, under the forecast year condition (2030) with the proposed project, none of the ten intersections analyzed would exceed either the 1-hour or the 8-hour CO concentration Federal and State standards. The proposed project would contribute at most a 0.7 ppm increase to the 1-hour CO concentrations and 0.5 ppm increase to the 8-hour CO concentrations at these intersections.

Because no CO hot spots would occur, the proposed project would not have a significant impact on local air quality for CO, and no mitigation measures would be required.

Cumulative. The CO hot spot analysis is cumulative in nature in that it is based on the traffic study which included vehicular trips from all present and future projects in the project vicinity. Therefore, the CO hot spot concentrations calculated at the intersections identified in Tables 4.3.L and 4.3.M include the cumulative traffic effect. Based on the tables, no significant cumulative CO impacts would occur.

Adoption of General Plan Amendments

The adoption of General Plan Amendments is necessary for the proposed project to be consistent with the General Plans of the Cities of Highland and Redlands. Although amendments made to the City of Redlands trail alignments would result in an improved regional network of trails, it is anticipated that the trails would be utilized by local residents. Although the adoption of General Plan Amendments would result in increased activity as a result of an improved network of trails, vehicular traffic would not substantially increase as a result of this activity. Similarly, General Plan Amendments necessary for the land exchanges would not result in an increase in vehicular traffic because the lands proposed for exchange are not open to the public. No trips are generated by this activity. Therefore, this activity would not contribute to increased CO concentrations at intersections in the project vicinity. A less than significant impact associated with this activity would occur and no mitigation is required.

Cumulative. The CO hot spot analysis is cumulative in nature in that it is based on the traffic study which included vehicular trips from all present and future projects in the project vicinity. Therefore, the CO hot spot concentrations calculated at the intersections identified in Tables 4.3.L and 4.3.M include the cumulative traffic effect. Based on the tables, no significant cumulative CO impacts would occur.

Roadway/Bridge Rights-of-Way

The ~~dedication~~ designation of rights-of-way for subsequent improvements to Greenspot Road and the Greenspot Road Bridge, Alabama Street, and Orange Street-Boulder Avenue would not increase the vehicular traffic on these roadways and intersections because the activity only includes the ~~dedication~~ designation of the rights-of-way and not the construction of the improvements. Subsequent improvements to Greenspot Road and the Greenspot Road Bridge include a widening Greenspot Road to the ultimate width per the City of Highland General Plan, realignment—smoothing of the existing “S” curve, to accommodate a 65 mph design speed constructing a new bridge, and realigning the roadway near the bridge, widening, and a new bridge with sidewalks. Improvements to Alabama Street and Orange Street include widening to their ultimate widths as identified in the General Plans of the Cities of Highland and Redlands. Subsequent project-specific impact analysis and design-level construction drawings for these roadways will be prepared at a later date. As there is no increase in vehicular traffic as a result of these activities, there would be no contribution to increased CO concentrations at intersections in the project vicinity. A less than significant impact would occur and no mitigation is required.

Cumulative. The CO hot spot analysis is cumulative in nature in that it is based on the traffic study which included vehicular trips from all present and future projects in the project vicinity. Therefore, the CO hot spot concentrations calculated at the intersections identified in Tables 4.3.L and 4.3.M include the cumulative traffic effect. Based on the tables, no significant cumulative CO impacts would occur.

Recreational Trail Rights-of-Way

The ~~dedication~~ designation of rights-of-way for recreational trails would not increase vehicular traffic at intersections in the project vicinity. As indicated in Section 3.6.7, all trails would be located on existing streets, service roads, or an old railroad bed. No construction is associated with recreational trails, with the exception of the placement of signs. Similar to the discussion under the General Plan Amendments activity, the ~~dedication~~ designation of rights-of-way for recreational trails would not result in a substantial increase in vehicular traffic. It is reasonable to assume that the trails would be utilized by local residents and no increase in vehicular traffic at intersections would occur from this activity. A less than significant impact would occur and no mitigation is required.

Cumulative. The CO hot spot analysis is cumulative in nature in that it is based on the traffic study which included vehicular trips from all present and future projects in the project vicinity. Therefore, the CO hot spot concentrations calculated at the intersections identified in Tables 4.3.L and 4.3.M include the cumulative traffic effect. Based on the tables, no significant cumulative CO impacts would occur.

Land Exchange Between the District and BLM

Lands included in this land exchange would be designated for Habitat Conservation with joint-use Water Conservation, and mining. No change in employment or population projections would result from this activity and it is not expected to increase the amount of vehicular traffic in the project vicinity. A less than significant impact associated with this activity would occur and no mitigation is required.

Cumulative. The CO hot spot analysis is cumulative in nature in that it is based on the traffic study which included vehicular trips from all present and future projects in the project vicinity. Therefore, the CO hot spot concentrations calculated at the intersections identified in Tables 4.3.L and 4.3.M include the cumulative traffic effect. Based on the tables, no significant cumulative CO impacts would occur.

Land Exchange Between the SBCFCD and Robertson's

Lands included in this land exchange would be designated for the Santa Ana River Woollystar Preservation Area and aggregate mining. No change in employment or population projections would result from this activity and it is not expected to increase vehicular traffic in the project vicinity. A less than significant impact associated with this activity would occur and no mitigation is required.

Cumulative. The CO hot spot analysis is cumulative in nature in that it is based on the traffic study which included vehicular trips from all present and future projects in the project vicinity. Therefore, the CO hot spot concentrations calculated at the intersections identified in Tables 4.3.L and 4.3.M include the cumulative traffic effect. Based on the tables, no significant cumulative CO impacts would occur.

4.3.4.4 Long-Term Regional Emissions

Threshold	Would the proposed project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable Federal or State ambient air quality standard? For long-term operations, the applicable daily thresholds are: 55 pounds of reactive organic gases/volatile organic compounds (ROG/VOC); 55 pounds of NO _x ; 550 pounds of CO; 150 pounds of PM ₁₀ ;
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55 pounds of PM _{2.5} ; and 150 pounds of SO _x .

Long-term air emission impacts are those associated with stationary sources and mobile sources involving any project-related change. The proposed project would result in both stationary and mobile sources. Long-term regional emissions refer to the post-construction operational activities and their emissions analyzed against regional thresholds.

Water Conservation Operations/Maintenance Activities of the District

The District will continue to operate, maintain, and repair its water conservation facilities (access roads, canals, culverts, dikes, basins, and diversion structures) within the Planning Area in the same manner as existing conditions. As described in Section 3.6.1, while there is the potential for future water conservation facilities to be built within the Planning Area, at this point in time the specific location, size, and type of facilities are unknown. Aside from this EIR's programmatic evaluation of impacts to biological resources associated with any potential future water conservation facilities, these facilities will be required to undergo project-specific environmental analysis prior to their construction and implementation. However, as a result of the expansion of aggregate mining area, the District's Observation Well No. 4 would be displaced and relocated outside of the mining area upstream on future BLM land. The specific site will be determined in coordination with the BLM and USFWS at the time the well would need to be relocated. Air quality impacts associated with the relocation of this well will be addressed in future environmental review when the site and construction details are available to complete an environmental review. Because there is no proposed construction related to this activity for the proposed project and operational activities would continue as currently implemented, a less than significant impact associated with this activity would occur and no mitigation is required.

Cumulative. As described above, the District's operational activities would continue to occur as currently implemented. There would not be an increase in operational activities as a result of the proposed project. Because existing operations would continue to occur as currently implemented, and no increase would occur as a result of the proposed project, it would not contribute to a cumulatively significant long-term regional emissions impact.

Flood Control Operations/Maintenance Activities of the SBCFCD

Flood control operations and activities would not change as a result of the proposed project. SBCFCD will not require additional construction work associated with the Santa Ana River, Mill Creek, Plunge Creek, or City Creek as a result of the proposed project. Operation and maintenance activities of the SBCFCD would continue to occur as currently implemented. Because no construction is proposed related to this activity and operational activities would continue as currently implemented, no impact associated with this activity would occur and no mitigation is required.

Cumulative. As described above, SBCFCD operational activities would continue to occur as currently implemented. There would not be an increase in operational activities as a result of the proposed project. Because existing operations would continue to occur as currently implemented, and no increase would occur as a result of the proposed project, it would not contribute to a cumulatively significant long-term regional emissions impact.

Water Production Operations/Maintenance Activities of EVWD and RMUD

Operation and maintenance activities of the EVWD and RMUD would not change as a result of the proposed project. There are no proposed construction activities associated with EVWD and RMUD

activities. Because there is no construction proposed for this activity and operational activities would continue as currently implemented, no impact associated with this activity would occur and no mitigation is required.

Cumulative. As described above, the EVWD and RMUD operational activities would continue to occur as currently implemented. There would not be an increase in operational activities as a result of the proposed project. Because existing operations would continue to occur as currently implemented, and no increase would occur as a result of the proposed project, it would not contribute to a cumulatively significant long-term regional emissions impact.

Aggregate Mining

Impact 4.3.1 The proposed aggregate mining activities will result in potentially significant impacts related to a net increase of criteria pollutants for which the project region is in nonattainment under an applicable Federal or State ambient air quality standard.

Mining and hauling activities would result in combustion emissions from heavy-duty construction vehicles, haul trucks, utility engines, and vehicles transporting the mining crews. Exhaust emissions during these activities will vary daily as mining activity levels change. The proposed expansion will have the combined operations of Cemex and Robertson's producing up to 6.0 million tons per year. The mining operations will continue to include excavation, transport, and processing of materials in the Planning Area. Excavation operations will still require the use of excavators, transporting operations the use of haul trucks and water trucks and materials processing the use of crushers, screens, conveyors, and stacking conveyors. Using actual operating parameters anticipated for the proposed expansion (see *Traffic Study*, Appendix J) results in the emissions rate changes are shown in Table 4.3.N.

Table 4.3.N – Changes in Regional Emissions Resulting from the Proposed Expansion

Emission Source	Emission Rate Change (lbs/day)						CO ₂
	CO	ROG	NO _x	SO _x	PM ₁₀	PM _{2.5}	
Offsite Exhaust Sources	6.2	2.1	11	0.012	0.78	0.71	1,200
Onsite Exhaust Sources	19	6.1	48	0.081	16	6.2	7,800
Fugitive Dust Sources	—	—	—	—	36	11	—
SCAQMD Thresholds	550	55	55	150	150	55	No Threshold
Significant Increase?	No	No	Yes	No	No	No	

Table 4.3.N shows that the increase in emissions of the criteria pollutants will all be less than the SCAQMD thresholds, with the exception of NO_x. This is a significant impact and mitigation measures are required.

Since 1970, the EPA has required motor vehicle manufacturers to reduce NO_x emissions. Significant reductions have been achieved through auto emissions controls. As a result, while miles traveled have increased, NO_x emissions from highway vehicles have decreased by five percent in the last 10 years.

In October 1997, the EPA adopted new emission standards for heavy-duty diesel truck and bus engines for model year 2004 and later. The goal was to reduce NO_x emissions from highway heavy-duty engines to levels of approximately 2.0 g/bhp-hr, beginning in 2004. The date for implementation was moved up to October 2002 for Consent Decree manufacturers. On December 21, 2000, the EPA signed emission standards for model year 2007 and later heavy-duty highway engines. The rule

includes two components: (1) emission standards and (2) diesel fuel regulations. The first component of the regulation introduces new, very stringent emission standards.

2010 standards for particulate matter (PM), oxides of nitrogen (NO_x), and non-methane hydrocarbons (NMHC) are as follows:

- PM – 0.01 g/bhp-hr.
- NO_x – 0.20 g/bhp-hr.
- NMHC – 0.14 g/bhp-hr.

The NO_x and NMHC standards will be phased in for diesel engines between 2007 and 2010. In 2007, the EPA is providing the option for manufacturers to sell 100 percent of their engines at a 1.1 g/bhp-hr NO_x level, rather than 50 percent at 2.0 g/bhp-hr and 50 percent at 0.2 g/bhp-hr. There are several solutions being developed to reduce NO_x. However, no solution has been unilaterally accepted by the U.S. transportation industry at this time.

- **Engine management** adjusts engine operating conditions so that either soot or NO_x is decreased, but not both simultaneously. If the engine is adjusted so that NO_x is decreased, the engine is running less efficiently and, therefore, fuel economy is lower. Engine management alone will not reduce levels of NO_x and soot to meet 2007 emissions standards.
- **NO_x traps** are composed of materials (often barium salts) that store NO_x under lean conditions, and then periodically release and catalytically reduce the stored NO_x to CO₂ and N₂ under rich conditions.
- **Selective Catalytic Reduction (SCR)** is the prevailing solution for NO_x in Europe. In conjunction with engine management controls, SCR systems meter a precise amount of a reagent urea into the engine's exhaust stream. Urea will decompose to ammonia and react with NO_x across a catalyst located downstream of the injection point. This reaction reduces NO_x to elemental nitrogen and water vapor. Reductions of up to 90 percent are possible.

There is no optimal solution for NO_x at this time. Each solution has advantages and disadvantages. SCR has perceived environmental and societal concerns related to it, such as the need for a urea distribution network and the creation of ammonia within the reaction. However, it is a far more advanced solution than NO_x traps. NO_x traps do not carry the same societal issues, but they are not as advanced technically and in the field. The EPA is trying to balance the societal and technical issues to make sure the best solution is available for heavy-duty trucks for 2007 and 2010. Recently, the CARB adopted a regulation to reduce diesel particulate matter (PM) and oxides of nitrogen (NO_x) emissions from in-use (existing) off-road heavy-duty diesel vehicles in California. Such vehicles are used in construction, mining, and industrial operations.

Mitigation Measures. The following mitigation measure is proposed to minimize potential impacts related to the potential increase in NO_x occurring in the Planning Area from aggregate mining activities of the proposed project:

- AIR 1** The mining operators, Cemex and Robertson's, shall comply with Article 4.8 *In-Use Off-Road Diesel-Fueled Fleets*, Section 2449 *Emission Standards for In-Use Off-Road Diesel-Fueled Fleets* (CARB; July 27, 2007) and any other applicable, subsequent rules, regulations, and requirements to the extent that is technologically feasible.

Level of Significance After Mitigation. The emissions of NO_x are expected to exceed the SCAQMD thresholds and are expected to exceed State AAQS. As discussed above, while there are control measures regulating emissions of heavy-duty vehicles, there is no way to quantify the reduction of these emissions. Impacts remain significant and unavoidable.

Cumulative. The expansion of mining activities could create or contribute to new or increased impacts to an area in nonattainment for ozone because of cumulative projects that would involve increased vehicular activity. As shown in previously referenced Figure 2.2, the East Valley Centre, Advanced Propulsion Test Facility, and Redlands Sports Park Projects will be constructed within the vicinity of the Planning Area. These cumulative projects are subject to their own environmental review including impact assessment and mitigation formulation. Roadway improvement projects were not considered because of the fact that those projects are in response to existing congestion and are proposed to alleviate congestion currently existing at those locations. These projects accommodate existing vehicular activity rather than induce increased vehicular activity. The proposed project identified significant project-specific regional operational-related impacts. While the cumulative projects identified may not have individual significant impacts with implementation of mitigation, the incremental contribution of NOx from vehicle exhaust emissions would contribute pollutants to a nonattainment area. The incremental increase in emissions of NOx from the proposed project and from cumulative projects would be considered a significant cumulative impact.

Adoption of General Plan Amendments

There is no construction activity associated with the adoption of General Plan Amendments and no emissions would be released as a result of this activity. Therefore, no impact is anticipated to occur under this activity and no mitigation is required.

Cumulative. As described above, this activity would not result in construction and therefore would not have any operational emissions. There would not be an increase in operational activities as a result of the proposed project. Because there would not be any long-term regional emissions, it would not contribute to a cumulatively significant long-term regional emissions impact.

Roadway/Bridge Rights-of-Way

The ~~dedication~~ designation of rights-of-way for subsequent improvements to Greenspot Road and the Greenspot Road Bridge, Boulder Avenue, Alabama Street, and Orange Street would not include construction activities. Therefore, no impact is anticipated to occur under this activity and no mitigation is required.

Cumulative. As described above, this activity would not result in construction and therefore would not have any operational emissions. There would not be an increase in operational activities as a result of the proposed project. Because there would not be any long-term regional emissions, it would not contribute to a cumulatively significant long-term regional emissions impact. Moreover, although designation of the rights of way may arguably lead to a cumulative impact for the construction and long-term operation of expanded roadways, the traffic handling capacity of such additional roadways is included within the projections of the 2008 and 2030 traffic year analyses for estimating overall project impacts. As such, no additional significant cumulative impacts would occur.

Recreational Trail Rights-of-Way

The ~~dedication~~ designation of rights-of-way for recreational trails would not result in construction of trails. As previously described, all trails would be located on existing streets, service roads, or an old railroad bed. No construction is associated with recreational trails, with the exception of the placement of signs. A less than significant impact would occur and no mitigation is required.

Cumulative. As described above, this activity would not result in construction (other than the placement of signs) and therefore would not have any operational emissions. There would not be in a increase in operational activities as a result of the proposed project. Because there would not be any long-term regional emissions, it would not contribute to a cumulatively significant long-term regional emissions impact.

Land Exchange Between the District and BLM

Lands included in this land exchange would be designated for Habitat Conservation with joint-use Water Conservation, and mining. All lands included in this land exchange would be designated for habitat conservation and water conservation. No construction activities are associated with this land exchange. No impact associated with this activity would occur and no mitigation is required.

Cumulative. As described above, this activity would not result in construction and therefore would not have any operational emissions. There would not be in a increase in operational activities as a result of the proposed project. Because there would not be any long-term regional emissions, it would not contribute to a cumulatively significant long-term regional emissions impact.

Land Exchange Between the SBCFCD and Robertson's

Lands included in this land exchange would be designated for the Santa Ana River Woollystar Preservation Area and aggregate mining. No construction activities are associated with this land exchange. No impact associated with this activity would occur and no mitigation is required.

Cumulative. As described above, this activity would not result in construction and therefore would not have any operational emissions. There would not be in a increase in operational activities as a result of the proposed project. Because there would not be any long-term regional emissions, it would not contribute to a cumulatively significant long-term regional emissions impact.

4.3.4.5 Health Risks from Project-Related Emission Impacts

Threshold	<p>Would the proposed project result in a significant health risk to nearby sensitive receptors?</p> <p>For Maximum Individual Cancer Risk, the applicable thresholds are:</p> <p>An increased cancer risk greater than 10 in 1 million (1.0×10^{-5}) at any receptor location; or</p> <p>A cancer burden greater than 0.5.</p> <p>For non-cancer acute and chronic hazard indices (HI); the applicable threshold is:</p> <p>A cumulative increase for any target organ system exceeding 1.0 at any receptor location.</p>
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There are currently no Federal project-level requirements for air toxics analysis, and CEQA only requires a consideration of the risks from toxics, with the SCAQMD providing the *Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis* (March 2003) and the *Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics "Hot Spots" Information and Assessment Act (AB2588)* (July 2005) for guidance.

Determining how hazardous a substance is depends on many factors, including the amount of the substance in the air, how it enters the body, how long the exposure lasts, and what organs in the

body are affected. One major way these substances enter the body is through inhalation of either gas or particulate. While many gases are harmful, very small particles penetrate deep into the lungs, contributing to a range of health problems. Exhaust from diesel engines is a major source of these airborne particles. The Office of Environmental Health Hazard Assessment (OEHHHA) has determined that long-term exposure to diesel exhaust particulates (PM) poses the highest cancer risk of any toxic air contaminant (TAC) it has evaluated. Fortunately, improvements to diesel fuel and diesel engines have already reduced emissions of some of the contaminants, which, when fully implemented, will result in a 75 percent reduction in particle emissions from diesel-powered trucks and other equipment by 2010 (compared to 2000 levels) and an 85 percent reduction by 2020.

Air quality in the Planning Area would be affected due to long-term air emissions from stationary and mobile sources related to the proposed project. The principal toxic air contaminant in any significant quantity associated with either short-term construction operations or the long-term operation of the proposed project is diesel PM emitted as part of large, heavy-duty diesel-powered equipment exhaust. The aggregate processing plants also emit small amounts of TAC such as copper, nickel and sulfates as fugitive emissions. While there may be other toxic substances in use on site, compliance with State and Federal handling regulations control emissions to below a level of significance. According to the CARB,¹ when conducting an HRA, the surrogate for whole diesel exhaust is diesel PM.

Exposure to diesel exhaust can have immediate health effects. Diesel exhaust can irritate the eyes, nose, throat, and lungs, and it can cause coughs, headaches, lightheadedness, and nausea. In studies with human volunteers, diesel exhaust particles made people with allergies more susceptible to the materials to which they are allergic, such as dust and pollen. Exposure to diesel exhaust also causes inflammation in the lungs, which may aggravate chronic respiratory symptoms and increase the frequency or intensity of asthma attacks. However, according to the rulemaking on *Identifying Particulate Emissions from Diesel-Fueled Engines as a Toxic Air Contaminant* (CARB 1998), the available data from studies of humans exposed to diesel exhaust are not sufficient for deriving an acute non-cancer health risk guidance value. While the lung is a major target organ for diesel exhaust, studies of the gross respiratory effects of diesel exhaust in exposed individuals have not provided sufficient exposure information to establish a short-term non-cancer health risk guidance value for respiratory effects.

The nearest sensitive receptor is existing residential development located approximately 1,175 feet away in the City of Highland. Figure 4.3.1 shows the nearest sensitive receptor to mining operations for the proposed project.

To estimate the potential health risk associated with project-related emissions, a dispersion model is used to translate an emission rate from a source location to a concentration at a receptor location of interest. Dispersion modeling varies from the simpler, more conservative screening-level analysis to the more complex and refined detailed analysis. The assessment for construction operations was performed using the EPA-approved SCREEN3 computer model. This model provides conservative estimates of concentrations considering site and source geometry, source strength, distance to receptor, and building wake effects on plume distribution. The SCREEN3 model was developed to provide an easy-to-use method of obtaining pollutant concentration estimates where upper-bound estimates are required or where meteorological data is unavailable. It is a useful tool in proving that an impact is not significant (i.e., if a screening-level analysis demonstrates an impact not significant, its conservative nature provides confidence in this conclusion). Screening-level modeling is less useful in concluding that an impact is significant. When a screening-level analysis indicates a significant impact, this conclusion normally points to the need for a more sophisticated (and less conservative) method of analysis using a model such as ISCST3.

¹ HARP Model Documentation, Appendix K, *Risk Assessment Procedures to Evaluate Particulate Emissions from Diesel-Fueled Engines*, ARB, <http://www.arb.ca.gov/toxics/harp/docs/userguide/appendixK.pdf>, February 2005.

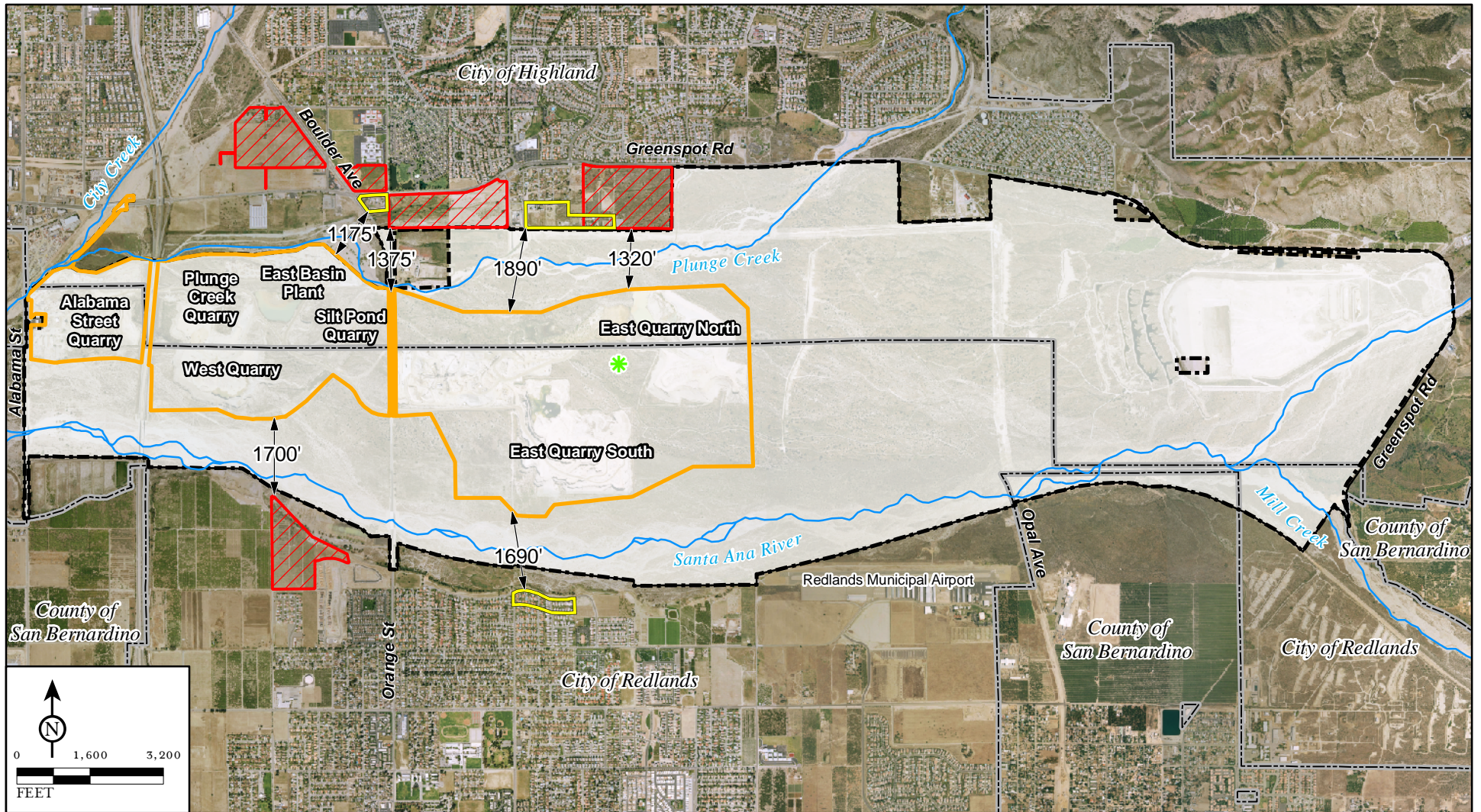


FIGURE 4.3.1

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- PLAN BOUNDARY
- AGGREGATE MINING AREA
- RESIDENCES CLOSEST TO MINING OPERATIONS
- JURISDICTIONAL BOUNDARY
- FUTURE RESIDENTIAL DEVELOPMENT (PER GENERAL PLAN)

Upper Santa Ana River Wash
Land Management Plan
Environmental Impact Report

SOURCE: San Bernardino Valley Water Conservation District;
Thomas Bros, 2006; Dudek, 2006; AirPhotoUSA, 2007.

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Nearest Sensitive Receptor Locations

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Water Conservation Operations/Maintenance Activities of the District

Operation and maintenance activities of the District would continue as currently implemented. Toxic chemicals are not used in the routine operation and maintenance of the District's facilities. No additional activities are proposed under this activity that would utilize toxic chemicals or emit diesel exhaust beyond what is currently occurring. Additionally, there are no proposed construction activities that would utilize toxic chemicals. Because there is no potential for this activity to emit toxic chemicals, a less than significant impact associated with this activity would occur and no mitigation is required.

Cumulative. As described above, this activity would not result in the utilization of toxic chemicals or the emission of diesel exhaust beyond what is currently occurring and therefore would not have any operational emissions. There is no potential for the emission of toxic substances that would contribute to health risks. Because there would not be any health risks associated with this activity, it would not contribute to a cumulatively significant health risk impacts.

Flood Control Operations/Maintenance Activities of the SBCFCD

Operation and maintenance activities of the SBCFCD would continue as currently implemented. Toxic chemicals are not used in the routine operation and maintenance of SBCFCD facilities. No additional activities are proposed under this activity that would utilize toxic chemicals or emit diesel exhaust beyond what is currently occurring. Additionally, there are no proposed construction activities that would utilize toxic chemicals. Because there is no potential for this activity to emit toxic chemicals, a less than significant impact associated with this activity would occur and no mitigation is required.

Cumulative. As described above, this activity would not result in the utilization of toxic chemicals or the emission of diesel exhaust beyond what is currently occurring and therefore would not have any operational emissions. There is no potential for the emission of toxic substances that would contribute to health risks. Because there would not be any health risks associated with this activity, it would not contribute to a cumulatively significant health risk impacts.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Operation and maintenance activities of the EVWD and RMUD would not change as a more sophisticated (and less conservative) method of analysis using a model such as ISCST3.

Cumulative. As described above, this activity would not result in the utilization of toxic chemicals or the emission of diesel exhaust beyond what is currently occurring and therefore would not have any operational emissions. There is no potential for the emission of toxic substances that would contribute to health risks. Because there would not be any health risks associated with this activity, it would not contribute to a cumulatively significant health risk impacts.

Aggregate Mining

The nature of the mobile equipment used in construction operations is that they only operate in one location a short time, relative to the length of time required for carcinogenic and chronic health impacts, usually six months or less. As shown in Table 4.3.K, the anticipated level of diesel-powered equipment use will, even on the most intense day, emit no more than 13 lbs/day of diesel exhaust particulate. Using this maximum 13 lbs/day particulate emission rate, SCREEN3 was used to develop concentrations at various distances. The SCREEN3 input parameters representing the exhaust stack of typical heavy-duty diesel mining equipment are shown in Table 4.3.O. Stack height and diameter

were based on observations of many trucks and other equipment and approximating typical dimensions. Exhaust temperature and velocity were taken from CARB guidance.¹

Table 4.3.O – SCREEN3 Input Parameters

Simple Terrain Inputs		Result
Source Type	=	Point
Emission Rate (G/S)	=	1.0
Stack Height (M)	=	2.0
Stack Inside Diameter (M)	=	0.076
Stack Exit Velocity (M/S)	=	45.4
Stack Gas Exit Temperature (°K)	=	600
Ambient Air Temperature (°K)	=	293
Receptor Height (M)	=	0
Urban/Rural Option	=	Urban

Source: LSA Associates, Inc. 2007.

The construction HRA was performed assuming the mobile equipment operates for 350 days per year and a very conservative 6-month total period for the road. Following published OEHHA health risk techniques, potential impacts from air toxics associated with diesel exhaust during project construction are shown in Table 4.3.P. Note that this assumes that all the construction equipment spends the entire 6 months in one spot, rather than the reality of moving down the roadway as it is completed. Even with this overestimating, the health risk for construction operations is below the cancer threshold of ten in one million and the chronic threshold of 1.0; therefore, both health risks would be less than significant.

Table 4.3.P – Construction-Related Health Risks

Distance (feet)	Inhalation Cancer Risk # in a million	Inhalation Chronic Risk Factor
980	4.0	0.35
1300	2.8	0.25
1600	2.1	0.19
2000	1.6	0.14
2300	1.3	0.11
2600	1.1	0.095
3000	0.9	0.080
3300	0.8	0.068
3600	0.7	0.060
3900	0.6	0.053
Health Risk Thresholds	10	1.0

Source: LSA Associates, Inc. November 2007.

For operational emissions another computer model, the OEHHA Hot Spots Analysis and Reporting Program (HARP) was used for the assessment of long term operational emissions. The HARP software is the recommended model for calculating and presenting HRA results for the “Hot Spots” Program. HARP is a computer software package that combines the tools of emission inventory database, facility prioritization calculation, air dispersion modeling, and risk assessment analysis. A screening-level single pathway analysis has been conducted, analyzing only the inhalation pathway. This technique was chosen as recommended in the OEHHA Air Toxic Hot Spots Program Risk Assessment Guidelines (August 2003), Appendix D, “Risk Assessment Procedures to Evaluate Particulate Emissions from Diesel-Fueled Vehicles.”

¹ Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles, Appendix VII, California Air Resources Board, October 2000.

The nature of mining operations is that an area is operated on for a limited time (compared to the 70-year assessment period) and then those operations cease and new operations are begun at a new location. In order to capture this action, a series of volume sources was distributed over each of the mining areas and the total emissions for each of Cemex and Robertson's spread over the sources for each area. Additionally, two volume sources were used to model the emissions from the two aggregate plants. Figure 4.3.2 shows the arrangement of these sources in relation to the property boundary. Receptors were placed in a general grid extending in all directions, along the property boundary, at all locations of residences as specified in the State-supplied census block database. SCAQMD meteorological data from the Redlands monitoring station were used to determine the ground-level concentrations.

The mining equipment diesel exhaust emissions are detailed in Tables 4.3.F and 4.3.G as PM₁₀ and the CARB PM Species Profile #373 was used to characterize the fugitive emissions from the aggregate plants.

Acute Project-Related Emission Impacts. The only TAC with short-term acute health effects are in the fugitive emissions from the aggregate plants. They are copper, nickel, and sulfates. Diesel exhaust can have immediate health effects such as irritation of the eyes, nose, throat, and lungs, and it can cause coughs, headaches, lightheadedness, and nausea. In studies with human volunteers, diesel exhaust particles made people with allergies more susceptible to the materials to which they are allergic, such as dust and pollen. Exposure to diesel exhaust also causes inflammation in the lungs, which may aggravate chronic respiratory symptoms and increase the frequency or intensity of asthma attacks. However, according to the rulemaking on Identifying Particulate Emissions from Diesel-Fueled Engines as a Toxic Air Contaminant (CARB 1998), the available data from studies of humans exposed to diesel exhaust are not sufficient for deriving an acute non-cancer health risk guidance value. While the lungs are a major target organ for diesel exhaust, studies of the gross respiratory effects of diesel exhaust in exposed workers have not provided sufficient exposure information to establish a short-term non-cancer health risk guidance value for respiratory effects. Table 4.3.Q shows that the total acute hazard index from the proposed project will be 0.004 compared to the threshold of 1.0. Therefore, the potential for short-term acute health problems as a result of exposure to project-related TAC emissions will be less than significant.

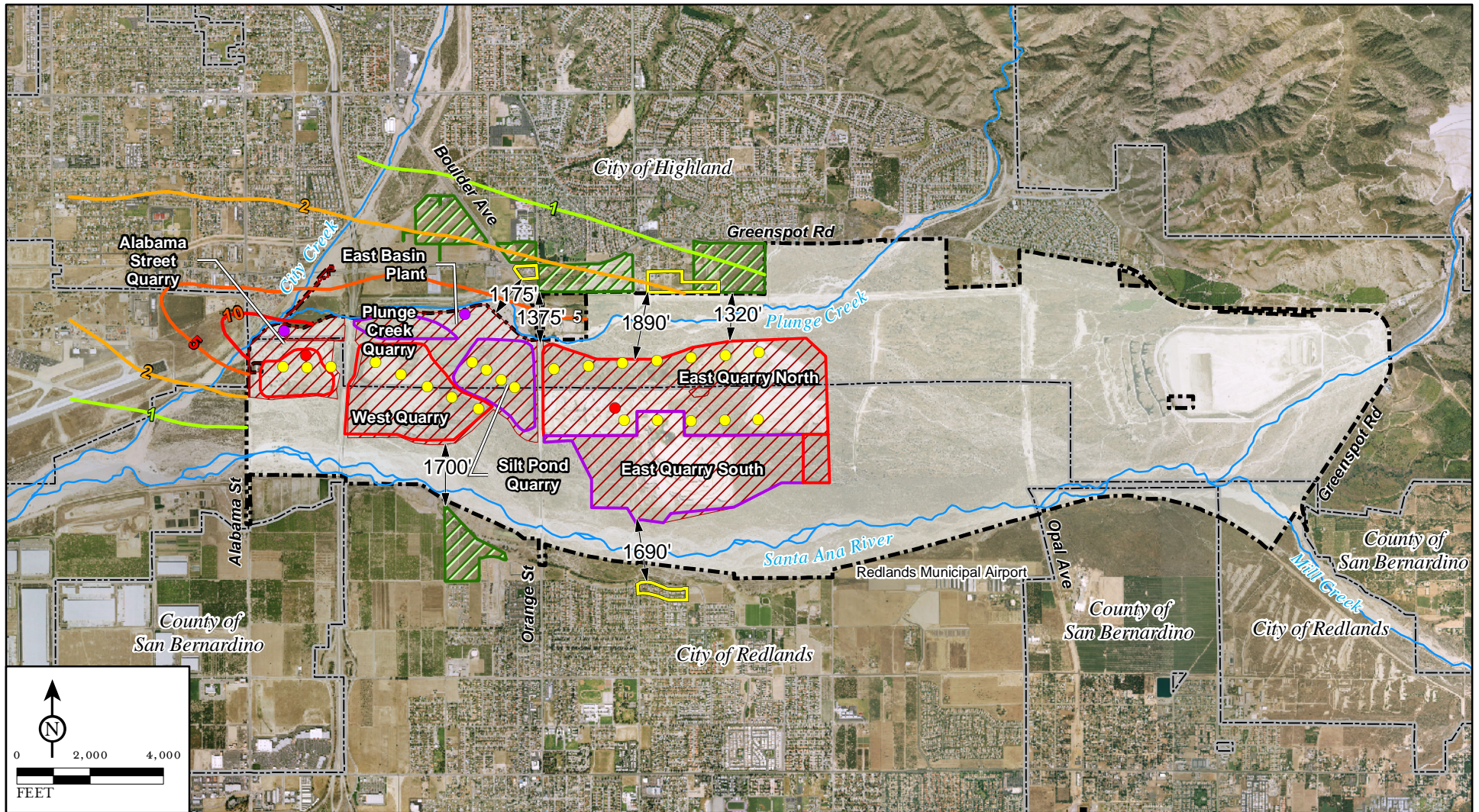
Table 4.3.Q – Long-Term Health Risks from the Proposed Project Operations

Risk Level Location	Inhalation Cancer Risk (# in One Million)	Inhalation Chronic Risk (Hazard Index)	Inhalation Acute Risk (Hazard Index)
MEI at property line	6.1	0.008	0.004
Nearest residence	1.7	0.002	0.001
Thresholds	10	1.0	1.0

Source: LSA Associates, Inc. February 2008.

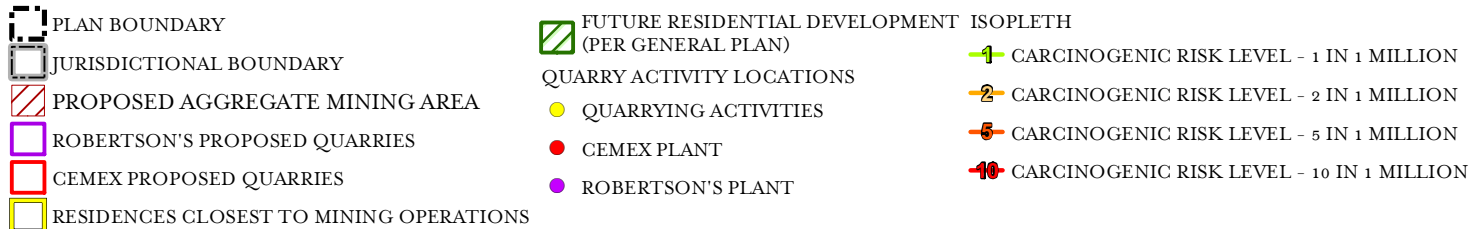
Carcinogenic and Chronic Project-Related Emission Impacts. Figure 4.3.2 also shows the resulting carcinogenic health risk isopleths from the proposed expansion. While this EIR otherwise assesses the environmental impact of the project using the existing conditions as the baseline, the health risks to nearby residents are impacted by the total emissions of the existing operations combined with the amount from the proposed expansion. Additionally, this is based on a very conservative set of assumptions, such as that an individual lives in the same house for 70 years and stays there 24 hours a day for 350 out of 365 days for all of those 70 years. The carcinogenic risk for the MEI is 6.1 in a million. This occurs at the property line in an area where there are no existing, nor any known planned residences. The peak risk for any real or expected resident is 1.7 in a million, below the significance threshold of 10 in a million. Therefore, the potential for long-term carcinogenic and chronic health problems as a result of exposure to project-related TAC emissions would be less than significant.

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FIGURE 4.3.2



Upper Santa Ana River Wash
Land Management Plan
Environmental Impact Report

Carcinogenic Health
Risk Isopleths from
Mine Air Emissions

SOURCE: San Bernardino Valley Water Conservation District;
Thomas Bros, 2006; Dudek, 2006; AirPhotoUSA, 2007.

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The mining operations would use petroleum products, concrete admixtures, oils, fuels, greases, and other toxic substances in conjunction with their operations. Any proposed use or disposal of toxic chemicals by the mining operations would be required to comply with State and Federal handling regulations. Adherence to these regulations would ensure that emissions of toxic substances remain below a level of significance. Therefore, a less than significant impact is expected to occur and no mitigation is required.

Cumulative. The study included in the “Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant” (June 1998) estimated that the population-weighted average outdoor diesel exhaust PM₁₀ concentration in California for 1995 was 2.2 micrograms per cubic meter (µg/m³), with it reaching as high as 10 µg/m³ near a freeway. These concentrations of diesel particulates present a carcinogenic health risk ranging from 130 in 1 million to 2,400 in 1 million (using a 70-year exposure duration). The study suggests that virtually all residents of California are being exposed to large doses of diesel exhaust PM₁₀. The concentration of diesel particulates at the Planning Area is below the established risk threshold. Individuals living and working in southern California may be exposed to levels of diesel emissions that are cumulatively significant; however, that circumstance is not created by the project. The proposed project will generate new truck trips, but not in sufficient quantity to result in a cumulatively significant contribution to the diesel emissions in the region.

Short-term acute effects associated with the proposed project would result from fugitive dust emissions that would occur at the processing plants. None of the cumulative projects identified in Table 2.A include processing plants nor do they include facilities that may emit similar pollutants. As identified above, the potential for short-term acute health risks from the proposed project were less than significant. Because no other cumulative projects would involve the operation of processing plants, there would be no cumulative effect.

Adoption of General Plan Amendments

There are no construction activities associated with the adoption of General Plan Amendments that would potentially emit toxic substances that have short-term acute health effects. Therefore, no impact is anticipated to occur under this activity and no mitigation is required.

Cumulative. As described above, this activity would not result in the utilization of toxic chemicals or the emission of diesel exhaust and therefore would not have any operational emissions. There is no potential for the emission of toxic substances that would contribute to health risks. Because there would not be any health risks associated with this activity, it would not contribute to a cumulatively significant health risk impacts.

Roadway/Bridge Rights-of-Way

The ~~dedication~~ designation of rights-of-way for subsequent improvements to Greenspot Road and the Greenspot Road Bridge, Boulder Avenue, Alabama Street, and Orange Street would not include construction activities that may emit toxic substances. Therefore, no impact is anticipated to occur under this activity and no mitigation is required.

Cumulative. As described above, this activity would not result in the utilization of toxic chemicals or the emission of diesel exhaust and therefore would not have any operational emissions. There is no potential for the emission of toxic substances that would contribute to health risks. Because there would not be any health risks associated with this activity, it would not contribute to a cumulatively significant health risk impacts. Moreover, although designation of the rights of way may arguably lead to a cumulative impact for the construction and long-term operation of expanded roadways, the traffic handling capacity of such additional roadways is included within the projections of the 2008 and 2030

traffic year analyses for estimating overall project impacts. As such, no additional significant cumulative impacts would occur.

Recreational Trail Rights-of-Way

The ~~dedication~~ designation of rights-of-way for recreational trails would not result in construction of trails. As previously described, all trails would be located on existing streets, service roads, or an old railroad bed. No construction is associated with recreational trails that may emit toxic substances. A less than significant impact would occur and no mitigation is required.

Cumulative. As described above, this activity would not result in the utilization of toxic chemicals or the emission of diesel exhaust and therefore would not have any operational emissions. There is no potential for the emission of toxic substances that would contribute to health risks. Because there would not be any health risks associated with this activity, it would not contribute to a cumulatively significant health risk impacts. Moreover, although designation of the rights of way may arguably lead to a cumulative impact for the construction and long-term operation of expanded roadways, the traffic handling capacity of such additional roadways is included within the projections of the 2008 and 2030 traffic year analyses for estimating overall project impacts. As such, no additional significant cumulative impacts would occur.

Land Exchange Between the District and BLM

Lands included in this land exchange would be designated for Habitat Conservation with joint-use Water Conservation, and mining. All lands included in this land exchange would be designated for habitat conservation. No construction activities are associated with this land exchange that may emit toxic substances. No impact associated with this activity would occur and no mitigation is required.

Cumulative. As described above, this activity would not result in the utilization of toxic chemicals or the emission of diesel exhaust and therefore would not have any operational emissions. There is no potential for the emission of toxic substances that would contribute to health risks. Because there would not be any health risks associated with this activity, it would not contribute to a cumulatively significant health risk impacts.

Land Exchange Between the SBCFCD and Robertson's

Lands included in this land exchange would be designated for the Santa Ana River Woollystar Preservation Area and aggregate mining. No construction activities are associated with this land exchange that may emit toxic substances. No impact associated with this activity would occur and no mitigation is required.

Cumulative. As described above, this activity would not result in the utilization of toxic chemicals or the emission of diesel exhaust and therefore would not have any operational emissions. There is no potential for the emission of toxic substances that would contribute to health risks. Because there would not be any health risks associated with this activity, it would not contribute to a cumulatively significant health risk impacts.

4.3.4.6 Expose Sensitive Receptors to Substantial Pollutant Concentrations

Threshold:	Would the proposed project expose a substantial number of people to substantial pollutant concentrations? Substantial is defined as a concentration exceeding any of the Federal or State AAQS. (See Table 4.3.A)
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On-Site Mobile Source Emissions. Vehicle and heavy-duty equipment exhaust emissions comprise the on-site mobile source emissions. No on-site mobile source emissions are associated with operation and maintenance of the District's facilities, the SBCFCD's facilities, and EVWD and RMUD facilities, adoption of General Plan Amendments, rights-of-way for future roads and trails, and the establishment of habitat areas through land exchanges. This category includes aggregate haul trucks, dozers, loaders, scrapers, graders, on-site maintenance vehicles, etc. Emissions from this equipment category are dependent upon the aggregate removal rates from the quarry and the distance that these materials must be hauled for delivery to the processing facility.

On-Site Stationary Source Emissions. There are no stationary source emissions associated with operation and maintenance of the District's facilities, the SBCFCD's facilities, and EVWD and RMUD facilities, adoption of General Plan Amendments, rights-of-way for future roads and trails, and the establishment of habitat areas through land exchanges. On-site stationary emissions include those from the aggregate processing facilities, asphalt plants, and any other on-site stationary sources such as electrical generators. Control measures include baghouses (dust collection devices) and water sprays to control dust emissions. All of these emission sources are controlled separately by the SCAQMD's permitting process.

Fugitive Dust Emissions. Fugitive dust emissions will not be created by the adoption of General Plan Amendments, rights-of-way for future roads and trails, and the establishment of habitat areas through land exchanges. Experience at surface mines, landfills, and other sites subject to surface disturbances indicates that soon after an area is disturbed, fine soil particles typically subject to wind erosion are easily disaggregated and released to the atmosphere upon exposure to air currents. However, after approximately 60–120 days (depending on site conditions) the potential for additional dust emissions becomes greatly reduced. This results from the eventual depletion of smaller particles. Also, natural moisture, dust control water, and the use of chemical stabilizers promote the aggregation and cementation of the remaining fine materials to larger particles. Therefore, areas that have been disturbed and treated using dust control measures and are left undisturbed for periods longer than one year are typically assumed to no longer be a significant source of potential wind erosion emissions. Areas disturbed on a more frequent basis or in close proximity to mining operations are considered to be potential sources of wind erosion emissions. Furthermore, the regular application of chemical dust stabilizers and the many years of use compacts the road surface and the road surface takes on the characteristics of a paved road with minimal dust emissions. Fugitive dust (PM₁₀ and PM_{2.5}) is also generated by other mining activities including loading and dumping of haul trucks and vehicle travel on unpaved roads. Fugitive dust emissions from each of these sources are expected to increase as a result of the proposed project. Each mining operation and potential stationary air quality impacts are described below. Additionally, fugitive dust emissions would result from the routine maintenance of facilities for the District, SBCFCD, and EVWD and RMUD from vehicles traveling on unpaved roadways.

Water Conservation Operations/Maintenance Activities of the District

Operation and maintenance activities of the District would continue as currently implemented. As previously identified, on-site mobile emissions would not occur from this activity because the identified sources (vehicles and heavy-duty equipment exhaust) are not included under this activity. Similarly, on-site stationary source emissions would not occur because the identified sources (processing facilities, asphalt plants, electricity generators) are not included in this activity. Fugitive dust emissions that would result from vehicular travel on unpaved roadways would contribute particulate matter emissions; however, the District enforces speed limits of 15 mph for its service vehicles on all roads within the Planning Area. In addition, water spraying efforts are conducted as often as needed during the day depending on conditions (e.g., during high winds) along with the application of dust-suppressants (e.g., chloride-based salts). Proper and regular maintenance of

roads is also implemented to reduce the emission of coarse particulate matter. A less than significant impact is anticipated and no further mitigation is required.

Cumulative. As described above, the District's operational activities would continue to occur as currently implemented. There would not be in a increase in operational activities as a result of the proposed project. Because existing operations would continue to occur as currently implemented, and no increase would occur as a result of the proposed project, it would not expose substantial pollutant concentrations to substantial a substantial number of people. Therefore, no significant cumulative impact would occur.

Any potential future expansion of facilities associated with water conservation may create short-term construction impacts, or marginally increase fugitive dust emissions from any expanded use of any unpaved haul roads. The dust suppression efforts identified above would reasonably be exercised in connection with any such expanded water conservation operations, however, and no additional significant cumulative impact would occur.

Flood Control Operations/Maintenance Activities of the SBCFCD

Similar to the previous discussion, operation and maintenance activities of the SBCFCD would continue as currently implemented. As previously identified, on-site mobile emissions would not occur from this activity because the identified sources are not included under this activity. Similarly, on-site stationary source emissions would not occur because the identified sources are not included in this activity. Fugitive dust emissions that would result from vehicular travel on unpaved roadways would contribute particulate matter emissions; however, the SBCFCD enforces speed limits of 15 mph for its service vehicles on all roads within the Planning Area. In addition, water spraying efforts are conducted as often as needed during the day depending on conditions (e.g., during high winds) along with the application of dust-suppressants (e.g., chloride-based salts). Proper and regular maintenance of roads is also implemented to reduce the emission of coarse particulate matter. A less than significant impact is anticipated and no mitigation is required.

Cumulative. As described above, the SBCFCD's operational activities would continue to occur as currently implemented. There would not be in a increase in operational activities as a result of the proposed project. Because existing operations would continue to occur as currently implemented, and no increase would occur as a result of the proposed project, it would not expose substantial pollutant concentrations to substantial a substantial number of people. Therefore, no significant cumulative impact would occur.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Similar to the previous discussion, operation and maintenance activities of the EVWD and RMUD would continue as currently implemented. As previously identified, on-site mobile emissions would not occur from this activity because the identified sources are not included under this activity. Similarly, on-site stationary source emissions would not occur because the identified sources are not included in this activity. Fugitive dust emissions that would result from vehicular travel on unpaved roadways would contribute particulate matter emissions; however, the EVWD and RMUD enforce speed limits of 15 mph for their service vehicles on all roads within the Planning Area. In addition, water spraying efforts are conducted as often as needed during the day depending on conditions (e.g., during high winds) along with the application of dust-suppressants (e.g., chloride-based salts). Proper and regular maintenance of roads is also implemented to reduce the emission of coarse particulate matter. A less than significant impact is anticipated and no mitigation is required.

Cumulative. As described above, the EVWD and RMUD's operational activities would continue to occur as currently implemented. There would not be an increase in operational activities as a result of the proposed project. Because existing operations would continue to occur as currently implemented, and no increase would occur as a result of the proposed project, it would not expose substantial pollutant concentrations to a substantial number of people. Therefore, no significant cumulative impact would occur.

Aggregate Mining

Impact 4.3.2 The proposed aggregate mining activities will result in potentially significant impacts related to exposure of substantial pollutant concentrations to sensitive receptors.

The East Quarry South is the closest excavation site at approximately 1,690 feet from the nearest existing residence in the City of Redlands. The East Quarry North is the closest excavation site at approximately 1,320 feet from the nearest proposed residence in the City of Highland. The nearest existing residence to the aggregate processing site is located approximately 2,820 feet away. In addition, the nearest sensitive receptors, both from existing and proposed residential developments, are also identified and are located approximately 1,175 and 1,370 feet away in the Cities of Highland and Redlands, respectively. Figure 4.3.1 shows the nearest sensitive receptors to mining operations for the proposed project. Table 4.3.R lists an inventory of the existing fugitive dust emissions for the mining portion of the project. Robertson's proposed mining and operations east of Plunge Creek Quarry and north of Silt Pond Quarry would be the closest excavation site to residences adjacent to the Planning Area.

Table 4.3.R – Fugitive Dust Emissions from the Mining Portion of the Proposed Project

Fugitive Dust Sources	PM ₁₀ Estimated Emissions Rate (lbs./day)
All Quarry Operations	750
Ready-Mix Plants	35
Rock Plants	45
Total	830

Source: Cemex 2006; Robertson's Ready Mix 2006; LSA Associates, Inc., 2007.

The existing on-site project emissions rates in previously referenced Table 4.3.I shows that while the increase in NO_x from vehicle exhaust is less than SCAQMD emissions threshold, both the existing and proposed level of operations will result in daily NO_x emissions in excess of the SCAQMD emissions threshold. Since the SCAQMD emissions thresholds for NO_x will still be exceeded, dispersion modeling was conducted to determine whether pollutant concentrations at nearby sensitive receptors would be significant (see Figure 4.3.1).

Using the EPA air dispersion model ISCST3 and the same air dispersion modeling setup as the operational HRA described in Section 4.3.4.5, the existing emission rates from Table 4.3.I were modeled to determine the concentrations of the criteria pollutants at the nearest residences due to project-related emissions. Table 4.3.S shows that the concentrations of CO, NO₂, and SO₂ are below State (and the more lenient Federal) standards; however, the concentrations of PM₁₀ and PM_{2.5} are above the State standards.

Table 4.3.S – Existing Criteria Pollutant Concentrations at Nearest Residences

Emissions Source Exhaust Sources	Maximum Concentrations (µg/m ³)			
	CO	NO ₂	PM ₁₀	PM _{2.5}
Total Project	47	126	129	40
State Standard	23,000	338	50	35
Federal Standard	40,000	–	150	35

ppm = Parts per million, µg/m³ = Micrograms per cubic meter

Source: Cemex 2006; Robertson's Ready Mix 2006; LSA Associates, Inc., 2007.

Using the proposed emission rates from Table 4.3.I Table 4.3.T shows the predicted concentrations at the nearest residence for the proposed project. Even though the emissions rates of PM₁₀ and PM_{2.5} increase, the changes are small enough that the concentrations stay the same. The concentrations of CO, NO₂, and SO₂ will stay below State (and the more lenient Federal) standards; however, the concentrations of PM₁₀ and PM_{2.5} will stay above State standards. This is a significant impact on local air quality and mitigation measures would be required.

Table 4.3.T – Proposed Criteria Pollutant Concentrations at Nearest Residences

Fugitive Dust Sources Exhaust Sources	Maximum Concentrations (µg/m ³)			
	CO	NO ₂	PM ₁₀	PM _{2.5}
Total Project	52	140	129	40
State Standard	23,000	338	50	35
Federal Standard	40,000	–	150	35

ppm = Parts per million, µg/m³ = Micrograms per cubic meter

Source: Cemex 2006; Robertson's Ready Mix 2006; LSA Associates, Inc., 2007.

A major contributor to the PM₁₀ and PM_{2.5} emissions is the road dust generated from haul trucks transporting material from the quarries to the processing plants on the internal dirt haul roads. The haul road dust emissions were estimated based on maximum daily production levels, the average distances and aggregate volumes from each quarry, and the size off-road haul trucks for each operator. During actual operations over the length of the project, both operators could mine aggregate material at maximum daily volumes and from the more distant quarries during the same time span such that daily CEQA thresholds for PM₁₀ could be exceeded despite implementation of the required dust control measures.

Standard Regulations. All mining, flood control and water conservation operations for the proposed project would continue to be required to comply with standard regional rules that assist in reducing air pollutant emissions.

A Under the direction of the AQMD, the quarry operators, the District and SBCFCD shall continue to comply with SCAQMD Rule 403, which requires that fugitive dust be controlled with best-available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emissions source. Applicable dust-suppression techniques from Rule 403 and Rule 1157 are summarized below:

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

B Under the direction of AQMD, the quarry operators, the District and SBCFCD shall continue to comply with SCAQMD Rule 402, which requires implementation of dust-suppression techniques to prevent fugitive dust from creating a nuisance off site. Applicable dust-suppression measures may include the following:

- Revegetate disturbed areas as quickly as possible.

- All excavating and mining operations shall be suspended when wind speeds (as instantaneous gusts) exceed 25 mph.
- All paved streets shall be swept once per day if visible soil materials are carried to adjacent streets (recommend water sweepers with reclaimed water).
- Install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash trucks and any equipment leaving the site each trip.
- All on-site roads shall be paved as soon as feasible, watered periodically or chemically stabilized.

Mitigation Measures. Mitigation measures that have been identified to reduce the level of emissions of particulate matter shall include:

AIR-2 The emissions of diesel particulate are expected to result in carcinogenic health risks that exceed the AQMD thresholds at nearby sensitive receptors. Applicable mitigation measures may include the following:

- Heavy-duty diesel equipment shall have exhaust particulate traps as certified and/or verified by EPA or California installed, if available.
- Heavy-duty diesel equipment shall be fitted with the most modern emission control devices and be kept in proper tune to minimize construction vehicle emissions, where feasible. This measure shall be monitored by the construction manager.

AIR-3 The two operators, Cemex and Robertson's, shall schedule transportation of material such that both operators are not transporting material on the same day from the south half of the southeast quarter of Section 11, which is the area farthest from both processing plants.

Mitigation Measures AIR-2 and AIR-3 will be implemented by the mining operators, the District, and the SBCFCD as necessary to reduce emissions of particulate matter.

Level of Significance after Standard Measures and Mitigation Measures. With implementation of standard regulations associated with SCAQMD Rules 402, 403, and 1157 and the continuation of stationary emission requirements and dust control measures that are required by the SCAQMD, the impacts of on-site mining operations related to PM₁₀ and PM_{2.5} levels would be minimized, but still significant. **Mitigation Measures AIR-2 and AIR-3** lists measures that have the potential to reduce diesel particulate emissions; however, there is no way to quantify any reduction accomplished by these measures. Thus, the impacts of on-site mining operations on diesel particulate levels would be minimized, but still significant.

Cumulative. The expansion of mining activities could create or contribute to new or increased impacts to an area in nonattainment for criteria pollutants because of cumulative projects that would involve the incremental emissions of the same criteria pollutants. As shown in previously referenced Figure 2.2, all cumulative projects would emit some level of criteria pollutant emissions and would have an incremental contribution to the overall air quality. However, these cumulative projects are subject to their own environmental review including impact assessment and mitigation formulation. The proposed project identified significant project-specific impacts that would have an effect on nearby sensitive receptors. While the cumulative projects identified may not have individual significant impacts with implementation of mitigation, the incremental contribution of PM₁₀ and PM_{2.5} emissions would contribute pollutants to a nonattainment area. The incremental increase in emissions of PM₁₀ and PM_{2.5} from the proposed project and from cumulative projects would be considered a significant cumulative impact.

Adoption of General Plan Amendments

As previously described, on-site mobile source emissions, on-site stationary source emissions, and fugitive dust emissions would not occur under this activity. Therefore, there would be no impact related to exposure of substantial emissions to sensitive receptors under this activity and no mitigation is required.

Cumulative. As described above, the Adoption of General Plan Amendments would not result in emissions from on-site mobile sources, on-site stationary sources, and fugitive dust. Because this activity would not result in any emissions of any kind, no nearby sensitive receptors would be affected. Therefore, no significant cumulative impact would occur.

Roadway/Bridge Rights-of-Way

As previously described, on-site mobile source emissions, on-site stationary source emissions, and fugitive dust emissions would not occur under this activity. Therefore, there would be no impact related to exposure of substantial emissions to sensitive receptors under this activity and no mitigation is required.

Cumulative. As described above, the ~~dedication~~ designation of roadway/bridge rights-of-way would not result in emissions from on-site mobile sources, on-site stationary sources, and fugitive dust. Because this activity would not result in any emissions of any kind, no nearby sensitive receptors would be affected. Therefore, no significant cumulative impact would occur.

Recreational Trail Rights-of-Way

As previously described, on-site mobile source emissions, on-site stationary source emissions, and fugitive dust emissions would not occur under this activity. Therefore, there would be no impact related to exposure of substantial emissions to sensitive receptors under this activity and no mitigation is required.

Cumulative. As described above, the ~~dedication~~ designation of recreational trail rights-of-way would not result in emissions from on-site mobile sources, on-site stationary sources, and fugitive dust. Because this activity would not result in any emissions of any kind, no nearby sensitive receptors would be affected. Therefore, no significant cumulative impact would occur.

Land Exchange Between the District and BLM

As previously described, on-site mobile source emissions, on-site stationary source emissions, and fugitive dust emissions would not occur under this activity. Therefore, there would be no impact related to exposure of substantial emissions to sensitive receptors under this activity and no mitigation is required.

Cumulative. As described above, the land exchange between the District and BLM would not result in emissions from on-site mobile sources, on-site stationary sources, and fugitive dust. Because this activity would not result in any emissions of any kind, no nearby sensitive receptors would be affected. Therefore, no significant cumulative impact would occur.

Land Exchange Between the SBCFCD and Robertson's

As previously described, on-site mobile source emissions, on-site stationary source emissions, and fugitive dust emissions would not occur under this activity. Therefore, there would be no impact related to exposure of substantial emissions to sensitive receptors under this activity and no mitigation is required.

Cumulative. As described above, the land exchange between SBCFCD and Robertson's would not result in emissions from on-site mobile sources, on-site stationary sources, and fugitive dust. Because this activity would not result in any emissions of any kind, no nearby sensitive receptors would be affected. Therefore, no significant cumulative impact would occur.

4.3.4.7 Objectionable Odors

Threshold	Would the proposed project create objectionable odors affecting a substantial number of people?
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During construction, the various diesel-powered vehicles and equipment in use on the site would create odors. SCAQMD Rule 402 dictates that air discharged from any source shall not cause injury, nuisance, or annoyance to the health, safety, or comfort of the public. With the exception of short-term construction-related odors (e.g., asphalt odors), the proposed activities do not include uses that would generate objectionable odors. While the installation of asphalt may generate odors, these odors are temporary and not likely to be noticeable beyond the project boundaries. SCAQMD Rule 1108 identifies standards regarding the application of asphalt. Solid waste generated by the proposed activities would be collected by a contracted waste hauler, ensuring that any odors resulting from on-site activities would be adequately managed. Long-term objectionable odors are not expected to occur at the Planning Area.

Water Conservation Operations/Maintenance Activities of the District

No construction is proposed under this activity; therefore, no odors associated with construction activities (e.g., architectural coatings or installation of asphalt) would occur. Operation and maintenance activities of the District would continue as currently implemented. No odors are currently generated by the daily operations and maintenance activities of the District. Therefore, no long-term objectionable odors are anticipated and a less than significant impact would occur. No mitigation is required.

Cumulative. As identified above, there would be no construction activities associated with this activity. Therefore, no short-term odors associated with construction would result from this activity. Operation and maintenance activities would continue to occur as currently implemented and would not release any odors. Because there would not be any odor impact associated with this activity, there would be no cumulative odor impact that would occur. To the extent that potential additional facilities for water conservation are undertaken, they would not be of the type that would emit any type of objectionable odor, and would have to be analyzed on a project-specific basis for mitigation of any temporary construction activity odor generation. As such, no additional cumulative odor impact would occur.

Flood Control Operations/Maintenance Activities of the SBCFCD

No construction is proposed under this activity; therefore, no odors associated with construction activities (e.g., architectural coatings or installation of asphalt) would occur. Operation and maintenance activities of the SBCFCD would continue as currently implemented. No odors are

currently generated by the daily operations and maintenance activities of the SBCFCD. Therefore, no long-term objectionable odors are anticipated and a less than significant impact would occur. No mitigation is required.

Cumulative. As identified above, there would be no construction activities associated with this activity. Therefore, no short-term odors associated with construction would result from this activity. Operation and maintenance activities would continue to occur as currently implemented and would not release any odors. Because there would not be any odor impact associated with this activity, there would be no cumulative odor impact that would occur.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

No construction is proposed under this activity; therefore, no odors associated with construction activities (e.g., architectural coatings or installation of asphalt) would occur. Operation and maintenance activities of the SBCFCD would continue as currently implemented. No odors are currently generated by the daily operations and maintenance activities of the SBCFCD. Therefore, no long-term objectionable odors are anticipated and a less than significant impact would occur. No mitigation is required.

Cumulative. As identified above, there would be no construction activities associated with this activity. Therefore, no short-term odors associated with construction would result from this activity. Operation and maintenance activities would continue to occur as currently implemented and would not release any odors. Because there would not be any odor impact associated with this activity, there would be no cumulative odor impact that would occur.

Aggregate Mining

As previously identified, short-term construction odors that would occur under this activity include odors generated by the various diesel-powered vehicles and equipment used on the site. Adherence to SCAQMD Rule 402 would reduce the discharge of odors so as to not cause injury or annoyance to health, safety, and comfort of the public. In addition, the installation of asphalt associated with the new access road would create odors; however, these odors are temporary and not likely to be noticeable beyond the project boundaries. A less than significant impact is associated with this activity and no mitigation is required.

Cumulative. As identified above, odors associated with the construction that would occur under this activity would not cause injury or annoyance to the health, safety, and comfort of the public with adherence to SCAQMD Rule 402. Because odors generated under this activity would not be noticeable beyond the project boundaries, it would not result in cumulative odor impacts in conjunction with the cumulative projects identified in Table 2.A. Therefore, there is no cumulatively significant odor impact associated with this activity.

Adoption of General Plan Amendments

No construction is proposed under this activity; therefore, no odors associated with construction activities (e.g., architectural coatings or installation of asphalt) would occur. Similarly, no long-term objectionable odors are anticipated to occur as there is no physical activity taking place. A less than significant impact would occur and no mitigation is required.

Cumulative. As identified above, there would be no construction activities associated with this activity. Therefore, no short-term odors associated with construction would result from this activity. Because there would not be any odor impact associated with this activity, there would be no cumulative odor impact that would occur.

Roadway/Bridge Rights-of-Way

No construction is proposed under this activity; therefore, no odors associated with construction activities (e.g., architectural coatings or installation of asphalt) would occur. Similarly, no long-term objectionable odors are anticipated to occur as there is no physical activity taking place. A less than significant impact would occur and no mitigation is required.

Cumulative. As identified above, there would be no construction activities associated with this activity. Therefore, no short-term odors associated with construction would result from this activity. Because there would not be any odor impact associated with this activity, there would be no cumulative odor impact that would occur. In addition, any short-term construction activity odor generation in connection with the ultimate construction of these rights of way would be addressed through their own project-specific environmental review, and would be expected to incorporate odor-controlling measures similar to those discussed regarding the installation of asphalt, above.

Recreational Trail Rights-of-Way

No construction is proposed under this activity; therefore, no odors associated with construction activities (e.g., architectural coatings or installation of asphalt) would occur. Similarly, no long-term objectionable odors are anticipated to occur as there is no physical activity taking place. A less than significant impact would occur and no mitigation is required.

Cumulative. As identified above, there would be no construction activities associated with this activity. Therefore, no short-term odors associated with construction would result from this activity. Because there would not be any odor impact associated with this activity, there would be no cumulative odor impact that would occur.

Land Exchange Between the District and BLM

No construction is proposed under this activity; therefore, no odors associated with construction activities (e.g., architectural coatings or installation of asphalt) would occur. Similarly, no long-term objectionable odors are anticipated to occur from the mining activities proposed to take place. A less than significant impact would occur and no mitigation is required.

Cumulative. As identified above, there would be no construction activities associated with this activity. Therefore, no short-term odors associated with construction would result from this activity. Because there would not be any odor impact associated with this activity, there would be no cumulative odor impact that would occur.

Land Exchange Between the SBCFCD and Robertson's

No construction is proposed under this activity; therefore, no odors associated with construction activities (e.g., architectural coatings or installation of asphalt) would occur. Similarly, no long-term objectionable odors are anticipated to occur as there is no physical activity taking place. A less than significant impact would occur and no mitigation is required.

Cumulative. As identified above, there would be no construction activities associated with this activity. Therefore, no short-term odors associated with construction would result from this activity. Because there would not be any odor impact associated with this activity, there would be no cumulative odor impact that would occur.

4.3.4.8 Global Climate Change (Green House Gas Emissions)

Threshold	Would the proposed project conflict with the emission reduction strategies contained in the California Climate Action Team's Report to the Governor?
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As discussed previously, the methodology used in this EIR to analyze the project's potential effect on global warming includes a calculation of GHG emissions. The purpose of calculating the emissions is for informational purposes, as there is no quantifiable emissions threshold. Rather, the project's potential for creating an impact on global warming is based on a comparative analysis of the project against the emission reduction strategies contained in the California CATs Report to the Governor. If it is determined that the proposed project is compatible or consistent with the applicable CAT strategies, then the project's cumulative impact on global climate change is considered less than significant.

Project Carbon Dioxide Emissions. The project will generate emissions of carbon dioxide primarily in the form of vehicle exhaust and equipment exhaust. Carbon dioxide emissions from vehicles were calculated using the project ADT of 2,412 and assuming an average round trip length of 50 miles combined with EMFAC2007 emission factors. The carbon dioxide emissions are shown in Table 4.3.U. As shown in Table 4.3.U, the project will emit 0.020 Tg CO₂ Eq. in year 2030, which is 0.0040 percent of California's total estimated GHG emissions in 2004 (492 Tg CO₂ Eq.).

Table 4.3.U – Carbon Dioxide Emissions

Emission Source	Carbon Dioxide Emissions						
	2004–08	2009	2010	2011	2012	2013	2030
Vehicles (tons/year)	19,245	19,272	19,272	19,272	19,528	19,528	19,994
Total (Tg CO ₂ Eq.)	0.019	0.019	0.019	0.019	0.020	0.020	0.020

Source: LSA Associates, Inc. 2007.

Project Methane Emissions. The project will generate some methane gas from vehicle emissions and equipment emissions. Methane emissions from vehicles were estimated using EPA emission factors for on-highway vehicles (EPA 2004) and the same assumptions used to estimate CO₂ emissions above. The emissions are shown in Table 4.3.V. As shown in Table 4.3.V, the project will emit 0.00008 Tg CO₂ Eq. in 2030, which is 0.000016 percent of California's total estimated GHG emissions.

Table 4.3.V – Methane Emissions

Emission Source	Methane Emissions						
	2004–08	2009	2010	2011	2012	2013	2030
Vehicles (tons/year)	3.64	3.64	3.64	3.64	3.64	3.64	3.64
Total (Tg CO ₂ Eq.)	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008

Source: LSA Associates, Inc. 2007.

Nitrous Oxide. The project would generate small amounts of nitrous oxide from vehicle emissions. Nitrous oxide from vehicles was estimated using EPA emission factors for on-highway vehicles (EPA 2004) and the same assumptions that were used to estimate CO₂ and CH₄. The emissions are presented in Table 4.3.W. As shown in Table 4.3.W, the project will emit 0.0004 Tg CO₂ Eq. in year 2030, which is 0.00009 percent of California's total estimated GHG emissions.

Table 4.3.W – Nitrous Oxide Emissions

Emission Source	Nitrous Oxide Emissions						
	2004-08	2009	2010	2011	2012	2013	2030
Vehicles (tons/year)	1.37	1.37	1.37	1.37	1.37	1.37	1.37
Total (Tg CO ₂ Eq.)	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004

Source: LSA Associates, Inc. 2007.

Water Vapor. The project does not contribute to this greenhouse gas because water vapor concentrations in the upper atmosphere are primarily due to climate feedbacks and not emissions from activities associated with the proposed project.

Ozone. Ozone is a greenhouse gas; however, unlike the other greenhouse gases, ozone in the troposphere is relatively short-lived and therefore is not global in nature. According to the CARB, it is difficult to make an accurate determination of the contribution of ozone precursors (NO_x and VOCs to global warming (CARB 2004b). Therefore, project emissions of ozone precursors would not significantly contribute to global climate change.

Chlorofluorocarbons. As mentioned previously, there is a ban for chlorofluorocarbons; therefore, the project will not generate emissions of these greenhouse gases and is not considered any further in this analysis.

Hydrofluorocarbons. The project may emit a small amount of HFC emissions from leakage and service of refrigeration and air conditioning equipment and from disposal at the end of the life of the equipment (EPA 2004c).

Perfluorocarbons and Sulfur Hexafluoride. Perfluorocarbons and sulfur hexafluoride are typically used in industrial applications. Perfluorocarbons are generally associated with refrigeration units and fire extinguishers. Sulfur hexafluoride is generally associated with electrical components. This activity does not include additional facilities requiring additional refrigeration units, fire extinguishers, or electrical components. Therefore, it is not anticipated that the project would emit any of these greenhouse gases.

Comparative/Consistency Analysis with GHG Reduction Strategies. The primary greenhouse gas generated by the project would be carbon dioxide. At build out 2030, total unmitigated carbon dioxide equivalents¹ for carbon dioxide, methane, and nitrous oxide would be 0.021 Tg CO₂ Eq, which is 0.0042 percent of California's 2004 total emissions for carbon dioxide equivalent (492 Tg CO₂ Eq).

The United Nations Intergovernmental Panel on Climate Change constructed several emission trajectories of greenhouse gases needed to stabilize global temperatures and climate change impacts. It concluded that a stabilization of greenhouse gases at 400-450 ppm carbon dioxide-

¹ All greenhouse gases are presented in units of teragrams of carbon dioxide equivalents (Tg CO₂ Eq.).

equivalent concentration is required to keep global mean warming below 2°C, which in turn is assumed to be necessary to avoid 'dangerous' climate change (IPCC 2001).

California Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S-3-05 (Climate Change) GHG emission reduction targets as follows: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; by 2050, reduce GHG emissions to 80 percent below 1990 levels (CA 2005). The draft California Greenhouse Gas inventory (November 2007) equates these reductions to 11 percent by 2010 and 25 percent by 2020.

AB 32 requires that by January 1, 2008, the CARB shall determine what the statewide GHG emissions level was in 1990, and approve a statewide GHG emissions limit that is equivalent to that level, to be achieved by 2020. While the level of 1990 GHG emissions has not been approved at this time, other publications indicate that levels varied from 425 to 468 Tg CO₂ Eq. (CEC 2006). In 2004, the emissions were estimated at 492 Tg CO₂ Eq. (CEC 2006). Using the range of 1990 emissions, a reduction of 5 between 13 percent would be needed to reduce 2004 levels to 1990 levels.

The California Environmental Protection Agency Climate Action Team developed a report that "proposes a path to achieve the Governor's targets that will build on voluntary actions of California businesses, local government and community actions, and State incentive and regulatory programs" (CA 2006). The report indicates that the strategies will reduce California's emissions to the levels proposed in Executive Order S-3-05. The strategies that apply to the project are contained in Table 4.3.X. As shown in the table, the project complies with the potential measures to bring California to the emission reduction targets. The increase in energy efficiency and programs designed to promote fuel conservation through the reduction in vehicle trips changes will reduce the contribution to greenhouse gases and global climate change.

Table 4.3.X – Project Compliance with Greenhouse Gas Emission Reduction Strategies

Strategy	Project Compliance with Mitigation
California Air Resources Board (CARB)	
<ul style="list-style-type: none"> ▪ Vehicle Climate Change Standards AB 1493 (Pavley) required the State to develop and adopt regulations that achieve the maximum feasible and cost-effective reduction of climate change emissions emitted by passenger vehicles and light duty trucks. Regulations were adopted by the CARB in September 2004. ▪ Heavy-Duty Vehicle Emission Reduction Measures Increased efficiency in the design of heavy duty vehicles and an education program for the heavy duty vehicle sector. ▪ Diesel Risk Reduction Measures Numerous regulations have been adopted to reduce diesel particulate matter (PM) since 2001. Black carbon is a major component of diesel PM and has a significant net warming effect. 	<p>Compliant. The vehicles used during project operation and that access the project will be in compliance with any vehicle standards that CARB proposes.</p>
Integrated Waste Management	
<ul style="list-style-type: none"> ▪ Recycling – Achieve 50% Statewide Recycling Goal Achieving the State's 50% waste diversion mandate as established by the Integrated Waste Management Act of 1989, (AB 939, Sher, Chapter 1095, Statutes of 1989), will reduce climate change emissions associated with energy intensive material extraction and production as well as methane emission from landfills. A diversion rate of 48% has been achieved on a statewide basis. Therefore, a 2% additional reduction is needed. 	<p>Compliant. The proposed project will limit waste of recyclable material by implementing strategies including the following:</p> <ul style="list-style-type: none"> ▪ Recycling of motor oil, tires, and vehicle batteries ▪ Participate in "curbside" recycling programs for paper, cardboard, green waste and other recyclable materials. ▪ Recycling of asphalt and concrete.

Table 4.3.X – Project Compliance with Greenhouse Gas Emission Reduction Strategies

Strategy	Project Compliance with Mitigation
Department of Water Resources	
<p>▪ Water Use Efficiency Approximately 19% of all electricity, 30% of all natural gas, and 88 million gallons of diesel are used to convey, treat, distribute and use water and wastewater. Increasing the efficiency of water transport and reducing water use would reduce greenhouse gas emissions.</p>	<p>Compliant. Plant operations recycle water from the Silt Pond; the amount varies with the season but can reduce fresh water usage by up to 75%.</p> <p>The proposed project will include the use of drought tolerant plants in landscaping and use of plumbing fixtures that reduce water consumption.</p> <p>The proposed project will use sensor activated low-flow faucets in all bathrooms which reduce water usage by 84%.</p>

Strategies identified in Table 4.3.X are actions that would reduce greenhouse gas emissions. Some of these strategies are standards that are required of all development projects while others are actions that the Santa Ana River Wash Plan has committed to implementing with the development of the project. The strategies listed in Table 4.3.X should not be construed as mitigation as these are either required of all development projects or are voluntary programs that the Santa Ana River Wash Plan would implement. While there are some mitigation measures identified in Table 4.3.X, these serve as reference to project compliance and are discussed in each of their respective sections.

The discussion identifies and qualitatively analyzes various reduction measures and programs designed to reduce GHG emissions to the extent possible. Although implementation of the above stated measures may reduce the emission of greenhouse gases attributable to the project through vehicle emission reductions, vehicular trip reductions, HFC emission reductions, PFC emission reductions, recycling programs, increases in building and appliance energy efficiencies, and decreased water use, it is not possible to specifically quantify the reduction in greenhouse gases that will result from implementation of the strategies and programs described above. However, the project is consistent with the strategies to reduce California's emissions to the levels proposed by Executive Order S-3-05. Therefore, the project's incremental contribution to climate change impacts is less than significant.

Cumulative. An individual project does not generate sufficient GHG emissions to have any significant individual influence on global climate change, and hence the issue of global climate change in the context of an EIR is largely confined to an analysis of cumulative impacts.¹ The analysis provided above is primarily cumulative in nature; therefore, the project's cumulative climate change impacts are less than significant.

¹ Michael Zischke; Sarah Owsowitz; Cox, Castle & Nicholson LLP, *Climate Change and the California Environmental Quality Act*, October 10, 2007.

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4.4 BIOLOGICAL RESOURCES

This section describes the biological resources on and adjacent to the Upper Santa Ana River Wash Planning Area (Planning Area) and evaluates potential impacts to biological resources as a result of implementation of the Upper Santa Ana River Wash Land Management and Habitat Conservation Plan (Wash Plan). This section is based in part on the following:

- *Existing Biological Conditions Report for the Upper Santa Ana River Habitat Conservation Plan*, prepared by Dudek, February 2007 (attached as Appendix E-1);
- *Slender-horned Spineflower Enhancement and Relocation Plan*, prepared by United States Fish and Wildlife Service, November 2007 (attached as Appendix E-2);
- *Robertson's Ready Mix Santa Ana Wash Development Agreement and Annexation to the City of Highland Draft Environmental Impact Report*, prepared by Lilburn Corporation, June 1997;
- *Sunwest Materials Santa Ana Wash Development Agreement Draft Environmental Impact Report*, prepared by Lilburn Corporation, May 1997; and
- A site visit by LSA Associates, Inc. on February 16, 2007.

Additionally, several focused surveys and general biological resources surveys have been conducted within the project area. Information regarding biological resources is taken from past biological survey reports provided by the various participating agencies and some minor, recent supplemental field work conducted by Dudek. These surveys include vegetation mapping by URS, small mammal trapping by San Bernardino County Museum, URS, and Dames and Moore, biological resources surveys by Lilburn Corporation, California gnatcatcher surveys by Sweetwater Environmental Biologists, and fieldwork conducted by Dudek. Resources described in this report include physical characteristics of the site (including soils, land use, topography, and hydrology), vegetation communities, and species descriptions for each of the special-status species. Table 4.4.A lists the biological surveys that were conducted within portions of the Wash Plan.

Table 4.4.A – Biological Surveys

<u>Date</u>	<u>Company</u>	<u>Location</u>	<u>Survey Focus</u>	<u>Reference</u>
<u>1988 (months unknown)</u>	<u>Burk, Jones, Wheeler, and DeSimone to U.S. Army Corps of Engineers</u>	<u>Entire Wash Plan Area</u>	<u>Comprehensive focused surveys for Santa Ana River woollystar within entire range of species</u>	<u>Chambers Group 1993</u>
<u>1994 (months unknown)</u>	<u>US Army Corps of Engineers</u>	<u>Unknown portion of Wash Plan Area</u>	<u>San Bernardino kangaroo rat trapping; vegetation transects adjacent to trap lines & surface soil sampling</u>	<u>MEC & Aspen 2000</u>
<u>Spring 1994</u>	<u>Lilburn Corporation</u>	<u>Sunwest Materials Santa Ana Wash project area</u>	<u>General biological survey</u>	<u>Lilburn Corporation May 1997</u>
<u>July 1995</u>	<u>San Bernardino County Museum</u>	<u>Sections 11 and 12 of Redlands USGS 7.5-minute topographic quadrangle map</u>	<u>Focused trapping survey for San Bernardino kangaroo rat</u>	<u>McKernan and Crook 1995</u>
<u>June 7, 20, 21, 1995</u>	<u>Lilburn Corporation</u>	<u>Robertson's Ready Mixed Proposed Cone Camp Quarry</u>	<u>Baseline biological surveys</u>	<u>Lilburn Corporation July 1996</u>

Table 4.4.A – Biological Surveys

<u>Date</u>	<u>Company</u>	<u>Location</u>	<u>Survey Focus</u>	<u>Reference</u>
<u>March and April 1996</u>	<u>Sweetwater Environmental Biologists, Inc.</u>	<u>Sunwest Materials Santa Ana Wash project area</u>	<u>California gnatcatcher surveys</u>	<u>Sweetwater Environmental Biologists April, 19 1996</u>
<u>1996 (months unknown)</u>	<u>US Army Corps of Engineers</u>	<u>Entire Wash Plan Area</u>	<u>Vegetation mapping and San Bernardino kangaroo rat visual assessment</u>	<u>MEC & Aspen 2000</u>
<u>March 24, April 6, May 1, June 9, August 21, September 4 through 8, 1998</u>	<u>Dames and Moore</u>	<u>Sections 7 and 12, Township 1 South, Range 3 West on the Redlands USGS 7.5-minute topographic quadrangle map</u>	<u>Map habitat for the San Bernardino kangaroo rat on SBV/WCD land</u>	<u>Dames and Moore September 1999</u>
<u>April and May 1999</u>	<u>MEC Analytical Systems, Inc.</u>	<u>Unknown location within Wash Plan Area</u>	<u>San Bernardino kangaroo rat trapping, vegetation transects, and sediment sampling</u>	<u>MEC & Aspen 2000</u>
<u>May 1999</u>	<u>US Army Corps of Engineers</u>	<u>Unknown location downstream of Greenspot Road</u>	<u>San Bernardino kangaroo rat trapping, slender-horned spineflower and Santa Ana River woollystar transect surveys</u>	<u>MEC & Aspen 2000</u>
<u>May and July 1999</u>	<u>US Army Corps of Engineers</u>	<u>Entire Wash Plan Area</u>	<u>Focused and reconnaissance surveys for slender-horned spineflower using 30-foot belt transects</u>	<u>MEC & Aspen 2000</u>
<u>September 1998, November 1999, July 2000</u>	<u>URS</u>	<u>Sections 7 and 18, Township 1 South, Range 3 West on the Redlands USGS 7.5-minute topographic quadrangle map</u>	<u>Vegetation mapping; San Bernardino kangaroo rat habitat assessment and trapping</u>	<u>URS 2000b</u>
<u>November 1999 and July 2000</u>	<u>URS</u>	<u>Sections 12 and 13, Township 1 South, Range 3 West on the Redlands USGS 7.5-minute topographic quadrangle map; north of north bank of Santa Ana River</u>	<u>Vegetation mapping; San Bernardino kangaroo rat habitat assessment and trapping</u>	<u>URS October 26, 2000</u>
<u>May and June 2000</u>	<u>US Army Corps of Engineers</u>	<u>Entire Wash Plan Area</u>	<u>Reconnaissance surveys of habitat suitability for arroyo southwestern toad, California red-legged frog, coastal California gnatcatcher, least Bell's vireo, southwestern willow flycatcher, Santa Ana sucker, and San Bernardino kangaroo rat</u>	<u>MEC & Aspen 2000</u>

Table 4.4.A – Biological Surveys

<u>Date</u>	<u>Company</u>	<u>Location</u>	<u>Survey Focus</u>	<u>Reference</u>
<u>May 2000 and July 2000</u>	<u>URS</u>	<u>Sections 11 and 14, Township 1 South, Range 3 West on the Redlands USGS-7.5 minute topographic quadrangle map</u>	<u>Vegetation mapping; San Bernardino kangaroo rat habitat assessment and trapping</u>	<u>URS 2000a</u>
<u>October 2000</u>	<u>URS</u>	<u>Water Recharge Basins</u>	<u>San Bernardino kangaroo rat survey</u>	<u>URS 2000d</u>
<u>December 26, 27, 2000</u>	<u>URS</u>	<u>South of Greenspot Road in northeast portion of site</u>	<u>Vegetation mapping; San Bernardino kangaroo rat habitat assessment</u>	<u>URS March 23, 2001a</u>
<u>January 4–5, 2001</u>	<u>URS</u>	<u>Seven Oaks Dam Mined Borrow Pit</u>	<u>Biological survey for potential habitat of the San Bernardino kangaroo rat</u>	<u>URS March 23, 2001b</u>
<u>February 7, February 14, March 13, 2002</u>	<u>URS</u>	<u>West half of Section 9, Township 1 South, Range 3 West on the Redlands USGS 7.5-minute topographic quadrangle map</u>	<u>Vegetation mapping; San Bernardino kangaroo rat habitat assessment</u>	<u>URS 2003b</u>
<u>February 12, March 13, 2002</u>	<u>URS</u>	<u>East half of Section 9, Township 1 South, Range 3 West on the Redlands USGS 7.5-minute topographic quadrangle map</u>	<u>San Bernardino kangaroo rat trapping</u>	<u>URS 2003c</u>
<u>August 20-22, September 23-24, September 30- October 4, 7-9, 2002</u>	<u>URS</u>	<u>West half of Section 9, Township 1 South, Range 3 West on the Redlands USGS 7.5-minute topographic quadrangle map</u>	<u>San Bernardino kangaroo rat trapping</u>	<u>URS 2003b</u>
<u>December 12, 2001, January 15, February 1, 7, 12, 2002</u>	<u>URS</u>	<u>Section 10, Township 1 South, Range 3 West on the Redlands USGS 7.5-minute topographic quadrangle map</u>	<u>San Bernardino kangaroo rat habitat assessment and trapping</u>	<u>URS 2003a</u>
<u>November 8 through December 8, 2003</u>	<u>URS</u>	<u>Northeast quarter of Section 9, Township 1 South, Range 3 West on the Redlands USGS 7.5-minute topographic quadrangle map</u>	<u>San Bernardino kangaroo rat trapping</u>	<u>URS 2003d</u>
<u>Not recorded</u>	<u>USFWS</u>	<u>Throughout Wash Plan Area</u>	<u>Field reconnaissance and ground-truthing</u>	<u>N/A</u>

4.4.1 Existing Setting

The existing setting discussion that follows includes four aspects of the Planning Area:

- Land cover;
- Wildlife;
- Listed and other special interest species; and
- Existing conservation areas.

The site is characterized by the Santa Ana River Wash and adjacent upland areas. Elevation at the site ranges from approximately 1,180 feet at Alabama Street at the west end of the site to approximately 1,880 feet at the northeast corner of the Planning Area at Greenspot Road.

Vegetation and Land Cover

Six land cover categories were mapped in the Planning Area and are illustrated in Figure 4.4.1 and discussed here:

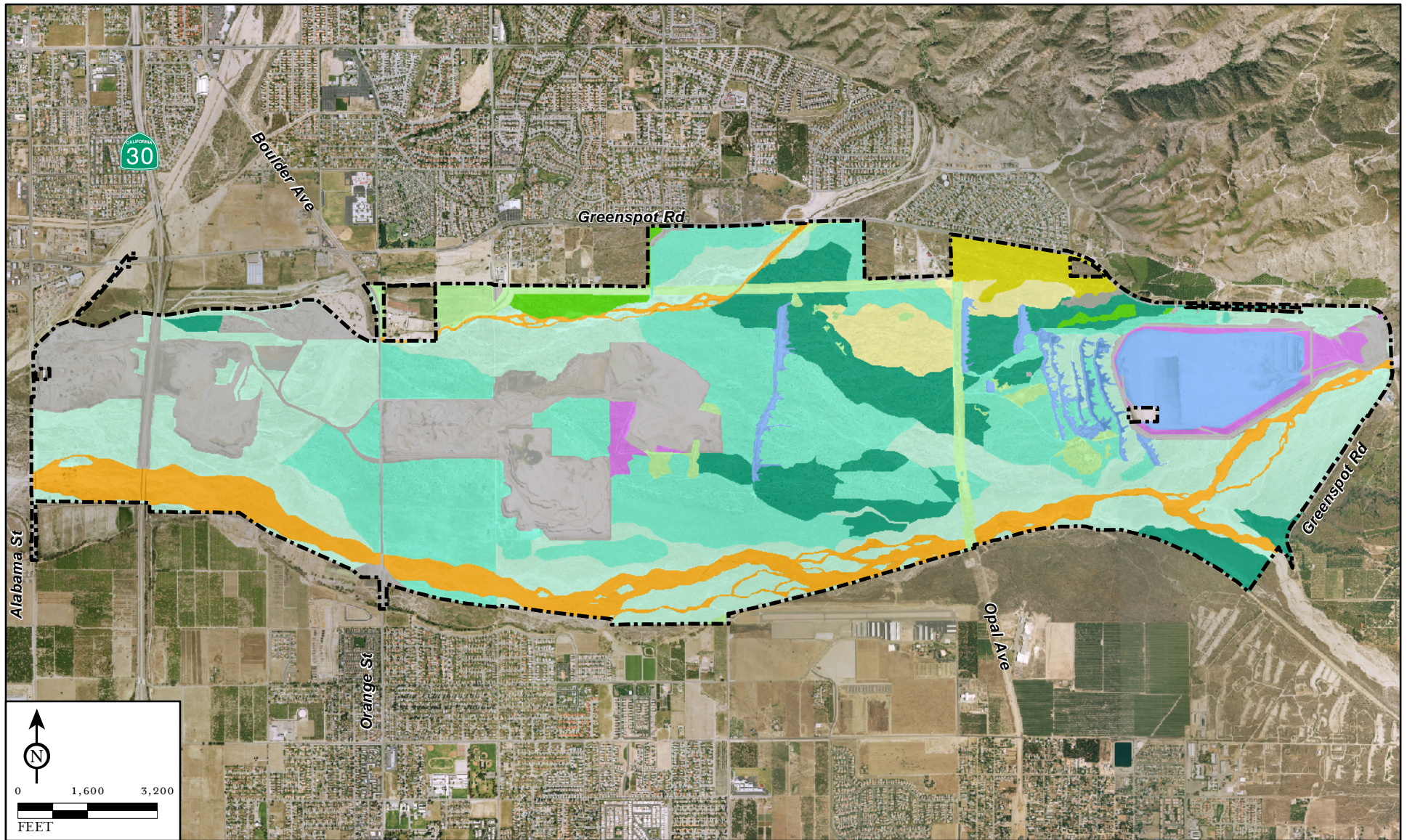
- Developed/ruderal (776 acres);
- Riversidean alluvial fan sage scrub (3,025 acres);
- Non-native grassland (159 acres);
- Chamise chaparral (178 acres);
- Riversidean upland sage scrub (72 acres); and
- Recharge basins (257 acres).

Developed/Ruderal. Developed and ruderal portions of the Planning Area consist primarily of existing mining pits, paved roads, and well-traveled unpaved roads. Developed land also includes previously graded areas, landscaped areas, and areas actively maintained or used in association with existing developments. Developed and ruderal areas either lack vegetation entirely or are covered in ornamental or ruderal vegetation. Ruderal vegetation is present under conditions of severe or repeated mechanical disturbance of the soil, herbicide treatment, or vehicle traffic. When ruderal vegetation is present, it is often sparse. Ruderal vegetation in the Planning Area consists primarily of non-native weedy species such as red brome (*Bromus madritensis* ssp. *rubens*), slender wild oat (*Avena barbata*), shortpod mustard (*Hirschfeldia incana*), and red-stem stork's bill (*Erodium cicutarium*).

Riversidean Alluvial Fan Sage Scrub. Riversidean alluvial fan sage scrub is a Mediterranean shrubland type that occurs in washes and on gently sloping alluvial fans. Scalebroom (*Lepidospartum squamatum*) is generally regarded as an indicator of Riversidean alluvial fan sage scrub,¹ but is not always present in this community. Riversidean alluvial fan sage scrub is frequently characterized by a mixture of drought-deciduous soft-leaved shrubs and larger chaparral species in alluvial soils.² Species typically found in this community in the Planning Area include white sage (*Salvia apiana*), redberry buckthorn (*Rhamnus crocea*), buckwheat (*Eriogonum* spp.), chaparral yucca (*Yucca whipplei*), California croton (*Croton californicus*), valley cholla (*Cylindropuntia californica* var. *parkeri*), tarragon (*Artemisia dracunculoides*), yerba santa (*Eriodictyon* spp.), mule fat (*Baccharis salicifolia*), and mountain-mahogany (*Cercocarpus betuloides*).

¹ Alluvial scrub vegetation of the San Gabriel River floodplain, Madrono 27:126-138, Robin Lee Smith, 1980; Alluvial scrub vegetation in coastal southern California, USDA Forest Service General Technical Report PSW-110, Ted L. Hanes, Richard D. Friesen, and Kathy Keane, 1989.

² The community composition of California coastal sage scrub, Vegetation 35:21-33, J. Kirkpatrick and C. Hutchinson, 1977.



LSA

PLAN BOUNDARY

LAND COVER TYPE

DEVELOPED/RUDERAL

RIVERSIDEAN ALLUVIAL FAN SAGE SCRUB - PIONEER

RIVERSIDEAN ALLUVIAL FAN SAGE SCRUB - INTERMEDIATE

RIVERSIDEAN ALLUVIAL FAN SAGE SCRUB - INTERMEDIATE/MATURE

RIVERSIDEAN ALLUVIAL FAN SAGE SCRUB - MATURE

RIVERSIDEAN ALLUVIAL FAN SAGE SCRUB - MATURE/NNG

NON-NATIVE GRASSLAND (NNG)

CHAMISE CHAPARRAL/NNG

CHAMISE CHAPARRAL

RIVERSIDEAN UPLAND SAGE SCRUB

RECHARGE BASIN

FIGURE 4.4.1

*Upper Santa Ana River Wash
Land Management Plan
Environmental Impact Report*

Land Cover

SOURCES: San Bernardino Water Conservation District, Dudek, Santa Ana Watershed Project Authority, AirPhotoUSA, 2007.

R:\SBW330\gis\Admin_Draft_EIR\Sect4_EnvironImpact\fig4-4-1_Land_Cover.mxd (03/20/08)

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Riversidean alluvial fan sage scrub occurs on alluvial benches throughout the Planning Area, in various stages of succession. During various field studies conducted from 2000 to 2003, URS mapped pioneer, intermediate, and mature Riversidean alluvial fan sage scrub in the Planning Area. These three stages of succession (pioneer, intermediate, and mature) generally represent the differences in species composition, growth forms (i.e., woodiness of plants) and percentage of cover. More mature areas tend to have woodier vegetation, a higher percentage of cover, and greater diversity than younger areas.

Areas mapped as mature Riversidean alluvial fan sage scrub are typically those areas least disturbed by human activity. The vegetation consists of woody shrubs and fully developed subshrubs. Typical species include California juniper (*Juniperus californica*), chamise (*Adenostoma fasciculatum*), chaparral yucca, sugar bush (*Rhus ovata*), redberry buckthorn, hollyleaf redberry (*Rhamnus ilicifolia*), and hoaryleaf ceanothus (*Ceanothus crassifolius*).

Areas mapped as intermediate Riversidean alluvial fan sage scrub typically lie between mature and pioneer Riversidean alluvial fan sage scrub. The vegetation is fairly dense and consists primarily of subshrubs. Typical species include California buckwheat (*Eriogonum fasciculatum*), coastal prickly pear (*Opuntia littoralis*), deerweed (*Lotus scoparius*), yerba santa (*Eriodictyon trichocalyx* var. *trichocalyx*), and chaparral yucca.

Areas mapped as intermediate/mature Riversidean alluvial fan sage scrub exhibit physical and vegetative characteristics found in both intermediate and mature Riversidean alluvial fan sage scrub.

Areas mapped as pioneer Riversidean alluvial fan sage scrub are generally located adjacent to human disturbances and along the Santa Ana River, Plunge Creek, and Mill Creek where scouring and sediment deposits result in changing substrates. The vegetation is typically sparse, of low stature, and of low diversity. Typical species include deerweed, California buckwheat, scalebroom, and mule fat.

The California Department of Fish and Game (CDFG) identifies Riversidean alluvial fan sage scrub as a sensitive natural community.

Non-Native Grassland. Disturbance by maintenance activities (e.g., mowing, scraping, discing, and spraying), grazing, repetitive fire, agriculture, or other mechanical disruption may alter soils and remove native seed sources from areas formerly supporting native habitat. Within the Planning Area, non-native grassland consists of a sparse to dense cover of annual grasses as well as native and non-native annual forb species.

Chamise Chaparral. Chamise chaparral occurs throughout much of the range of chaparral in California from approximately 30 to 6,000 feet in elevation. This vegetation is found on all slope-aspects, generally on shallow soils, and is dominated by chamise. Vegetation structure is open to dense from approximately 3 to 13 feet in height, with little litter and few understory species in mature stands. In the Planning Area, this vegetation type is dominated by chamise, but also includes yerba santa, California buckwheat, sugarbush, and chaparral yucca with an understory of red brome and gracile buckwheat (*Eriogonum gracile*).

Riversidean Upland Sage Scrub. Riversidean upland sage scrub is dominated by a characteristic suite of low-stature, aromatic, drought-deciduous shrub and subshrub species. It is the most xeric¹ expression of coastal sage scrub, occurring farther inland in drier areas where moisture and climate are not moderated by proximity to the marine environment. Riversidean upland sage scrub typically

¹ Xeric describes a location or habitat with very little moisture.

occurs on steep slopes, severely drained soils, or clays that are slow to release stored soil moisture.¹ Species composition varies substantially, depending on physical circumstances and the successional status of the habitat; however, characteristic species include California sagebrush (*Artemisia californica*), buckwheat, brittlebush (*Encelia farinosa*), white sage (*Salvia apiana*), and black sage (*Salvia mellifera*).²

Species common in Riversidean upland sage scrub in the Planning Area include California buckwheat, California sagebrush, deerweed, brittlebush, white sage, redberry buckthorn, and laurel sumac (*Malosma laurina*).

Recharge Basins. The existing recharge basins were constructed on site by the San Bernardino Valley Water Conservation District (District). These basins contain standing water intermittently during the year. The water in the recharge basins filters through the soil to the groundwater basin. When dry, the basins can be characterized as similar to the developed/ruderal land cover previously described.

Wildlife

Based on a review of biological surveys prepared for the 400-acre Robertson's Ready Mix site³ and the 630-acre Sunwest Materials (Cemex) site⁴ (both within the Planning Area), 77 wildlife species were observed or detected. These species included 3 amphibians, 11 reptiles, 46 birds, and 17 mammals.

Amphibians observed on the site are western toad (*Bufo boreas*), Pacific treefrog (*Pseudacris regilla*), and western spadefoot (*Spea hammondi*).

Reptiles commonly observed on site include side-blotched lizard (*Uta stansburiana*) and western fence lizard (*Sceloporus occidentalis*).

Bird species commonly observed on site include mourning dove (*Zenaida macroura*), Say's phoebe (*Sayornis saya*), scrub jay (*Aphelocoma coerulescens*), California towhee (*Pipilo crissalis*), house finch (*Carpodacus mexicanus*), American kestrel (*Falco sparverius*), and red-tailed hawk (*Buteo jamaicensis*).

Commonly observed mammals include coyote (*Canis latrans*), California ground squirrel (*Spermophilus beechyi*), Botta's pocket gopher (*Thomomys bottae*), and desert cottontail (*Sylvilagus audubonii*).

Listed and Other Special Interest Species. Two state-listed and federally-listed plant species—Santa Ana River woollystar (*Eriastrum densifolium* ssp. *sanctorum*) and slender-horned spineflower (*Dodecahema leptoceras*)—and two federally-listed wildlife species—coastal California gnatcatcher (*Polioptila californica californica*) and San Bernardino kangaroo rat (*Dipodomys merriami parvus*)—have been observed in the Planning Area. The Planning Area is within designated critical habitat for San Bernardino kangaroo rat as shown in Figure 4.4.2 (following Table 4.4.B).

These and other special interest species that potentially occur within the project vicinity are listed in Table 4.4.B, which also provides the probability of occurrence of each species in the Planning Area.

¹ A Description of the Terrestrial Natural Communities of California, California Department of Fish and Game, R. Holland, 1986.

² A Description of the Terrestrial Natural Communities of California, California Department of Fish and Game, R. Holland, 1986.

³ Baseline Biological Survey of the Robertson's Ready Mix Proposed Cone Camp Quarry, San Bernardino County, California, Lilburn Corporation, July 1996.

⁴ Biological Survey of Sunwest Material's Santa Ana Wash Project Areas in the City of Highland, San Bernardino, California, Lilburn Corporation, May 1997.

Table 4.4.B – Special Interest Species Potentially Occurring in the Project Vicinity

Species	Status	Habitat and Distribution	Probability of Occurrence
Plants			
<i>Berberis nevinii</i> Nevin's barberry	US: FE CA: SE CNPS: 1B	Gravelly wash margins in alluvial scrub, or coarse soils in chaparral; typically 275 to 825 meters (900 to 2,700 feet) elevation; Los Angeles, San Bernardino, Riverside, and San Diego Counties.	Absent. Site is outside the expected range of this species. Nearest location of natural population is in canyons over 4 miles to southwest of site. Species not known from Santa Ana River.
<i>Calochortus plummerae</i> Plummer's mariposa lily	US: – CA: SP CNPS: 1B	Sandy or rocky sites of (usually) granitic or alluvial material in valley and foothill grassland, coastal scrub, chaparral, cismontane woodland, and lower montane coniferous forest at 100 to 1,700 meters (300 to 5,600 feet) elevation. Known from the Santa Monica Mountains to San Jacinto Mountains in Riverside, San Bernardino, Los Angeles and Ventura Counties.	Present. Known from the site.
<i>Carex comosa</i> Bristly sedge	US: – CA: SP CNPS: 2	Bogs and fens, freshwater marshes and swamps, and lake margins below 425 meters (1,400 feet). Known from Lake, San Bernardino, Santa Cruz, San Francisco, Shasta, San Joaquin, and Sonoma Counties, and Idaho, Oregon, and Washington. The last known occurrence of this species in San Bernardino County was in 1882 and is believed extirpated.	Absent. No marshes or similar habitats on the site.
<i>Centromadia pungens</i> ssp. <i>laevis</i> Smooth tarplant	US: – CA: SP CNPS: 1B	Alkaline areas in chenopod scrub, meadows, playas, riparian woodland, valley and foothill grassland below 480 meters (1,600 feet) elevation. Known from Riverside and San Bernardino Counties, extirpated from San Diego County.	Absent. No alkaline soils on the site.
<i>Chorizanthe parryi</i> var. <i>parryi</i> Parry's spineflower	US: – CA: SP CNPS: 3	Dry sandy soils in chaparral and coastal sage scrub at 40 to 1,750 meters (100 to 5,700 feet) elevation. Known only from Riverside and San Bernardino Counties and possibly extending into Los Angeles County.	Present. Known from the site.
<i>Dodecahema leptoceras</i> Slender-horned spineflower	US: FE CA: SE CNPS: 1B	Gravel soils of Temecula arkose deposits in openings in chamise chaparral in the Vail Lake Area, or on sandy soils in opening in alluvial scrub (usually late seral stage) in floodplain terraces and benches that receive overbank deposits every 50 to 100 years from generally large washes or rivers; 200 to 760 meters (600 to 2,500 feet) elevation. Los Angeles, Riverside, and San Bernardino Counties.	Present. Known from the site.
<i>Eriastrum densifolium</i> ssp. <i>sanctorum</i> Santa Ana River woollystar	US: FE CA: SE CNPS: 1B	Sandy soils of floodplains and terraced fluvial deposits of the Santa Ana River and larger tributaries (Lytle and Cajon Creeks, lower portions of City and Mill Creeks) at 120 to 625 meters (400 to 2,100 feet) elevation in San Bernardino and Riverside Counties.	Present. Known from the site.

Table 4.4.B – Special Interest Species Potentially Occurring in the Project Vicinity

Species	Status	Habitat and Distribution	Probability of Occurrence
<i>Helianthus nuttallii</i> ssp. <i>parishii</i> Los Angeles sunflower	US: – CA: SP CNPS: 1A	Marshes and swamps (coastal salt and freshwater) in elevations from 10 to 500 meters (30 to 1,600 feet). This species is historically known from Los Angeles, Orange and San Bernardino Counties, California. Last seen in 1937. Presumed extinct.	Absent. No suitable habitat.
<i>Horkelia cuneata</i> ssp. <i>puberula</i> Mesa horkelia	US: – CA: SP CNPS: 1B	Sandy or gravelly soils in chaparral, or rarely in cismontane woodland or coastal scrub at 70 to 825 meters (200 to 2,700 feet) elevation. Known from San Luis Obispo, Santa Barbara, Los Angeles, and Orange Counties. Believed extirpated from Ventura, San Bernardino, Riverside, and San Diego Counties.	Absent. Known only historically from site vicinity. Believed extirpated from region.
<i>Imperata brevifolia</i> California satintail	US: – CA: – CNPS: 2	Wet areas below 500 meters (1,600 feet) elevation. Widespread in California and the western U. S. Also occurs in Mexico.	Low. On-site habitat marginal.
<i>Lepidium virginicum</i> var. <i>robinsonii</i> Robinson's pepper-grass	US: – CA: SP CNPS: 1B	Dry soils in coastal sage scrub and chaparral, typically below 500 meters (1,600 feet) elevation. In California, known only from Los Angeles, Orange, Riverside, Santa Barbara, San Bernardino, and San Diego Counties. This species is small, inconspicuous, relatively difficult to identify, and often overlooked in biological surveys.	Present. Known from the site.
<i>Lycium parishii</i> Parish's desert- thorn	US: – CA: SP CNPS: 2	Deciduous shrub of coastal scrub and Sonoran desert scrub at 305 to 1,000 meters (1,000 to 3,300 feet) elevation. In California, known from Imperial and San Diego Counties. Report from Riverside County is based on a misidentification. Known only historically from San Bernardino County (benches and/or foothills north of San Bernardino).	Absent. Nearest occurrence was from 1885, approximately 10 miles from project site. Believed extirpated in San Bernardino County.
<i>Malacothanmus parishii</i> Parish's bush mallow	US: – CA: SP CNPS: 1A	Known only from one occurrence in 1895, in chaparral and coastal sage scrub at 490 meters (1,600 feet) elevation in vicinity of San Bernardino. Presumed extinct.	Absent. Known only historically from site vicinity. Presumed extinct.
<i>Monardella pringlei</i> Pringle's monardella	US: – CA: SP CNPS: 1A	Sandy hills in coastal sage scrub at 300 to 400 meters (980 to 1,300 feet) elevation. Known only from two occurrences west of Colton. Last seen in 1941. Habitat lost to urbanization. Presumed extinct.	Absent. Nearest record approximately 8 miles from site. Habitat on site marginal or absent. Presumed extinct.
<i>Rorippa gambelii</i> Gambel's watercress	US: FE CA: ST CNPS: 1B	Freshwater or brackish marshes and swamps; 5 to 330 meters (20 to 1,100 feet) elevation. Known from Los Angeles, Orange, San Diego, and San Luis Obispo Counties and Baja California.	Absent. No marshes or swamps on-site.
<i>Sidalcea neomexicana</i> Salt spring checkerbloom	US: – CA: SP CNPS: 2	Alkaline springs and marshes below 1,530 meters (5,000 feet) elevation. In California, known only from Los Angeles, Orange, Riverside, Santa Barbara, San Bernardino, and Ventura Counties.	Absent. No alkaline springs or marshes on site.

Table 4.4.B – Special Interest Species Potentially Occurring in the Project Vicinity

Species	Status	Habitat and Distribution	Probability of Occurrence
<i>Sphenopholis obtusata</i> Prairie wedge grass	US: – CA: SP CNPS: 2	Cismontane woodland, meadows and seeps/mesic, in elevations ranging from 300 to 2,000 meters (1,000 to 6,600 feet), in Amador, Fresno, Inyo, Mono, Riverside, San Bernardino, and Tulare Counties.	Absent. No woodlands, meadows or seeps on site.
<i>Symphyotrichum defoliatum</i> (<i>Aster defoliatius</i>) San Bernardino aster	US: – CA: SP CNPS: 1B	Vernally wet sites (such as ditches, streams, and springs) in many plant communities below 2,040 meters (6,700 feet) elevation. In California, known from Ventura, Kern, San Bernardino, Los Angeles, Orange, Riverside, and San Diego Counties.	Low. No records of recent occurrences in project vicinity. Habitat on site is marginal or absent.
Invertebrates			
<i>Carolella busckana</i> Busck's gallmoth	US: – CA: SA	Habitat requirements unknown.	Low. Only known occurrence from project vicinity was in Loma Linda and is believed to have been extirpated.
<i>Rhaphiomidas terminatus abdominalis</i> Delhi sands flower-loving fly	US: FE CA: SA	Restricted to Delhi series sands in western Riverside and San Bernardino Counties.	Absent. No Delhi soils on site.
Fish			
<i>Catostomus santaanae</i> Santa Ana sucker	US: FT CA: CSC	The Santa Ana sucker's historical range includes the Los Angeles, San Gabriel, and Santa Ana River drainage systems located in southern California. An introduced population also occurs in the Santa Clara River drainage system in southern California. Found in shallow, cool, running water.	Absent. No perennial water on site.
<i>Gila orcutti</i> Arroyo chub	US: – CA: CSC	Perennial streams or intermittent streams with permanent pools; slow water sections of streams with mud or sand substrates; spawning occurs in pools. Native to Los Angeles, San Gabriel, San Luis Rey, Santa Ana, and Santa Margarita River systems; introduced in Santa Ynez, Santa Maria, Cuyama, and Mojave River systems and smaller coastal streams.	Absent. No perennial water on site.
<i>Rhinichthys osculus</i> ssp. 3 Santa Ana speckled dace	US: – CA: CSC	Found in riffles in small streams and shore areas with abundant gravel and rock within the headwaters of the Santa Ana and San Gabriel River drainages. Currently not found in the project site, but still found in Plunge Creek upstream from Greenspot Road Bridge. Historically found in Santa Ana River, Plunge Creek, City Creek, and Mill Creek, but has been extirpated.	Absent. No perennial water on site.
Amphibians			
<i>Rana muscosa</i> Mountain yellow-legged frog	US: FE CA: CSC	Ponds, lakes, and streams at moderate to high elevation; appears to prefer bodies of water with open margins and gently sloping bottom. Sierra Nevada Mountains and Transverse Ranges.	Absent. No perennial water on site.

Table 4.4.B – Special Interest Species Potentially Occurring in the Project Vicinity

Species	Status	Habitat and Distribution	Probability of Occurrence
<i>Spea</i> (= <i>Scaphiopus</i>) <i>hammondi</i> Western spadefoot	US: – CA: CSC	Grasslands and occasionally hardwood woodlands; requires vernal pools (persisting for at least three weeks) for breeding; burrows in loose soils during dry season. Occurs in the Central Valley and adjacent foothills, the non-desert areas of southern California, and in Baja California.	Present. Observed on site.
Reptiles			
<i>Anniella pulchra pulchra</i> Silvery legless lizard	US: – CA: CSC	Inhabits moist loose soil and humus from central California to northern Baja California.	Present. Observed on site.
<i>Aspidoscelis tigris stejnegeri</i> Coastal western whiptail	US: – CA: SA	Wide variety of habitats including coastal sage scrub, sparse grassland, and riparian woodland; coastal and inland valleys and foothills; Ventura County to Baja California.	High. Relatively widespread and common.
<i>Crotalus ruber ruber</i> Northern red-diamond rattlesnake	US: – CA: CSC	Desert scrub, thornscrub, open chaparral and woodland; occasional in grassland and cultivated areas. Prefers rocky areas and dense vegetation. Morongo Valley in San Bernardino and Riverside Counties to the west and south to Baja California.	Moderate. Relatively widespread and common.
<i>Diadophis punctatus modestus</i> San Bernardino ringneck snake	US: – CA: SA	Under surface objects along drainage courses, in mesic chaparral and oak and walnut woodland communities. Moist habitats of southwestern California from about Ventura to Orange Counties.	Absent. Suitable mesic chaparral and oak and walnut woodland communities not present on site.
<i>Phrynosoma coronatum blainvillei</i> San Diego horned lizard	US: – CA: CSC	Occurs in annual grassland, coastal sage scrub, chaparral, and woodland communities. Prefers open country, especially sandy areas, washes, and floodplains. Requires open areas for sunning, bushes for cover, patches of loose soil for burial, and an abundant supply of ants or other insects. Occurs in non-desert areas from Santa Barbara, Ventura, Kern, and Los Angeles Counties south to Baja California at elevations below 1,830 meters (6,000 feet).	Present. Known from the site.
<i>Thamnophis hammondi</i> Two-striped garter snake	US: – CA: CSC	Highly aquatic. Only in or near permanent sources of water. Streams with rocky beds supporting willows or other riparian vegetation. From Monterey County to northwest Baja California.	Absent. No perennial water on site.
Birds			
<i>Accipiter cooperii</i> (nesting) Cooper's hawk	US: – CA: CSC	Primarily forests and woodlands throughout North America. Increasingly common in urban habitats. Nests in tall trees, especially pines. Occasionally nests in isolated trees in more open areas.	Low (nesting). Marginally suitable habitat is present for nesting. This species has been observed foraging on the site.

Table 4.4.B – Special Interest Species Potentially Occurring in the Project Vicinity

Species	Status	Habitat and Distribution	Probability of Occurrence
<i>Aimophila ruficeps canescens</i> Southern California rufous-crowned sparrow	US: – CA: CSC	Steep, rocky coastal sage scrub and open chaparral habitats, particularly scrubby areas mixed with grasslands. From Santa Barbara County to northwestern Baja California.	Present. Known from the site.
<i>Amphispiza belli belli</i> Bell's sage sparrow	US: – CA: CSC	Occupies chaparral and coastal sage scrub from west central California to northwestern Baja California.	Present. Known from the site.
<i>Aquila chrysaetos</i> Golden eagle	US: – CA: CSC, CFP	Generally open country of the Temperate Zone worldwide. Nesting primarily in rugged mountainous country. Uncommon resident in southern California.	Absent (nesting). Nesting habitat is not present. This species has been seen flying over the site. May occasionally forage on site.
<i>Athene cunicularia</i> (burrow sites) Burrowing owl	US: – CA: CSC	Open country in much of North and South America. Usually occupies ground squirrel burrows in open, dry grasslands, agricultural and range lands, railroad rights-of-way, and margins of highways, golf courses, and airports. Often utilizes man-made structures, such as earthen berms, cement culverts, cement, asphalt, rock, or wood debris piles.	Present. Known from the site.
<i>Coccyzus americanus occidentalis</i> (nesting) Western yellow-billed cuckoo	US: FC CA: SE	Breeds and nests in extensive stands of dense cottonwood/willow riparian forest along broad, lower flood bottoms of larger river systems at scattered locales in western North America; winters in South America.	Absent. No riparian forest on site.
<i>Dendroica petechia brewsteri</i> (nesting) California yellow warbler	US: – CA: CSC	Riparian woodland while nesting in the western U.S. and northwestern Baja California; more widespread in brushy areas and woodlands during migration and winter, when occurring from western Mexico to northern South America. Migrants belonging to other subspecies are widespread and common.	Absent (nesting). No riparian woodlands on site.
<i>Elanus leucurus</i> (nesting) White-tailed kite	US: – CA: CFP	Typically nests in riparian trees such as oaks, willows, and cottonwoods at low elevations. Forages in open country. Found in South America and in southern areas and along the western coast of North America.	Low (nesting). Typical nesting habitat does not occur on-site. Species was observed foraging on site.
<i>Empidonax traillii extimus</i> Southwestern willow flycatcher	US: FE CA: SE	Rare and local breeder in extensive riparian areas of dense willows or (rarely) tamarisk, usually with standing water, in the southwestern U.S. and (formerly?) northwestern Mexico. Winters in Central and South America.	Absent. No riparian habitat on site.

Table 4.4.B – Special Interest Species Potentially Occurring in the Project Vicinity

Species	Status	Habitat and Distribution	Probability of Occurrence
<i>Eremophila alpestris actia</i> California horned lark	US: – CA: CSC	Open grasslands and fields, agricultural area, open montane grasslands. This subspecies is resident from northern Baja California northward throughout non-desert areas to Humboldt County, including the San Joaquin Valley and the western foothills of the Sierra Nevada (north to Calaveras County). During the breeding season, this is the only subspecies of horned lark in non-desert southern California; however, from September through April or early May, other subspecies visit the area.	Present. Observed on site.
<i>Falco mexicanus</i> (nesting) <i>Prairie falcon</i>	US: – CA: CSC	Open country in much of North America. Nests in cliffs or rocky outcrops; forages in open arid valleys and agricultural fields. Rare in southwestern California.	Absent (nesting). Nesting habitat is not present. This species has been seen flying over the site. May occasionally forage on site.
<i>Icteria virens</i> (nesting) Yellow-breasted chat	US: – CA: CSC	Riparian thickets of willow, brushy tangles near watercourses. Nests in riparian woodland throughout much of western North America. Winters in Central America.	Absent. No riparian habitat on site.
<i>Lanius ludovicianus</i> (nesting) Loggerhead shrike	US: – CA: CSC	Open fields with scattered trees or shrubs, open country with short vegetation, pastures, old orchards, cemeteries, golf courses, riparian areas, and open woodlands. Found in open country in much of North America.	Present. Known from the site.
<i>Poliophtila californica californica</i> Coastal California gnatcatcher	US: FT CA: CSC	Inhabits coastal sage scrub in low-lying foothills and valleys in cismontane southwestern California and Baja California.	Present. Known from site.
<i>Vireo bellii pusillus</i> Least Bell's vireo	US: FE CA: SE	Riparian forests and willow thickets. Nests from central California to northern Baja California. Winters in southern Baja California.	Absent. No riparian habitat on site.
Mammals			
<i>Chaetodipus fallax fallax</i> Northwestern San Diego pocket mouse	US: – CA: CSC	Found in sandy herbaceous areas, usually associated with rocks or coarse gravel in coastal scrub, chaparral, grasslands, and sagebrush, from Los Angeles County through southwestern San Bernardino, western Riverside, and San Diego Counties to northern Baja California.	Present. Known from site.
<i>Dipodomys merriami parvus</i> San Bernardino kangaroo rat	US: FE CA: CSC	Gravelly and sandy soils of alluvial fans, braided river channels, active channels and sandy terraces; San Bernardino Valley (San Bernardino County) and San Jacinto Valley (Riverside County).	Present. Known from the site.
<i>Eumops perotis</i> Western mastiff bat	US: – CA: CSC	Occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral, etc.; roosts in crevices in vertical cliff faces, high buildings, trees, and tunnels, and travels widely when foraging.	Low (roosting). Roosting habitat may be present. Observed foraging over site.

Table 4.4.B – Special Interest Species Potentially Occurring in the Project Vicinity

Species	Status	Habitat and Distribution	Probability of Occurrence
<i>Lasiurus xanthinus</i> Western yellow bat	US: – CA: SA	Occurs in southern California in palm oases and in residential areas with untrimmed palm trees. Roosts primarily in trees, especially the dead fronds of palm trees. Forages over water and among trees.	Absent. No palm habitat on site.
<i>Lepus californicus bennettii</i> San Diego black-tailed jackrabbit	US: – CA: CSC	Variety of habitats including herbaceous and desert scrub areas, early stages of open forest and chaparral. Most common in relatively open habitats. Restricted to the cismontane areas of southern California, extending from the coast to the Santa Monica, San Gabriel, San Bernardino, and Santa Rosa Mountain ranges.	Present. Known from the site.
<i>Neotoma lepida intermedia</i> San Diego desert woodrat	US: – CA: CSC	Frequents poorly vegetated arid lands and is especially associated with cactus patches. Occurs along the Pacific slope from San Luis Obispo County to northwest Baja California.	Present. Known from the site.
<i>Onychomys torridus Ramona</i> Southern grasshopper mouse	US: – CA: CSC	Arid habitats, especially scrub habitats with friable soils. Coastal scrub, mixed chaparral, sagebrush, low sage and bitterbrush habitats. Arid portions of southwestern California and northwestern Baja California.	Moderate. Habitat on site appears suitable.
<i>Perognathus longimembris brevinasus</i> Los Angeles pocket mouse	US: – CA: CSC	Prefers sandy soil for burrowing, but has been found on gravel washes and stony soils. Found in coastal scrub in Los Angeles, Riverside, and San Bernardino Counties.	Present. Known from the site.
<i>Taxidea taxus</i> American badger	US: – CA: CSC	Primary habitat requirements seem to be sufficient food and friable soils in relatively open uncultivated ground in grasslands, woodlands, and desert. Widely distributed in North America.	Low. No recent records from project vicinity.

Notes: US (Federal) Designations:

FE Federally-listed as Endangered.

FT Federally-listed as Threatened.

CA (State) Designations:

CFP California Fully Protected. Refers to animals protected from take under Fish and Game Code sections 3511, 4700, 5050, and 5515.

CSC California Species of Special Concern. Refers to taxa with vulnerable or seriously declining populations.

SA Special Animal. Refers to taxon of concern to the Natural Diversity Data Base regardless of its legal or protection status.

SE State-listed as Endangered.

SP Special Plant. Refers to taxon of concern to the Natural Diversity Data Base regardless of its legal or protection status.

ST State-listed as Threatened.

CNPS (California Native Plant Society) Designations:

1A Plants presumed extinct in California.

1B Plants considered by CNPS to be rare, threatened or endangered throughout its range.

2 Plants considered by CNPS to be rare, threatened or endangered in California, but more common elsewhere.

3 Plants suggested by CNPS for consideration as endangered but about which more information is needed.

Sources: Database records for the *Redland*, *Yucaipa*, and *San Bernardino South* U.S. Geological Survey 7.5-minute quadrangles on February 6, 2007, using the Natural Diversity Database application *Rarefind 3* (version 3.05, dated July 29, 2006; the Resources Agency, Sacramento, California) of the California Department of Fish and Game.

California Native Plant Society's *Electronic Inventory of Rare and Endangered Vascular Plants of California* (online edition, v7-06c, California Native Plant Society, 2006, <http://www.cnps.org/inventory>).

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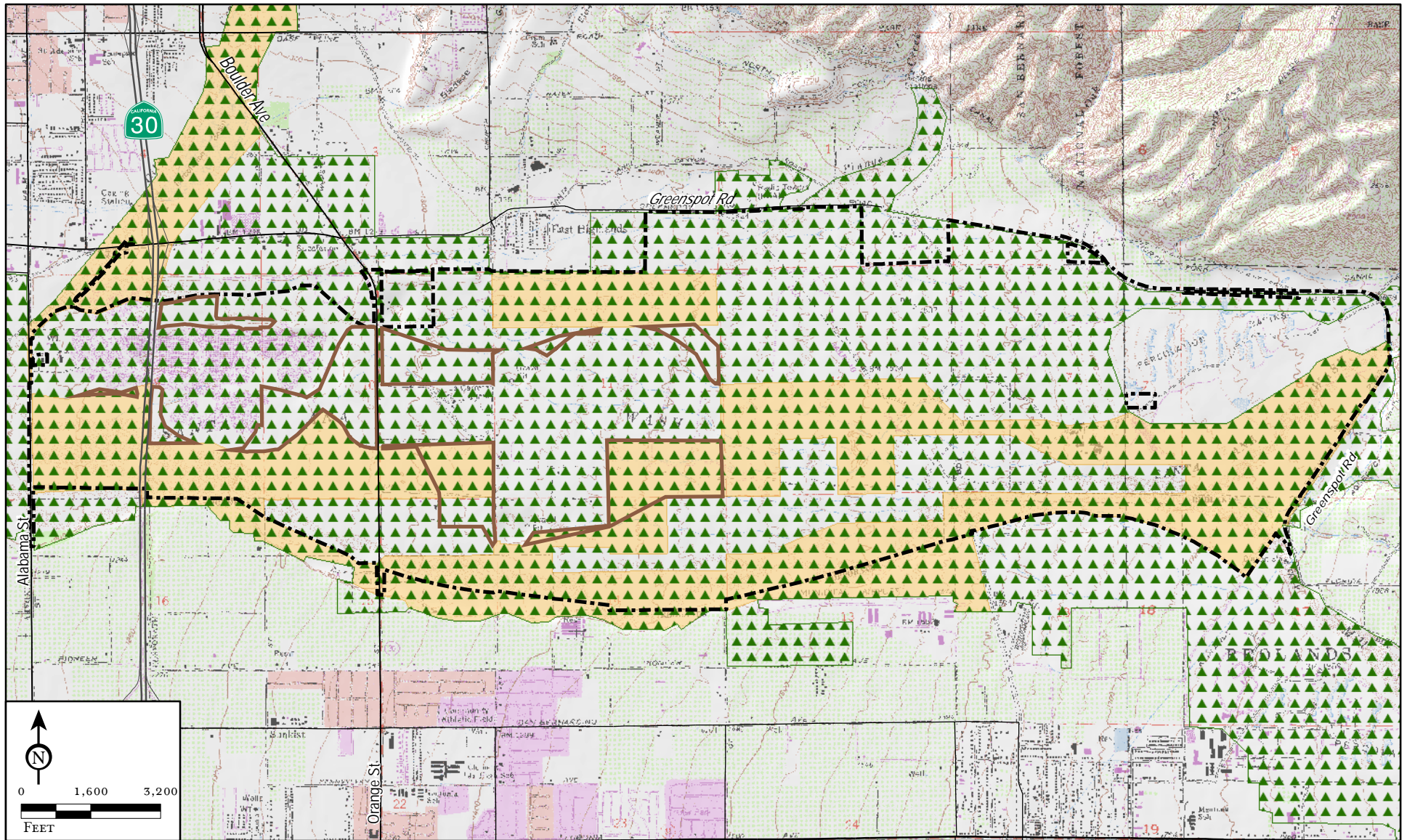


FIGURE 4.4.2

LSA

PLAN BOUNDARY

PROPOSED MINING EXPANSION

SAN BERNARDINO KANGAROO RAT, FINAL, REMEAND, 4/23/02

SAN BERNARDINO KANGAROO RAT, PROPOSED, 6/12/07

SOURCE: USGS 7.5' Quads: San Bernardino South (1980), San Bernardino North, Harrison Mtn., Redlands, Keller Peak, Yucaipa (1988), CA; Thomas Bros. (2006). Federal Registry, Critical Habitat, 2002 and 2007

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Upper Santa Ana River Wash
Land Management Plan
Environmental Impact Report

USFWS Designated Critical Habitat

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Documented occurrences of some of these species in the Planning Area or its immediate vicinity are depicted in previously referenced Figure 3.4. These occurrences reflect only a limited sampling of potential habitat and do not represent a quantified mapping of species distributions or the numbers of individuals on site.

Existing Habitat Conservation

A total of 1,215 acres within the Planning Area is currently designated habitat conservation. Conserved areas of the site include BLM Areas of Critical Environmental Concern (ACEC) and Research Natural Area (RNA), City of Highland Biological Mitigation Areas, a Robertson's Haul Road Conservation Easement, and the Santa Ana River Woollystar Preservation Area (previously referenced Figure 3.5).

4.4.2 Policies and Regulations

This section discusses the following local, State, and Federal environmental laws and policies as they relate to the protection of biological resources in the Planning Area.

- *City of Highland General Plan*¹
- *City of Redlands 1995 General Plan*²
- California Endangered Species Act
- Streambed Alteration Agreement
- Natural Community Conservation Planning
- Clean Water Act of 1977
- Federal Endangered Species Act
- Fish and Wildlife Coordination Act
- Migratory Bird Treaty Act

City of Highland General Plan Update

Goal 5.7.1 and its associated policies within the *City of Highland General Plan Update* apply to the protection of biological resources.

Goal 5.7.1 Maintain, protect, and preserve biologically significant habitats, including riparian areas, woodlands and other areas of natural significance.

Policy 1 Continue participation, in cooperation with relevant agencies and jurisdictions, in the preparation, planning, and implementation of Habitat Conservation Plans and preservation areas.

Policy 2 Ensure that all development, including roads proposed adjacent to riparian and other biologically sensitive habitat, avoid significant impacts to such areas.

Policy 3 Require that new development proposed in such locations be designed to:

- Minimize or eliminate the potential for unauthorized entry into the sensitive area;
- Create buffer areas adjacent to the sensitive area, incorporating the most passive uses of the adjacent property;
- Protect the visual seclusion of forage areas from road intrusion by providing vegetative buffering;
- Provide wildlife movement linkages to water sources and other habitat areas;

¹ *City of Highland General Plan Update*, City of Highland, updated March 14, 2006.

² *City of Redlands 1995 General Plan*, City of Redlands, as amended on December 12, 1997.

- Provide native vegetation that can be used by wildlife for cover along roadsides; and
- Protect wildlife crossings and corridors.

City of Redlands 1995 General Plan

The following policies within the Conservation Element of the *City of Redlands 1995 General Plan* apply to the protection of biological resources.

- Policy 7.21a** Minimize disruption of wildlife and valued habitat throughout the Planning Area [meaning the City of Redlands area and its sphere of influence].
- Policy 7.21b** Preserve, protect, and enhance natural communities of special status.
- Policy 7.21d** Preserve, protect, and enhance wildlife corridors connecting the San Bernardino National Forest, Santa Ana River Wash, Crafton Hills, San Timoteo/Live Oak Canyons, the Badlands, and other open space areas.
- Policy 7.21e** Preserve, restore, protect, and enhance riparian corridors throughout the Planning Area.
- Policy 7.21h** Require a biological assessment of any proposed project site where species or the habitat of species defined as sensitive or special status by the California Department of Fish and Game or the U.S. Fish and Wildlife Service might be present.
- Policy 7.21i** Require that proposed projects adjacent to, surrounding, or containing wetlands, riparian corridors, or wildlife corridors be subject to a site-specific analysis which will determine the appropriate size and configuration of a buffer zone.
- Policy 7.21q** Support the U.S. Army Corps of Engineers' efforts to establish a preserve for the Santa Ana River woollystar as mitigation for habitat anticipated to be lost as a result of construction in the Planning Area.
- Policy 7.21r** Work with concerned agencies and organizations to preserve the slender-horned spineflower.
- Policy 7.21s** Coordinate aggregate resource extraction with habitat preservation and protection of plant and animal species.
- Policy 7.21v** Coordinate trails with preservation of habitat and protection of species sensitive to human intrusion.
- Policy 7.21x** Explore opportunities to have nature displays along the Santa Ana River in conjunction with trails to provide environmental and habitat information.

California Endangered Species Act

The California Endangered Species Act (CESA)¹ prohibits the take of listed species without a permit. As the responsible administering department of the Resources Agency, the CDFG has regulatory authority over State-listed endangered and threatened species. Many species are listed as threatened or endangered with both the CESA and the Federal Endangered Species Act (FESA).

Section 2085 of the California Fish and Game Code directs that in those instances where there exists a Federal Biological Opinion (BO), the CDFG shall, to the extent that it is consistent with CESA, use this BO in lieu of preparing separate findings. By adopting the Federal BO, the CDFG need not authorize "take" pursuant to Section 2081 but, rather, issues a concurrence letter in accordance with § 2080.1 to finalize the adoption by the CDFG of the Federal BO. If the Federal BO were found to be

¹ California Fish and Game Code §§2050-2116.

inconsistent with CESA, the CDFG would make its own findings pursuant to § 2090 of the California Fish and Game Code and issue a Section 2081 take permit with additional conditions of approval.

Streambed Alteration Agreement

Sections 1600 et seq. of the State Fish and Game Code¹ define the responsibilities of the CDFG and require public and private applicants to obtain an agreement for projects that would “divert, obstruct, or change the natural flow or bed, channel, or bank of any river, stream, or lake designated by the CDFG in which there is at any time an existing fish or wildlife resource or from which those resources derive benefit, or would use material from the streambed designated by the department.” CDFG wardens and/or unit biologists typically have the responsibility for formulating and issuing Streambed Alteration Agreements.

Natural Community Conservation Planning

Regional conservation planning efforts that have been conducted in accordance with the Natural Community Conservation Planning (NCCP) Act of 1991 are designed to provide protection and conservation to threatened and endangered species through a multi-species, habitat-based, and long-term approach, which ensures a balance between the conservation of the species and habitats and the economic growth of the community in which they exist. The NCCP process provides an alternative to protecting species on a single-species basis as in the FESA and CESA. The CDFG is responsible for implementing process planning and conservation guidelines for NCCP programs. Local governments and landowners may prepare the NCCPs so that they comply with both the FESA and CESA.

Clean Water Act

The Federal Clean Water Act² governs pollution control and water quality of waterways throughout the United States. The goals and standards of the Clean Water Act are enforced through permit provisions. Section 404 of the Clean Water Act outlines the permit program administered by the U.S. Army Corps of Engineers (ACOE) and is required for dredging or filling the nation’s waterways. The proponent must obtain and comply with any permit required by Section 404 of the Clean Water Act if unavoidable impacts to regulated wetlands and/or waters would occur as part of project implementation. In addition, Section 401 of the Clean Water Act requires that the local Regional Water Quality Control Board (RWQCB) issue a water quality certification or waiver for each project which requires a Section 404 permit.

Federal Endangered Species Act

The Federal Endangered Species Act (FESA)³ was enacted to protect various species of fish, wildlife, and plants threatened with extinction as a consequence of economic growth untempered by adequate concern and conservation. Sections of FESA relevant to the proposed project include:

- Guidance regarding the determination of endangered and threatened species (Section 4);
- Interagency cooperation (Section 7);
- Prohibited acts (Section 9); and
- Those conditions under which actions otherwise prohibited by Section 9 may be authorized (Section 10).

¹ Streambed Alteration Agreement (California Fish and Game Code, § 1600).

² Clean Water Act of 1977 (33 United States Code [USC] § 1251 [1994]).

³ Federal Endangered Species Act (16 USC § 1531 [1994]).

Section 9 prohibits the “take” of species listed as federally threatened or endangered. For purposes of Section 9, the term “take” is defined as to hunt, pursue, catch, capture, harass, or kill a listed species, or to attempt to hunt, pursue, catch, capture, or kill a listed species. Destruction or disruption of habitat of a listed species can, under certain circumstances, result in the take of such species.

When a project involves a federal action (e.g., federal authorization, the use of federal funds or other support, a federal activity, or other federalization of the proposed action), the lead federal agency is required to consult with the USFWS when project activities may affect a listed species. A Biological Assessment (BA), which outlines the potential for impacts to federally listed threatened and endangered species and suggests compensation measures for unavoidable impacts, is prepared. Based on the BA, the USFWS issues a Biological Opinion (BO), which evaluates the potential for the proposed action to jeopardize species survival or recovery. Findings of no jeopardy allow projects to occur in compliance with any project conditions even though the project may result in the incidental “take” of a listed species.

Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act¹ directs the Department of the Interior to provide assistance to and foster cooperation between Federal agencies to promote wildlife conservation in water resource development programs. Agencies must consult with the section of the Department of Interior that has jurisdiction over the study area (in this case, USFWS) on wildlife conservation measures to be implemented during construction and maintenance of the proposed project. Conservation measures for the proposed project will be outlined in the environmental document and BA/BO, if needed, and if the proposed project were federalized, in a Coordination Act Report, which is a non-binding document that outlines suggestions for a Federal activity to consider.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act,² along with subsequent amendments to the Act, provides legal protection for almost all breeding bird species occurring in the United States. The Migratory Bird Treaty Act restricts the killing, taking, collecting and selling or purchasing of native bird species or their parts, nests, or eggs. It allows hunting of certain game bird species, for specific periods, as determined by Federal and state governments. The intent of the Migratory Bird Treaty Act is to eliminate any commercial market for migratory birds, feathers, or bird parts, especially for eagles and other birds of prey.

4.4.3 Thresholds of Significance

The effects of the proposed project on vegetation and wildlife resources are considered significant (*CEQA Guidelines*, Appendix G) if it would result in any of the following:

- Have a substantial adverse effect, either directly or indirectly or through habitat modification, on any species listed as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFG or USFWS;
- 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 CDFG or the USFWS;
- 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;

¹ Fish and Wildlife Coordination Act (16 USC § 661 [1934]).

² Migratory Bird Treaty Act (16 USC § 703 [1994]), as amended.

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native or resident 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; and/or
- Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or State habitat conservation plan.

4.4.4 Impact Analysis

Potential impacts to biological resources include the following:

- Direct removal of individuals, seeds, and soil from: aggregate mining; operations and maintenance of existing water conservation facilities, flood control facilities, and water production facilities; and construction of future water conservation facilities, trails, and roads.
- Indirect effects of dust, noise, and light interfering with plant growth or essential wildlife behaviors.
- Continuation of habitat fragmentation.
- Loss of designated “critical” habitat.
- Interference with the recovery of threatened or endangered species.

Habitat Conservation

Conservation of the Planning Area habitat is considered critical to the long-term survival of a variety of sensitive species. Two State-listed and federally-listed plant species—the Santa Ana River woollystar and the slender-horned spineflower—and two federally-listed wildlife species—the coastal California gnatcatcher and the San Bernardino kangaroo rat—are known to occur on the site. As shown in previously referenced Figure 3.15 and Table 3.C, the proposed project includes 1,947 acres of Habitat Conservation (an increase of 732 acres over existing conditions) made up of the following:

- Bureau of Land Management (BLM) Areas of Critical Environmental Concern (ACEC) and Research Natural Area (RNA);¹
- Santa Ana River Woollystar Preservation Area (WSPA);
- District Conservation Easement;
- Habitat Conservation and Potential ACEC and RNA;
- City of Highland Biological Mitigation Area; and
- Undesignated habitat area.

These areas are further described below:

Bureau of Land Management Areas of Critical Environmental Concern. Approximately 640 638 acres of land within the Planning Area are located within BLM ACEC and RNA, which are areas where natural conditions are to be maintained insofar as possible. However, approximately 61 acres located in the westernmost BLM ACEC and RNA have been disturbed by existing permitted mining activities and have therefore been identified in Figure 3.2 and Table 3.A as existing aggregate mining.

¹ ACECs were authorized in Section 202 (c)(3) of the Federal Land Policy and Management Act of 1976(43 U.S.C. 1712), which states that in the development and revision of land use plans, there shall be given “priority to the designation and protection of areas of critical environmental concern.”

With implementation of a subsequent project by BLM, some ACEC and RNA land, including the 61 acres of disturbed area, would be exchanged for higher quality habitat within the Planning Area, which would be designated ACEC and RNA land. The real estate transaction that would implement this land exchange between the BLM and the District will be analyzed in a separate environmental document. The land exchange will result in increased long-term protection for Santa Ana River woollystar, slender-horned spineflower, and other species deemed critical by BLM. With implementation of the BLM land exchange with the District, the ACEC and RNA will encompass ~~674~~ 670 acres.

Santa Ana River Woollystar Preservation Area. The existing WSPA¹ was established as part of the mitigation for the construction of the Seven Oaks Dam. Its existence would continue in an expanded form with the proposed project, as approximately 27 acres of land that presently provide habitat for Santa Ana River woollystar would be added to the Santa Ana River Woollystar Preservation Area. These additional acres would connect two divided stretches of the Santa Ana River Woollystar Preservation Area that extend along the Santa Ana River (compare previously referenced Figures 3.5 and 3.15). At the same time, a 20-acre corner of the Santa Ana River Woollystar Preservation Area that has been disturbed by a prior lumber mill use and is poor habitat would be designated Aggregate Mining with the proposed project (compare Figures 3.5, and 3.15). With the additional acreage, the WSPA would encompass 574 acres.

District Conservation Easement. As mitigation for impacts to biological resources that were created with the construction of Robertson's Haul Road, approximately 10 acres owned by the District were placed in a conservation easement (previously referenced Figure 3.5). With the creation of this conservation easement, located north of the Santa Ana River, it was ensured that these approximately 10 acres would be left in their natural state and that no development or disturbance to the site's biological resources would occur. The conservation easement would remain in its current state with the proposed project.

The District is also designating approximately 150 acres to habitat conservation, located on either side of Plunge Creek, an area that would not be exchanged to BLM but would be managed habitat under the HCP. The land exchange will provide not only additional habitat, but it will provide an unrestricted corridor for wildlife movement. These actions provide more than sufficient mitigation for continued operations and maintenance activities by the District and also for relocating the monitoring well.

City of Highland Biological Mitigation Area. Mitigation for a completed City of Highland storm drain project was provided in the form of approximately ~~46~~ 20 acres of land set aside for the preservation of biological resources. This mitigation land is expected to eventually be managed by the BLM and added to the BLM ACEC and RNA land. As a separate action to be taken between the City of Highland and the BLM independent of the Wash Plan, ownership of these 20 acres of land will be conveyed to the BLM.

Additional Habitat Conservation. Additional Habitat Conservation land uses would involve the conservation of land to be set aside for the purpose of informal or formal (in the case of easements) protection of habitat and/or species. These land areas would become either habitat conservation or part of the BLM ACEC land, depending on the appraised values of the parcels for the proposed land exchanges between BLM and the District. These areas are shown in previously referenced Figure 3.16.

¹ The WSPA's total area is 707 acres; 547 acres are within the Planning Area and 160 acres are located outside the Planning Area.

Take of or Modification of the Habitats of Listed Species or Other Special Status Species

Threshold	Would the proposed project have a substantial adverse effect, either directly or indirectly or through habitat modification, on any species listed as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFG or USFWS?
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Impact 4.4.1 Relocation of the District's Observation Well No. 4 and construction of future water conservation facilities may result in impacts to listed species and/or other special status species or modification of their habitats.

Water Conservation Operations/Maintenance Activities of the District

As described in Section 3.6.1, the District will continue to operate, maintain, and repair its water conservation facilities (access roads, canals, culverts, dikes, basins, and diversion structures) within the Planning Area in the same manner as existing conditions. District water conservation activities (i.e., groundwater recharge via percolation basins and spreading facilities, maintenance of such facilities) will continue at approximately past levels at these facilities. These activities will continue to occur at all of the existing water conservation facilities shown in Figure 3.11. These existing water conservation and associated maintenance activities will continue to occur on ~~749~~ 740 acres similar to existing conditions, confined to areas already established for such uses. Impacts to listed or special status species associated with the continuation of water conservation activities within the areas designated as water conservation represent a continuation of existing baseline conditions as defined by CEQA, and are therefore considered less than significant and no mitigation is required.

The project would result in the District's Observation Well No. 4 being displaced by aggregate mining. This well would need to be reconstructed outside the mining area on the upstream, dry side of "D" dike and percolation basin. "D" dike and basin (Figure 3.11) are located toward the center of the Planning Area in a north-to-south-trending direction. Because maintenance roads already exist and are used to service "D" dike and basin, these same existing roads will be used to access relocated Observation Well No. 4. Although the precise location of the relocated well is not known and neither is the amount of acreage that will be impacted, the District estimates that up to 2 acres of land will be permanently impacted with the relocation of Observation Well No. 4. The specific well site would be determined in coordination with the BLM and USFWS when the well is to be relocated, because the new location will be on BLM property after the land exchange with the District. Construction of the relocated well may result in up to 2 acres of lost habitat to the four listed species and the Los Angeles pocket mouse, affecting individual members of these species. This is a significant impact requiring mitigation.

As further explained in Section 3.6.1, there is a possibility that the District will need to construct and operate additional water conservation facilities to accommodate future water recharge from non-District water rights resulting from the Integrated Water Management Plan (IRWMP). Still in its infancy, the IRWMP will set forth a coordinated surface water and groundwater management system for the region. Because the specifics of the IRWMP are not known, it is unclear whether new water conservation facilities will be needed, how many will be needed, how large each facility will be, or where they will be located. Nonetheless, this EIR provides mitigation for potential impacts to biological resources resulting from such future facilities. The future water conservation facilities would be located within the Water Conservation lands (~~749~~ 740 acres) identified as Phases 1 and 2 plus an additional 165 acres within northeastern portion of Section 12 identified as Phase 3 (Figure 4.4.3).

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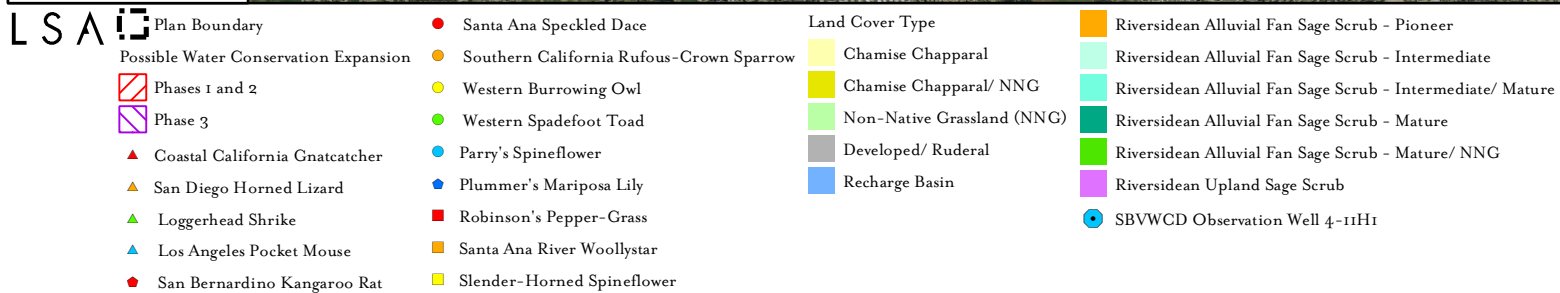
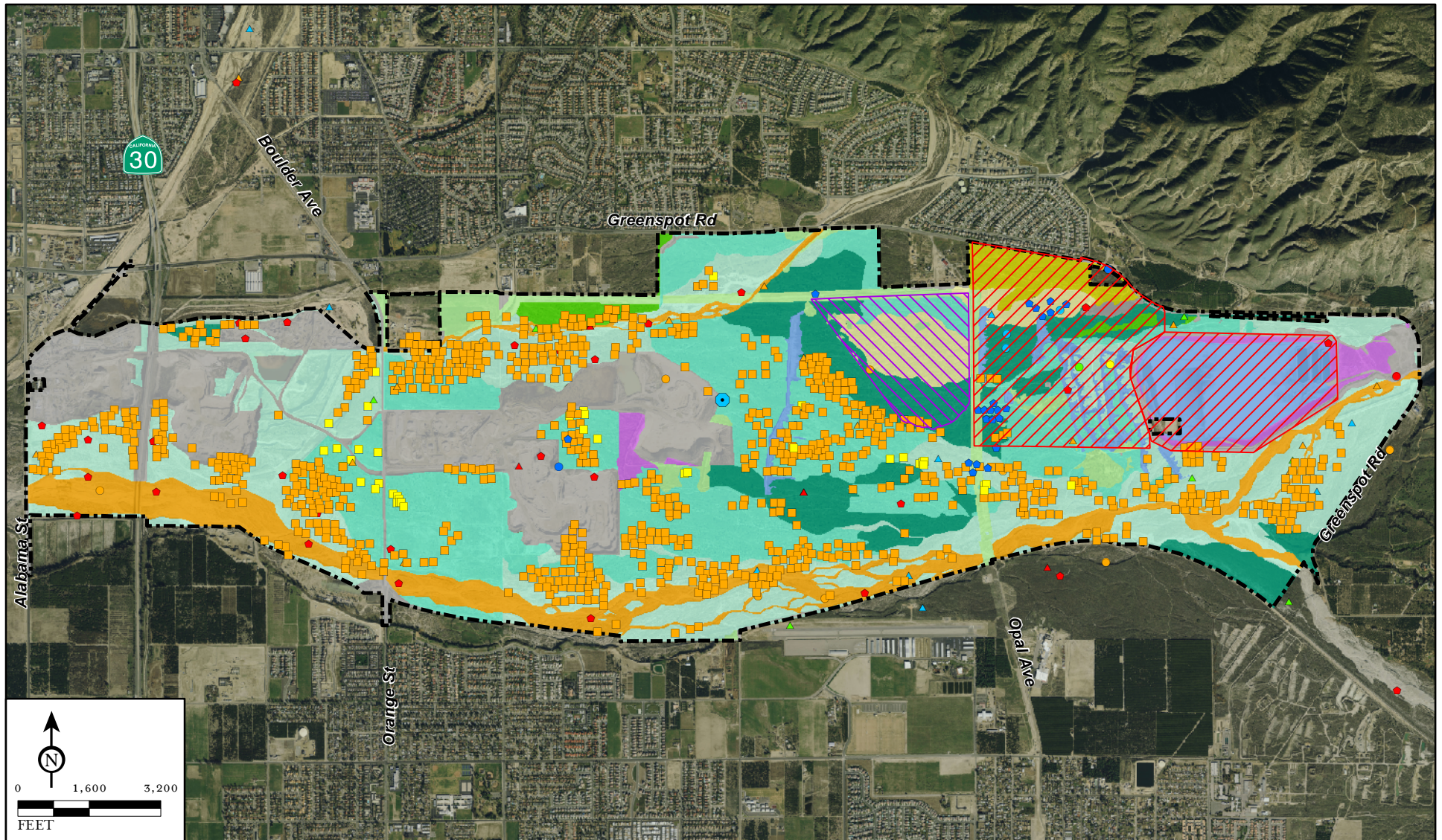


FIGURE 4.4.3

*Upper Santa Ana River Wash
Land Management Plan
Environmental Impact Report*

**Impacts of Future Water
Conservation Facilities**

SOURCES: San Bernardino Water Conservation District, Dudek, Santa Ana Watershed Project Authority, AirPhotoUSA, 2008.

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Because the location of relocated Observation Well No. 4 and location and number of future water conservation facilities are not known, they are analyzed at a programmatic level in this EIR.¹

If the new site or sites for Observation Well No. 4 or the future water conservation facilities are within Riversidean alluvial fan sage scrub or Riversidean upland sage scrub, these construction activities may impact individuals or habitat of one or more of the following species listed as threatened or endangered under FESA and/or CESA:

- Slender-horned spineflower;
- Santa Ana River woollystar;
- Coastal California gnatcatcher; and
- San Bernardino kangaroo rat.

In addition, the new well and future water conservation facilities may affect the Los Angeles pocket mouse. Although the Los Angeles pocket mouse is a California Species of Special Concern and not a listed species, it is relatively restricted in geographic range and habitat requirements (previously referenced Table 4.4.B). This species is much rarer than most other California Species of Special Concern. It occurs almost exclusively in sandy soils in coastal sage scrub and only in the western Riverside County, southwestern San Bernardino County, and Los Angeles County area. The Planning Area contains a large quantity of high quality coastal sage scrub habitat with sandy soils. Of all the non-listed species identified as potentially occurring within the Planning Area, it is the one most likely to become listed. Even with its rarity, it probably would not be identified as a significant issue for a smaller project. It is only considered significant because the proposed project potentially affects a large quantity of high quality habitat that remains for the species. As a result, impacts from the well relocation and future water conservation facilities to the four listed species noted above and to the Los Angeles pocket mouse may be significant, depending on the location and degree of disturbance to the habitats of these species.

The following additional non-listed special interest species (i.e., not listed as threatened or endangered under the FESA or CESA) are known to occur in the Planning Area or may potentially occur in the Planning Area:

- Plummer's mariposa lily;
- Parry's spineflower;
- California satintail;
- Robinson's pepper-grass;
- San Bernardino aster;
- Busck's gallmoth;
- Santa Ana speckled dace;
- Western spadefoot;
- Silvery legless lizard;
- Coastal western whiptail;
- Northern red-diamond rattlesnake;

¹ "A program EIR is an EIR which may be prepared on a series of actions that can be characterized as one large project and are related either: (1) Geographically, (2) A logical parts in the chain of contemplated actions, (3) In connection with issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program, or (4) As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways." *CEQA Guidelines* Section 15168 (a).

- San Diego horned lizard;
- Cooper's hawk;
- Southern California rufous-crowned sparrow;
- Bell's sage sparrow;
- Burrowing owl;
- White-tailed kite;
- California horned lark;
- Loggerhead shrike;
- Northwestern San Diego pocket mouse;
- San Diego black-tailed jackrabbit;
- San Diego desert woodrat;
- Southern grasshopper mouse; and
- Western mastiff bat.

Documented occurrences of these species within the Planning Area (previously referenced Figure 3.4), including areas that would be impacted, reflect only a limited sampling of species presence and do not represent a quantified mapping of species distributions or the numbers of individuals within the Planning Area. The probability of occurrence of each of these species in the Planning Area is given in previously referenced Table 4.4.B. Some of the birds, such as Cooper's hawk and white-tailed kite, are known to forage on the site but are not expected to nest within the Planning Area. Because these species are not listed as endangered or threatened and because the project will not affect a large quantity of high quality habitat remaining for the species, impacts from the well relocation and future water conservation facilities to these species are considered less than significant and no mitigation is required.

Santa Ana speckled dace, although historically entering the Planning Area during periods of inundation by the Santa Ana River, Plunge Creek, City Creek, and Mill Creek, has been extirpated from the Planning Area and therefore has no permanent habitat within the Planning Area. Due to the absence of permanent habitat within the Planning Area and because the well and future water conservation facilities will be located within areas that will not affect the Santa Ana River, Plunge Creek, and Mill Creek, impacts to this species would be less than significant and no mitigation is required.

In conclusion, impacts associated with the relocation of Well No. 4 and construction of future water conservation facilities to the slender-horned spineflower, Santa Ana River woollystar, coastal California gnatcatcher, San Bernardino kangaroo rat and Los Angeles pocket mouse may be significant.

As stated previously, Observation Well No. 4 would be relocated to the upstream, dry side of "D" dike and percolation basin. Although the precise location of the relocated well is not known and neither is the amount of acreage that will be impacted, the District estimates up to 2 acres of land will be permanently impacted with the relocation of Observation Well No. 4.

The location of future water conservation facilities will be limited to the Phase 1, 2, and 3 areas shown in previously referenced Figure 4.4.3. These areas total approximately 792 acres. As shown in the figure, the possible locations have been superimposed on the underlying vegetation types. Table 4.4.C provides a tabular summary of the acreage quantities of potentially impacted areas from the future water conservation facilities.

Table 4.4.C – Potentially Impacted Vegetation Types Within Possible Water Conservation Expansion Areas (acres)

Vegetation Type	Phase 1 (Borrow Pit)		Phase 2 (Section 7)		Phase 3 (Section 12)		Total	
	Total Acres	Impacted Acres	Total Acres	Impacted Acres	Total Acres	Impacted Acres	Total Acres	Impacted Acres
Chamise Chaparral	0	0	31	10	79	24	110	34
Chamise Chaparral/NNG	0	0	64	20	0	0	64	20
Developed/ Ruderal	204	63	62	19	0	0	266	82
Non-Native Grassland (NNG)	0	0	20	6	5	2	25	8
Riversidean Alluvial Fan Sage Scrub: Intermediate	1	<0.5	32	10	0	0	33	10
Riversidean Alluvial Fan Sage Scrub: Intermediate/ Mature	<0.5	<0.5	73	23	27	8	101	31
Riversidean Alluvial Fan Sage Scrub: Mature	0	0	75	23	54	17	129	40
Riversidean Alluvial Fan Sage Scrub: Mature/ NNG	0	0	8	2	0	0	8	2
Riversidean Upland Sage Scrub	31	10	0	0	0	0	31	10
Total	235	73	366	114	165	51	767	238

Acreages may be off due to rounding.
Source: LSA, March 2008.

As presented in Section 3.6.1, the District has determined that the future water conservation facilities would impact up to 31 percent of the area within Phases 1, 2, and 3 as shown in Figure 3.12. This impact value reflects the District's most intensively developed spreading area located west of the borrow pit. As shown in Figure 3.13, the wetted and maintained areas are approximately 31 percent of the overall land area. Since this percentage has been derived from the District's most developed spreading basin area, it represents the upper limit of likely disturbance from any new facilities. Table 4.4.C shows the acreages that would be impacted by vegetation type, based on an upper limit of 31 percent impacts by construction and operation of future water conservation facilities.

Slender-horned spineflower, Santa Ana River woollystar, and San Bernardino kangaroo rat habitat within the Planning Area is limited to alluvial fan sage scrub while the coastal California gnatcatcher and Los Angeles pocket mouse habitat within the Planning Area is limited to alluvial fan sage scrub and upland sage scrub. Consequently, impacts to these species have been assessed at a programmatic level based on the total acreage of alluvial fan sage scrub and upland sage scrub that would be affected by each phase of development associated with the future water conservation facilities. The quantity of Riversidean alluvial fan sage scrub and Riversidean upland sage scrub, as indicated by the acreages shown in shown Table 4.4.C, is approximately 301 acres within the three areas the District has identified for the future water conservation facilities. Although not all of this area will be impacted by the future water conservation facilities, 31 percent of the area may be impacted should the District construct new facilities in these areas. As shown in Table 4.4.C, Phase 1 of the future water conservation facilities would impact 10 acres of alluvial fan and upland sage scrub, Phase 2 would impact 58 acres of alluvial and upland sage scrub, and Phase 3 would impact 25 acres of alluvial and upland sage scrub. Impact to slender-horned spineflower, Santa Ana River woollystar, and San Bernardino kangaroo rat habitat from future water conservation activities would be 84 acres while impact to California gnatcatcher and Los Angeles pocket mouse habitat would be 93 acres, representing 31 percent of the total alluvial and/or upland sage scrub acreage within Phases 1 through 3. This is a significant impact requiring mitigation.

The project will set aside 732 additional acres of managed habitat over and above the 1,215 acres of managed habitat that currently exists within the Planning Area (see previously referenced Table 3.B). In order to ensure the 732 acres of managed habitat will provide for the long-term survival of the four listed species and the Los Angeles pocket mouse, the following mitigation measures will be implemented.

Mitigation Measures. The District shall implement the following mitigation measures to reduce the significant impacts to listed plant and animal species and Los Angeles pocket mouse and their habitats.

- BIO-1** The District shall implement a Habitat Enhancement Plan within the proposed Habitat Conservation, Flood Control, and Water Conservation areas within the Planning Area. The goals of the Habitat Enhancement Plan are to maintain adequate habitat for the slender-horned spinyflower, Santa Ana River woollystar, coastal California gnatcatcher, San Bernardino kangaroo rat, and Los Angeles pocket mouse; to prevent colonization of exotic plant or animal species within the Planning Area; and to avoid degradation of water quality within the Santa Ana River, Plunge Creek, and Mill Creek.
- BIO-2** The Habitat Enhancement Plan shall include surveys for, and eradication of, exotic aquatic species in the recharge basins; surveys for, and eradication of, non-native plant species; and trash removal. The Habitat Enhancement Plan will establish preliminary measures to be included in the Upper Santa Ana River HCP to be approved by USFWS. At a minimum, the specific measures set forth in the Habitat Enhancement Plan shall be included in the Conditional Use Permits for the proposed quarries, as appropriate, and in accordance with the modifications to the specific measures as ultimately contained in the approved HCP.
- BIO-3** The Habitat Enhancement Plan shall maintain approximately 1,662 acres of Riversidean alluvial fan sage scrub (including pioneer, intermediate, mature and combinations with non-native grassland) in the Habitat Conservation area along the Santa Ana River, Plunge Creek, and Mill Creek with a minimum decline of 10 percent (166 acres) from existing conditions or a minimum of 1,496 acres of Riversidean alluvial fan sage scrub at any given time.
- BIO-4** The Habitat Enhancement Plan shall maintain approximately 374 acres of Riversidean alluvial fan sage scrub (including pioneer, intermediate, mature, and combinations with non-native grassland) in the Planning Area along the Santa Ana River, with a minimum decline of 10 percent (37 acres) from existing conditions or a minimum of 337 acres of Riversidean alluvial fan sage scrub.
- BIO-5** The Habitat Enhancement Plan shall maintain intermediate and intermediate/mature Riversidean alluvial fan sage scrub at minimum in a similar portion to the existing baseline of the three primary stages of alluvial fan sage scrub conserved within the Planning Area with an allowed 15 percent decline of intermediate and intermediate/mature Riversidean alluvial fan sage scrub combined from existing conditions to account for natural successional processes. Intermediate and intermediate/mature alluvial fan sage scrub currently account for 1,372 acres (67%) of the baseline total within the Habitat Conservation and Water Conservation areas. The minimum allowable amount of intermediate and intermediate/mature Riversidean alluvial fan sage scrub would be 1,059 acres (52%).
- BIO-6** The Habitat Enhancement Plan shall maintain approximately 121 acres of chamise chaparral (including chamise chaparral within combinations of chamise chaparral/non-native grassland vegetation types) in the Habitat Conservation area along the Santa Ana River, Plunge Creek, and Mill Creek, with a minimum decline of 10 percent (12 acres) from existing conditions or a minimum of 109 acres of chamise chaparral (including

chamise chaparral within combinations of chamise chaparral/non-native grassland vegetation types).

- BIO-7** The Habitat Enhancement Plan shall maintain approximately 50 acres of chamise chaparral (including chamise chaparral within combinations of chamise chaparral/non-native grassland vegetation types) in the Planning Area along the Santa Ana River, with a minimum decline of 10 percent (5 acres) from existing conditions or a minimum of 45 acres of chamise chaparral (including chamise chaparral within combinations of chamise chaparral/non-native grassland vegetation types).
- BIO-8** The Habitat Enhancement Plan shall maintain at least 64 wetted acres of recharge basins within the Planning Area.
- BIO-9** The Habitat Enhancement Plan shall, under the direction of the District, include a survey conducted in the summer of each year to determine the extent and type of non-native vegetation present in the Habitat Conservation, Water Conservation, and Flood Control areas in the Planning Area. Non-native species currently present in the Planning Area include tree tobacco (*Nicotiana glauca*), tocalote (*Centaurea melitensis*), Russian thistle (*Salsola tragus*), Spanish broom (*Spartium junceum*), and castor-bean (*Ricinus communis*) (Lilburn 1997). During the surveys, the approximate area containing the non-native species and their density will be estimated. The frequency of these surveys shall be reduced to every other year if no patches of non-native species are found for four consecutive years. Surveys for non-native aquatic species (e.g., bullfrogs, crayfish, mosquitofish, and snapping turtles) known to be detrimental to western spadefoot shall be conducted annually in the spring or summer.
- BIO-10** The Habitat Enhancement Plan shall, under the direction of the District, include the removal of non-native, invasive plant species found during the annual surveys using methods that will not harm individual members of the Santa Ana River woollystar, coastal California gnatcatcher, San Bernardino kangaroo rat, and Los Angeles pocket mouse or their habitat, or cause pollutants to enter the Santa Ana River, Mill Creek, City Creek, or Plunge Creek. Eradication shall be accomplished using hand tools or pulling individual plants by hand. For many annual species, this will likely involve cutting the plants (one or more times) before they set seed.
- BIO-11** The Habitat Enhancement Plan shall, under the direction of the District, include removal of non-native aquatic species (e.g., bullfrogs and crayfish) found during the surveys utilizing methods currently approved by the USFWS that minimize the potential for impacts to the western spadefoot. Potential methods include traps, seine, dip net, hand, and spear/gig. Removal shall be by biologists who can distinguish the non-native species (including egg and tadpole stages) from the native species to be protected. Eradication shall not be conducted when western spadefoot eggs are present.
- BIO-12** The Habitat Enhancement Plan shall, under the direction of the District, include a program to control Argentine ants within the Habitat Conservation, Water Conservation, and Flood Control areas and within 300 feet of these areas within the Planning Area. The Argentine ants shall be controlled through elimination of water sources where feasible and treatment of nests. Queens and larvae in the nest will be controlled primarily through the use of granular toxic bait (e.g., Talstar). The integrated pest management program shall include annual inspection to determine presence of colonies, treatment of identified colonies, and site re-inspection after one month to determine efficacy of the treatment. Specific pest control recommendations shall be made by a State-licensed Category A Pest Control Advisor. The specified areas shall be monitored annually in the summer or fall. The frequency of these surveys shall be reduced to every other year if no Argentine ants are found for four consecutive years. A report detailing the program shall be prepared annually.

- BIO-13** The Habitat Enhancement Plan shall, under the direction of the District, employ fencing (three-strand wire fencing) around entry points and post signage to control unauthorized trail use by off-road vehicles and garbage and trash dumping.
- BIO-14** The Habitat Enhancement Plan shall, under the direction of the SBCFCD and the District, restrict vehicular traffic associated with routine operation and maintenance activities within the Habitat Conservation area to daylight hours to avoid roadkill of San Bernardino kangaroo rats and Los Angeles pocket mice.
- BIO-15** The Habitat Enhancement Plan shall, under the direction of the District, ensure that Best Management Practices (BMPs) are employed during maintenance operations at the recharge basins to avoid impacts to water quality.
- BIO-16** The Habitat Enhancement Plan shall, under the direction of the District, ensure that trails, and 100-foot wide buffers on each side of the trails or roads where these buffers fall within the Planning Area, shall be monitored on a quarterly basis for the presence of trash, which could be washed into the Santa Ana River, Mill Creek, or Plunge Creek during storm events. All trash shall be removed by hand during the quarterly surveys.

Level of Significance after Mitigation. Implementation of **Mitigation Measures BIO-1 through BIO-16** will minimize impacts to slender-horned spineflower, Santa Ana River woollystar, coastal California gnatcatcher, San Bernardino kangaroo rat, and Los Angeles pocket mouse through the management and stewardship of their habitat via the establishment of a Habitat Enhancement Plan for the Planning Area. Although the Habitat Enhancement Plan will create an additional 732 acres of managed habitat, 238 acres of land (84 acres of Riversidean alluvial fan sage scrub, 94 acres of Riversidean alluvial fan sage scrub, and Riversidean upland sage scrub) and its associated habitat value will be permanently removed due to the construction and operation of future water conservation facilities. Even though the lost habitat from future water conservation facilities will be replaced on site at an approximately 3.0 to 1.0 ratio ($732 \div 238 = 3.08$), there would remain a loss of habitat area available to these species. Also, the newly created managed habitat area already exists in an undeveloped/natural state within the Planning Area and already is providing natural habitat for these species. Although portions of the proposed ~~749~~ 740 acres of Water Conservation and 165 acres of Habitat Conservation (District's Phase 3 area) areas will remain as natural habitat, even with implementation of these mitigation measures, impacts to the slender-horned spineflower, Santa Ana River woollystar, coastal California gnatcatcher, San Bernardino kangaroo rat, and Los Angeles pocket mouse and their habitat remain significant and unavoidable.

It should be noted that these mitigation measures provide the groundwork for the HCP that will be approved for the Upper Santa Ana River Wash as part of a subsequent Federal (National Environmental Policy Act) environmental document. It is further noted that the HCP may include additional or differing implementation measures. However, the mitigation measures set forth in this EIR have been created in accordance with CEQA for the purposes of reducing impacts to the slender-horned spineflower, Santa Ana River woollystar, coastal California gnatcatcher, San Bernardino kangaroo rat, and Los Angeles pocket mouse and their habitats to the greatest extent feasible. The HCP may include measures to provide stewardship for additional species over and above the five species specifically addressed in this EIR. In addition, approval of the HCP would lead to issuance of an "incidental take" authorization from the USFWS for impacts to the four listed species and loss of designated "critical" habitat. This authorization would follow the issuance of a Biological Opinion by the USFWS and either concurrence or separate authorization by the CDFG. The Biological Opinion will state whether the requested activities will result in jeopardy of any listed species becoming extinct. Implementation of the Wash Plan habitat management component will occur via these authorizations, which will be based upon a HCP to be submitted to the USFWS when the Wash Plan is approved. The habitat enhancement plan funding will be determined through the implementation of the Habitat Enhancement Plan in connection with the HCP to be proposed to the USFWS, and any Habitat Management Plan approved in connection therewith.

Cumulative. Relocation of Observation Well No. 4 and future water conservation facilities could create or contribute to new or increased impacts to listed and sensitive species because of two cumulative projects. As shown in previously referenced Figure 2.2, the East Branch Phase II (Alternatives 1 and 2) and Plunge Pool Pipeline Projects will be constructed within the eastern portion of the Planning Area, the same area where existing water conservation activities take place and future water conservation facilities will be constructed and operated. However, these cumulative projects are subject to their own environmental review including impact assessment and mitigation formulation. With implementation of their own mitigation measures, cumulative impacts from the relocated well and future water conservation activities in combination with the cumulative projects would be no greater than the impacts defined for the proposed project. With implementation of mitigation, project specific impacts would remain significant and unavoidable. The incremental increase in impacts to listed and sensitive species from the loss of their habitat would be considered a significant cumulative impact.

Impact 4.4.2 Continuation of existing flood control operation and maintenance activities may result in impacts to listed species and/or other special status species or modification of their habitats.

Flood Control Operations/Maintenance Activities of the SBCFCD

Flood control activities consist of maintaining existing flood control features such as dikes, basins, and channels and will not involve the expansion of flood control features or the construction of new flood control features. Flood control operations and maintenance activities will not change as a result of the proposed project. However, impacts to sensitive species may occur if flood control activities are conducted in their habitat. This is a significant impact and mitigation is required.

Mitigation Measures. Previously described **Mitigation Measures BIO-1, BIO-9, BIO-10, BIO-12, and BIO-14** implement habitat conservation strategies associated with Flood Control areas and flood control activities.

Level of Significance after Mitigation. Mitigation Measures BIO-1, BIO-9, BIO-10, BIO-12, and BIO-14 will minimize impacts from flood control operations and maintenance activities to slender-horned spineflower, Santa Ana River woollystar, coastal California gnatcatcher, San Bernardino kangaroo rat, and Los Angeles pocket mouse through the management and stewardship of their habitat. With implementation of these mitigation measures, impacts to these species and their habitat are reduced to less than significant.

Cumulative. Existing flood control activities could create or contribute to new or increased impacts to listed and sensitive species because of two cumulative projects. As shown in previously referenced Figure 2.2, the Line C Drainage Realignment and East Branch Phase II (Alternatives 1, 2, and Plunge Pool Pipeline) projects will be constructed within portions of the Santa Ana River and Plunge Creek. However, these cumulative projects are subject to their own environmental review including impact assessment and mitigation formulation. With implementation of their own mitigation measures, cumulative impacts from existing flood control activities in combination with the cumulative projects would be no greater than the impacts defined for the existing flood control activities. In summary, the combined cumulative effect on listed and sensitive species from cumulative projects and existing flood control activities would be less than significant.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Water production activities consist of pumping water from wells and routing the resulting water to existing distribution systems. Since water production operations would remain the same with the implementation of the proposed project, no new impacts related to this issue are anticipated and no mitigation is required.

Cumulative. Existing water production operations and maintenance activities could create or contribute to new or increased impacts to listed and sensitive species because of five cumulative projects. As shown in previously referenced Figure 2.2, the East Branch Extension Phase II, Riverside-Corona Feeder, Plunge Pool Pipeline (Muni/Western Water Rights EIR), Low Flow Pipeline (Muni/Western Water Rights EIR), and Morton Canyon Connector II Pipeline (Muni/Western Water Rights EIR) will be constructed within portions of the Planning Area and its vicinity. However, these cumulative projects are subject to their own environmental reviews, including impact assessment and mitigation formulation. With implementation of their own mitigation measures, cumulative impacts from existing water production operations and maintenance activities in combination with the cumulative projects would be no greater than the impacts defined for the proposed project. In summary, the combined effect on listed and sensitive species from cumulative projects and existing water production operations and maintenance activities would be less than significant.

Impact 4.4.3: The proposed aggregate mining expansion may result in impacts to listed species and/or other special status species or modification of their habitats.

Expansion of Aggregate Mining

Aggregate mining land uses of the proposed project include the following:

- Continued material processing and quarry expansions of existing sand and gravel mines; and
- Reclamation of all processing and quarrying areas following completion of mineral extraction.

Table 4.4.D summarizes the existing and proposed mining footprint. The existing mining footprint covers 832 acres; with the proposed project, the combined footprint of Cemex and Robertson's quarries and associated facilities would total 1,195 acres, an approximately 44 percent increase in acreage (363 acres). Figure 4.4.4 shows the areas that would be affected by the proposed mining expansion, which is discussed further below, along with the ultimate reclamation of the mining pits.

Table 4.4.D – Existing and Proposed Mining Area (acres)

Operator	Existing Mining Area (acres)	Proposed Mining Area (acres)	Change (acres)
Cemex	544	662	+118
Robertson's	288	533	+245
Total	832	1,195	+363

Sources: *Mine and Reclamation Plan for the Upper Santa Ana River Wash Aggregate Lands to be Operated by Cemex Construction Materials L.P.*, prepared by Lilburn Corporation, March 2006.

Mine and Reclamation Plan for the Upper Santa Ana River Wash Aggregate Lands to be Operated by Robertson's Ready Mix, prepared by Lilburn Corporation, March 2006.

Reclamation of Quarries. The completed mining areas would be reclaimed as required by the California Surface Mining and Reclamation Act (SMARA) and in accordance to the mining permits secured from the Cities of Highland and Redlands. The side slopes would be contoured and revegetated with native plant species and would be available for habitat conservation and open space. Although reclamation of mined areas may restore some habitat for these species, the restored

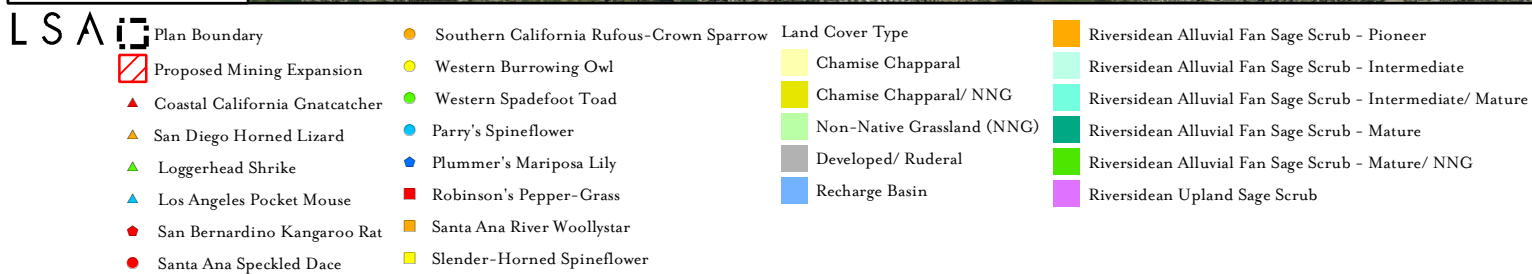
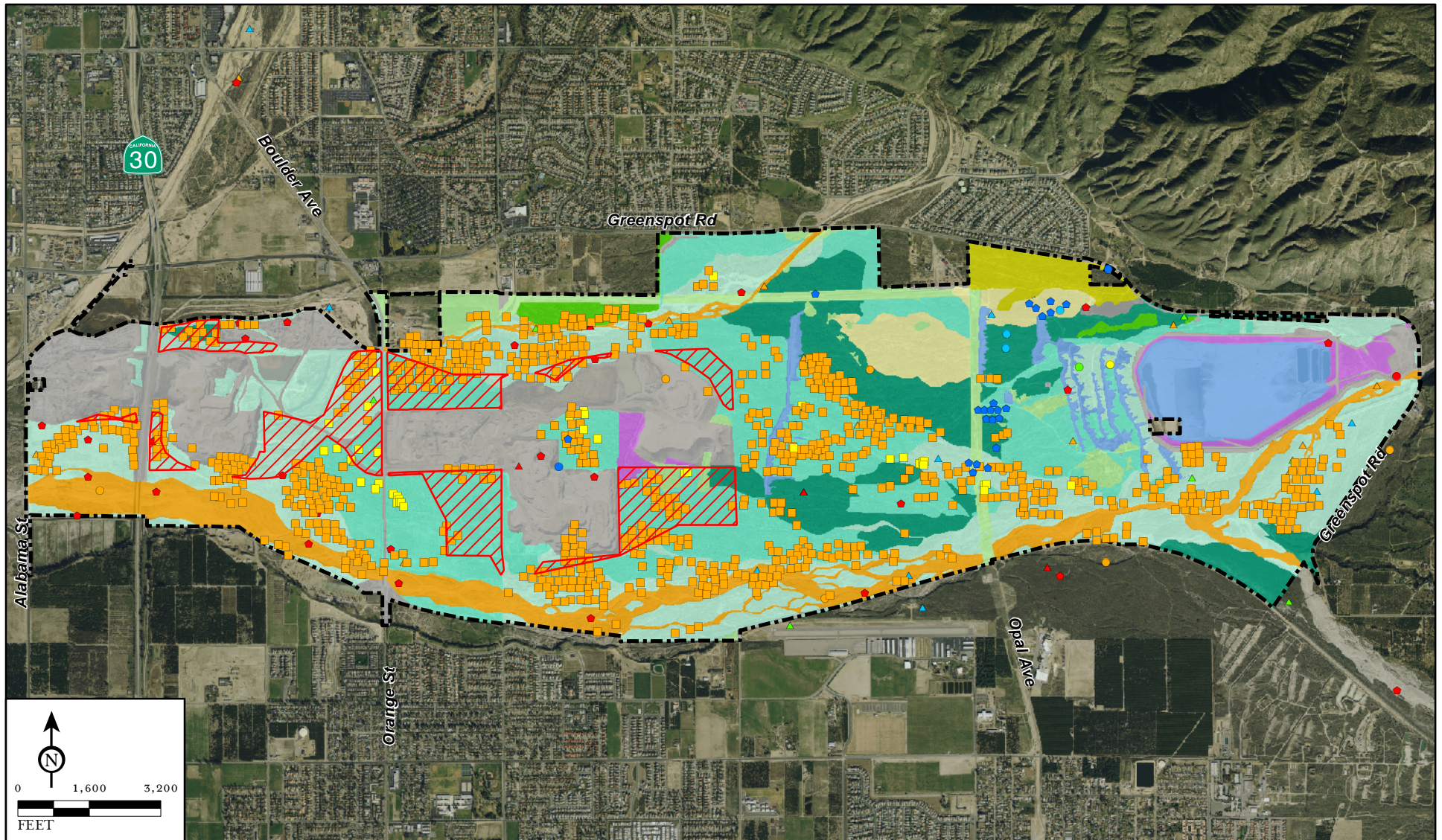


FIGURE 4.4.4

*Upper Santa Ana River Wash
Land Management Plan
Environmental Impact Report*

**Impacts of Proposed
Expansion of Mining**

SOURCES: San Bernardino Water Conservation District, Dudek, Santa Ana Watershed Project Authority, AirPhotoUSA, 2008.

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habitat is not expected to be of the quality of the habitat prior to mining. Process plants, mining equipment, stockpiles, and refuse would be removed. Locked gates and fencing, as needed, would remain along quarry rims with signs posted every 300 feet to prevent inadvertent entry into the quarries. The reclaimed quarries may be used for water conservation, recreation, or other uses as determined by the Cities of Highland, Redlands, and the land owner; however, such future uses are outside the scope of this EIR.

Aggregate Mining. Similar to the discussion previously under Water Conservation, the proposed mining expansion may impact individuals and habitat of the slender-horned spineflower, Santa Ana River woollystar, coastal California gnatcatcher, San Bernardino kangaroo rat, and Los Angeles pocket mouse and their habitats.

Table 4.4.E provides estimates of impacts from the expansion of aggregate mining to habitat of the four listed species discussed above, and Los Angeles pocket mouse, based on mapped vegetation and land cover.

Table 4.4.E – Impacts of Proposed Expansion of Aggregate Mining on Listed Species and Los Angeles Pocket Mouse

Species	Pioneer Riversidean Alluvial Fan Sage Scrub (acres)	Intermediate Riversidean Alluvial Fan Sage Scrub (acres)	Intermediate/Mature Riversidean Alluvial Fan Sage Scrub (acres)	Mature Riversidean Alluvial Fan Sage Scrub (acres)	Mature Riversidean Alluvial Fan Sage Scrub/Non-Native Grassland (acres)	Riversidean Upland Sage Scrub (acres)	Total Direct Impacts (acres)	Percentage of On Site Habitat Impacted
Santa Ana River Woollystar								
Acres Affected	0	115	213	14	0	NA	342	11%
Existing Habitat	398	1,121	1,048	418	40	NA	3,025	
Slender-Horned Spineflower								
Acres Affected	0	115	213	14	0	NA	342	11%
Existing Habitat	0	1,121	1,048	419	40	NA	3,025	
Coastal California Gnatcatcher								
Acres Affected	0	115	213	14	0	5	347	11%
Existing Habitat	398	1,121	1,048	419	40	72	3,097	
San Bernardino Kangaroo Rat								
Acres Affected	0	115	213	14	0	NA	342	11%
Existing Habitat	398	1,121	1,048	419	40	NA	3,025	
Los Angeles Pocket Mouse								
Acres Affected	0	115	213	14	0	5	347	11%
Existing Habitat	398	1,121	1,048	419	40	72	3,097	

Expansion of mining would remove 342 acres of habitat potentially suitable for the Santa Ana River woollystar, slender-horned spineflower, and San Bernardino kangaroo rat while removing up to 347 acres of habitat potentially suitable for the California gnatcatcher and Los Angeles pocket mouse. These impacts represent between 11 percent and 13 percent of the total habitat within the Planning Area that is potentially suitable for those species. Impacts to habitats of the four listed species and the Los Angeles pocket mouse are significant and mitigation is required.

In addition, proposed East Quarry North (Cemex) will result in expansion of mining into an area currently planned by the USFWS for transplantation or relocation of the slender-horned spineflower. This area encompasses approximately 2.5 acres of undisturbed land with a high concentration of the slender-horned spineflower. This area is encompassed by a larger area that has not been disturbed by past mining activities. The USFWS, in a coordinated effort with Cemex and the District, has prepared a draft Slender-horned Spineflower Enhancement and Relocation Plan (SLERP) dated November 2007(see Appendix E-2). The SLERP will be included as part of the HCP for the Planning Area. In order to maintain the integrity and viability of the slender-horned spineflower that exist within this area, Cemex will be prohibited from expanding into this area until such time that the spineflower plants have been transplanted or relocated, or the USFWS determines the SLERP ineffective and abandons it. Potential loss of members of the spineflower species from aggregate mining within this area would be a significant impact and mitigation is required.

Mitigation Measures. Previously described **Mitigation Measures BIO-1** through **BIO-16** implement habitat conservation strategies associated with the establishment of a Habitat Enhancement Plan for the Planning Area. The following mitigation measure to further reduce the significant impacts to listed plant and animal species and to Los Angeles pocket mouse and their habitats shall be implemented by the mining operators.

BIO-17 The mine operators shall implement reclamation and revegetation concurrent with ongoing mining per the Mine and Reclamation Plans approved by the Cities of Highland and Redlands.

BIO-18 Cemex shall be prohibited from mining the area encompassed by the Slender-horned Spineflower Enhancement and Relocation Plan (SLERP) until such time that the SLERP has effectively transplanted or relocated all members (or a sufficient number as determined by USFWS) of the slender-horned spineflower from the SLERP area, or the USFWS determines the SLERP ineffective and abandons the program.

Level of Significance after Mitigation. Implementation of previously referenced **Mitigation Measures BIO-1** through **BIO-16** and **Mitigation Measures BIO-17** and **BIO-18** will minimize impacts to individuals and habitats of listed and other sensitive species. Although **Mitigation Measures BIO-1** through **BIO-16** will establish a Habitat Enhancement Plan for the Planning Area and, in so doing create an additional 732 acres of managed habitat, an additional 363 acres of land and its associated habitat value will be permanently removed due to mining expansion. As discussed previously under existing and future water conservation facilities, implementation of future water conservation facilities will impact an additional 238 acres, for a total impact of 608 acres ($363 + 238 = 601$) of critical habitat impacted from mining and future water conservation facilities. Even though the lost habitat from mining and future water conservation facilities will be replaced on site at an approximately 1.2 to 1.0¹ ratio ($732 \div 601 = 1.22$), there would remain a loss of habitat area available to these species. Also, the newly created managed habitat area already exists in an undeveloped/natural state within the Planning Area and already is providing natural habitat for these species. Therefore, impacts to listed species (slender-horned spineflower, Santa Ana River woollystar, San Bernardino kangaroo rat, and coastal California gnatcatcher) and the Los Angeles pocket mouse will remain significant and unavoidable even with implementation of mitigation.

Cumulative. The expansion of mining activities could create or contribute to new or increased impacts to listed and sensitive species because of four cumulative projects. As shown in previously referenced Figure 2.2, the East Branch Extension Phase II, Plunge Pool Pipeline, Line C Drainage Realignment, and Alabama Street Arch Culvert Projects will be constructed within portions of the

¹ Additional biological impacts would result from construction of roadways, analyzed subsequently as part of Impact 4.4.4.

Planning Area. However, these cumulative projects are subject to their own environmental review including impact assessment and mitigation formulation. With implementation of their own mitigation measures, cumulative impacts from mining expansion in combination with the cumulative projects would be no greater than the impacts defined for the proposed project. However, with implementation of mitigation, project-specific impacts from the expansion of mining would remain significant and unavoidable. The incremental increase in impacts to listed and sensitive species from the loss of their habitat would be considered a significant cumulative impact.

Adoption of General Plan Amendments

The Cities of Highlands and Redlands would amend the applicable elements of their respective general plans to show trail alignments consistent with new trail alignments, and to change land use designations. These actions would facilitate other portions of this Wash Plan, but would not themselves have a significant impact on any listed or other special status species. Therefore no mitigation would be necessary.

Cumulative. There are no cumulative projects listed in Table 2.A and shown in previously referenced Figure 2.2 that would combine with the General Plan Amendments to create a significant impact to listed and sensitive species associated with the loss of their habitat over and above the impacts discussed in this section. The General Plan Amendments will have no impact related to the loss of critical habitat and therefore would not contribute to any cumulative impact.

Impact 4.4.4: Construction of roadway improvements may result in impacts to listed species and/or other special status species or modification of their habitats.

Roadway/Bridge Rights-of-Way

With the implementation of the proposed project, the ~~dedication~~ designation of additional rights-of-way for three streets, Alabama Street, Orange Street-Boulder Avenue, and Greenspot Road would occur. This EIR provides programmatic analysis of these potential impacts, although additional CEQA documentation will be required by the Cities of Highland and/or Redlands. Potential cumulative impacts from the construction of these roadway improvements may occur in the form of direct effects to individual members of listed species (slender-horned spineflower, Santa Ana River woollystar, San Bernardino kangaroo rat, and coastal California gnatcatcher) and the Los Angeles pocket mouse species and/or their habitats.

As described in Section 3.6.6, Greenspot Road will be widened to the ultimate General Plan width, realigned to eliminate the “S” curve and a new bridge will be constructed ~~north west~~ west of the existing bridge. Approximately ~~44.9~~ 28 acres of land will be permanently impacted by the construction of the new portions of Greenspot Road. Construction of the new portions of Greenspot Road will temporarily impact an additional ~~47.0~~ 12 acres. The new portions of roadway will impact habitat as shown in Table 4.4.F. As identified in Table 4.4.F, the Greenspot Road projects ~~–(“S” curve and bridge)~~ will result in the permanent loss of ~~3.25~~ 7.34 acres of mature Riversidean alluvial fan sage scrub (RAFSS), ~~4.9~~ 4.29 acres of intermediate RAFSS, ~~0.3~~ 0.68 acre of pioneer RAFSS, ~~0.5~~ 1.13 acre of Riversidean upland sage scrub (RUSS), ~~3.25~~ 7.34 acres of chamise chaparral/non-native grassland, and ~~2.7~~ 6.1 acres of developed/ruderal. The Greenspot Road projects will result in the temporary loss of ~~2.8~~ 0.96 acres of mature RAFSS, ~~4.0~~ 1.37 acres of intermediate RAFSS, ~~0.6~~ 0.2 acre of pioneer RAFSS, ~~4.4~~ 0.38 acres of RUSS, ~~2.8~~ 0.96 acres of chamise chaparral/non-native grassland, and ~~5.7~~ 1.95 acres of developed/ruderal.

Table 4.4.F – Potentially Impacted Vegetation Types from Roadway Expansion Areas (acres)

Roadway Project	RAFSS: Mature (Acres)	RAFSS: Intermediate and Intermediate Mature (Acres)	RAFSS: Pioneer (Acres)	RUSS (Acres)	Chamise Chaparral/NNG (Acres)	Developed/ruderal (Acres)	Impacted Acres
Greenspot Road S-Curve and Widening Improvements							
Permanent	3.25 <u>7.34</u>	0	0	0	3.25 <u>7.34</u>	0	6.5 <u>16.3</u>
Temporary	2.8 <u>0.96</u>	0	0	0	2.8 <u>0.96</u>	0	5.6 <u>3.9</u>
Greenspot Road Bridge							
Permanent	0	4.9 <u>4.29</u>	0.3 <u>0.68</u>	0.5 <u>1.13</u>	0	2.7 <u>6.1</u>	5.4 <u>12.2</u>
Temporary	0	4.0 <u>1.37</u>	0.6 <u>0.21</u>	4.4 <u>0.38</u>	0	5.7 <u>1.95</u>	11.4 <u>3.9</u>
Alabama Street							
Permanent		0.6				0.8	1.4
Temporary		3.75				1.25	5.0
Orange Street-Boulder Avenue							
Permanent		9.5	0.7			6.1	16.4
Temporary		6.6	0.5			4.3	11.4
TOTALS							
Permanent	3.25 <u>7.34</u>	12.0 <u>14.39</u>	4.0 <u>1.38</u>	0.5 <u>1.13</u>	3.25 <u>7.34</u>	9.6 <u>13</u>	29.7 <u>46.3</u>
Temporary	2.8 <u>0.96</u>	14.35 <u>11.72</u>	4.4 <u>0.71</u>	4.4 <u>0.38</u>	2.8 <u>0.96</u>	11.25 <u>7.5</u>	33.4 <u>28.7</u>

RAFSS = Riversidean alluvial fan sage scrub

RUSS = Riversidean upland sage scrub RUSS – Riversidean upland sage scrub

NNG = non-native grassland

The widening of Alabama Street would permanently impact approximately 1.4 acres adjacent to the roadway. During construction, an additional 5.0 acres would be temporarily impacted based on a linear 33-foot staging area along both sides of the roadway. As identified in Table 4.4.F, the Alabama Street widening project will result in the permanent loss of 0.6 acres of intermediate RAFSS, and 0.8 acres of developed/ruderal. The Alabama Street widening project will result in the temporary loss of 3.75 acres of intermediate RAFSS and 1.25 acres of developed/ruderal.

The widening of Orange Street-Boulder Avenue would impact approximately 16.4 acres of habitat adjacent to the roadways. During construction, an additional 11.4 acres would be temporarily impacted based on a linear 33-foot staging area along both sides of the roadway. As identified in Table 4.4.F, the Orange Street-Boulder Avenue widening project will result in the permanent loss of 8.0 acres of mature RAFSS, 1.5 acres of intermediate RAFSS, 0.7 acres of pioneer RAFSS, and 6.1 acres of developed/ruderal. The Orange Street-Boulder Avenue widening project will result in the temporary loss of 1.0 acres of intermediate RAFSS, 5.6 acres of intermediate/mature RAFSS, 0.5 acres of pioneer RAFSS, and 4.3 acres of developed/ruderal.

Improvement of these roadways to their ultimate widths will result in a permanent loss of ~~29.7~~ 49.3 total acres of habitat and a temporary loss of ~~33.4~~ 28.7 acres of habitat as cited above. This is a significant impact and mitigation is required.

Mitigation Measures. Previously described **Mitigation Measures BIO-1** through **BIO-16** implement habitat conservation strategies associated with the establishment of a Habitat Enhancement Plan for the Planning Area.

Level of Significance after Mitigation. Mitigation Measures BIO-1 through BIO-16 will minimize temporary and permanent impacts from the construction of new sections of roadway within the Planning Area through the establishment of a Habitat Enhancement Plan. The Habitat Enhancement Plan will reduce impacts from the loss of habitat associated with these future roadway improvements through the management and stewardship of slender-horned spineflower, Santa Ana River woollystar, San Bernardino kangaroo rat, coastal California gnatcatcher, and the Los Angeles pocket mouse habitats. With implementation of these mitigation measures, impacts to these species and their habitat are reduced to less than significant.

As discussed previously under Water Conservation Operations/Maintenance Activities of the District and Expansion of Aggregate Mining, implementation of future water conservation facilities and aggregate mining will impact a total of 601 acres ($238 + 363 = 601$) of critical habitat. The proposed roadway project will impact an additional ~~29.7~~ 47 acres for a total impact of approximately ~~631~~ 648 acres from future water conservation facilities, mining, and roads. Even though the lost habitat from these three project components will be replaced on site at an approximately 1.15 to 1.0 ratio ($732 \div 631 = 1.16$), there would remain a loss of habitat area available to these species and the impact will remain significant and unavoidable even with implementation of mitigation. However, impacts associated with roadways attributable to the approximately ~~30~~ 47 acres of lost habitat are considered to be less than significant with implementation of the Habitat Enhancement Plan via **Mitigation Measures BIO-1 through BIO-16.**

Cumulative. The roadway improvement projects could create or contribute to new or increased impacts to listed and sensitive species because of three cumulative projects. As shown in previously referenced Figure 2.2, the Alabama Street Area Culvert Project, Plunge Pool Pipeline, and Morton Canyon Connector Pipeline will be constructed within portions of Alabama Street and Greenspot Road. However, these cumulative projects are subject to their own environmental reviews, including impact assessment and mitigation formulation. With implementation of their own mitigation measures, cumulative impacts from the roadway improvement projects in combination with the cumulative projects would be no greater than the impacts defined for the proposed project. With implementation of mitigation, project-specific impacts from the roadway improvements would be reduced to less than significant. The incremental increase in impacts to listed and sensitive species from the loss of their habitat would be considered a less than significant cumulative impact.

Recreational Trail Rights-of-Way

Planned trails would use existing rights-of-way along their respective streets (in the case of Alabama Street and Orange Street-Boulder Avenue) or existing trail alignment with the exception of the Borrow Pit South Rim Trail, which would run along the existing partially-paved maintenance road. All other trails would stay on existing service roads and old railroad beds and would remain in their existing state. As all trails proposed for the Wash Plan would either use existing roadways or existing service roads or old railroad beds, no construction or expansion would be necessary and no physical adverse effect on the environment will occur. Except for the placement of signs indicating that trails and service roads would serve a dual purpose, there would be no construction activities associated with trails. Boulders or similar barricades may be placed to direct trail users away from Habitat Conservation, Flood Control, Water Conservation, and mining activities. These activities will not substantially impact individuals or habitat of any listed or other special status species. Therefore, no mitigation would be required.

Cumulative. The recreational trail right-of-way could create or contribute to new or increased impacts to listed and sensitive species because of one cumulative project. As shown in previously referenced Figure 2.2, the East Branch Extension (Alternatives 1 and 2) will be constructed within portions of Cone Camp Road Trail and the Borrow Pit South Rim Trail. However, these cumulative projects are subject to their own environmental review including impact assessment and mitigation formulation. In

addition, because the proposed trails will use existing service roads or old railroad beds, no construction or expansion would be necessary. The incremental increase in impacts to listed and sensitive species from the loss of their habitat would be considered a less than significant cumulative impact.

Land Exchange between the District and BLM

The District's land exchange with the BLM will provide to the BLM an unrestricted habitat corridor for wildlife movement while maintaining continued water conservation activity. The land the BLM will exchange to the District, which is already mostly disturbed, will be used for aggregate mining. The location of these lands and their future use would not result in substantial impacts to listed and sensitive species from the loss of their habitat. Less than significant impacts associated with this issue would occur with Wash Plan implementation and no mitigation measures would be required.

Cumulative. There are no cumulative projects listed in Table 2.A and shown in previously referenced Figure 2.2 that would combine with the land exchange between the District and BLM to create a significant impact to listed and sensitive species associated with the loss of their habitat over and above the impacts discussed in this section. The land exchange between the District and BLM will have a less than significant impact related to the loss of critical habitat and therefore would not contribute to any cumulative impact.

Land Exchange between the SBCFCD and Robertson's

The SBCFCD land exchange with Robertson's will allow mining activities to take place on property currently owned by the SBCFCD and habitat preservation to occur on land that is currently owned by Robertson's. The land exchange is necessary for the aggregate mining to occur. However, the impacts of the aggregate mining are evaluated separately and the land exchange itself would not substantially impact any listed or other special status species; therefore, mitigation would not be required.

Cumulative. There are no cumulative projects listed in Table 2.A and shown in previously referenced Figure 2.2 that would combine with the land exchange between the SBCFCD and Robertson's to create a significant impact to listed and sensitive species associated with the loss of their habitat over and above the impacts discussed in this section. The land exchange between the SBCFCD and Robertson's will have a less than significant impact related to the loss of critical habitat and therefore would not contribute to any cumulative impact.

Adversely Affect Federally Protected Wetlands, Riparian Areas or Other Sensitive Natural Communities

Threshold:	Would the proposed 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.
	Would the proposed 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 CDFG or the USFWS?

Impact 4.4.5: Relocation of the District's Observation Well No. 4 and construction of future water conservation facilities may result in substantial impacts to riparian habitats,

jurisdictional areas as defined by the ACOE and CDFG, and other sensitive natural communities.

Water Conservation Operations/Maintenance Activities of the District

Maintenance activities associated with the continuation of water conservation at existing facilities are expected to continue at approximately past and current levels and to be limited to previously disturbed areas. Because these activities represent a continuation of existing baseline conditions as defined by CEQA, no substantial impacts by these maintenance activities to wetlands, riparian areas, or other sensitive natural communities will occur.

The proposed project would also result in the District's Observation Well No. 4 being displaced by aggregate mining. This well would need to be reconstructed outside the mining area on the upstream, dry side of "D" dike and percolation basin. The specific site would be determined in coordination with the BLM and USFWS when the well is to be relocated.

As stated previously, there is a possibility that the District will need to construct and operate additional water conservation facilities to accommodate future water recharge from non-District water rights resulting from the Integrated Water Management Plan (IRWMP). Although the number and location of new water conservation facilities is unclear, this EIR provides mitigation at a programmatic level for potential impacts to biological resources resulting from such future facilities generally located within the Water Conservation lands (~~749~~ 740 acres) identified as Phases 1 and 2 plus an additional 165 acres within the northeastern portion of Section 12 identified as Phase 3 (Figure 4.4.3).

Although the well relocation and location and number of future water conservation facilities are not expected to have a significant impact on riparian areas or federally protected wetlands because these areas are generally absent from the vicinity due to the widespread occurrence of well drained substrates (used for water percolation and sand and gravel mining) and these areas no longer contain river flows due to the advent of the Seven Oaks Dam, small jurisdictional areas may be encountered during their construction. Because precise delineation of ACOE and CDFG jurisdictional areas is not feasible for the entire Planning Area and the precise location of the relocated well and future water conservation facilities is not known, these activities may affect riparian habitats, jurisdictional areas, and other sensitive natural communities. This is a significant impact and mitigation is required.

RAFSS is considered to be a sensitive natural community. Approximately 189 acres of this community is found within the proposed water conservation area. Based on a potential impact of 31 percent (as discussed previously under impacts from future water conservation facilities to listed species and their habitat), 59 acres of this community would be adversely impacted by the future water conservation facilities. In addition, future water conservation facilities outside of the proposed Water Conservation area within the District's Phase 3 area (see Figure 3.12) would impact an additional 25 acres (see Table 4.4.C) of this community for a total impact of 84 acres of RAFSS. This is a significant impact and mitigation is required.

Mitigation Measures. Previously described **Mitigation Measures BIO-1** through **BIO-16** implement habitat conservation strategies associated with the establishment of a Habitat Enhancement Plan for the Planning Area. **Mitigation Measures BIO-1, BIO-3, and BIO-4** will mitigate impacts to species associated with the Riversidean alluvial fan sage scrub habitat while **Mitigation Measures BIO-5, BIO-6, and BIO-7** will preserve and enhance the quality of Riversidean alluvial fan sage scrub that remains in the Planning Area. The following mitigation measure shall be implemented by the District to reduce impacts to riparian habitats and other jurisdictional areas from relocation of the District's Observation Well No. 4 and construction of future water conservation facilities.

BIO-19 Prior to construction of relocated Observation Well No. 4 and construction of future water conservation facilities within the District's Phase 1, 2, and 3 areas, jurisdictional delineation surveys shall be prepared by the District for those areas demonstrating riparian habitat and historic river flows. The jurisdictional delineation surveys shall comply with California Fish and Game Code Sections 1600–1616 and Section 404 requirements from the U.S. Army Corps of Engineers for any discharge of dredged or fill material in jurisdictional waters of the U.S. A Section 401 Certification from the Regional Water Quality Control Board could also be required.

Level of Significance after Mitigation. The significance of impacts to areas of Riversidean alluvial fan sage scrub will depend mostly on the habitat value of those areas for listed and other special interest species. **Mitigation Measures BIO-1, BIO-3, and BIO-4** will only partially mitigate the impacts to those species. Mitigation Measures **BIO-5, BIO-6, and BIO-7** will preserve and enhance the quality of Riversidean alluvial fan sage scrub remaining in the Planning Area. The Habitat Enhancement Plan, through management and stewardship of slender-horned spineflower, Santa Ana woollystar, San Bernardino kangaroo rat, the coastal California gnatcatcher, and the Los Angeles pocket mouse, will reduce impacts from the loss of habitat associated with water conservation activities. The permanent loss of 84 acres of this plant community would remain significant even after implementation of these mitigation measures.

If jurisdictional areas are identified at the site of the well relocation and future water conservation facilities, CWA § 401 and § 404 and the State Fish and Game Code § 1600 et seq. may apply to this activity. Any such area is likely to be small in area and isolated from larger more valuable habitat areas; consequently impacts will be less than significant through avoidance and mitigation resulting from any ACOE and/or CDFG jurisdictional permitting actions that may be required. During jurisdictional permit actions, resources will be located and impacts and mitigation measures identified. Mitigation measures typically include avoidance, replacement, or participation in in-lieu fee programs such as regional mitigation banks. Consequently, impacts to riparian habitats and jurisdictional areas will be reduced to less than significant with mitigation.

Cumulative. Relocation of Observation Well No. 4 and future water conservation facilities could create or contribute to new or increased impacts to riparian habitats, jurisdictional areas, or other sensitive natural communities because of two cumulative projects. As shown in previously referenced Figure 2.2, the East Branch Phase II and Plunge Pool Pipeline Projects will be constructed within the eastern portion of the Planning Area, the same area where existing water conservation activities take place and future water conservation facilities will be constructed and operated. However, these cumulative projects are subject to their own environmental review including impact assessment and mitigation formulation. With implementation of their own mitigation measures, cumulative impacts from the relocated well and future water conservation activities in combination with the cumulative projects would be no greater than the impacts defined for the proposed project. However, project-specific impacts to a sensitive natural community (Riversidean alluvial fan sage scrub) remain significant and unavoidable with mitigation. The incremental increase in impacts to sensitive natural communities would be considered a significant cumulative impact.

Flood Control Operations/Maintenance Activities of the SBCFCD

Flood control activities consist of maintaining existing flood control features such as dikes, basins, and channels and will not involve the expansion of flood control features or the construction of new flood control features. Flood control operations and maintenance activities are not expected to change as a result of the proposed project. Existing flood control operations and maintenance activities will continue to occur within the portions of the Santa Ana River, Mill Creek, Plunge Creek, and City Creek that occur within the Planning Area. Because these activities represent a continuation of existing baseline conditions as defined by CEQA, no substantial impacts by these maintenance

activities to riparian habitats, jurisdictional areas, or other sensitive natural communities will occur. Therefore, significant impacts to riparian habitats, jurisdictional areas, or other sensitive natural communities are not anticipated; and no mitigation is required.

Cumulative. Existing flood control activities could create or contribute to new or increased impacts to riparian habitats, jurisdictional areas, or other sensitive natural communities because of two cumulative projects. As shown in previously referenced Figure 2.2, the Line C Drainage Realignment, East Branch Phase II, and Plunge Pool Pipeline projects will be constructed within portions of the Santa Ana River and Plunge Creek. However, these cumulative projects are subject to their own environmental reviews, including impact assessment and mitigation formulation. With implementation of their own mitigation measures, cumulative impacts from existing flood control activities in combination with the cumulative projects would be no greater than the impacts defined for the existing flood control activities. In summary, the combined cumulative effect on riparian habitats, jurisdictional areas, or other sensitive natural communities from cumulative projects and existing flood control activities would be less than significant.

Water Production Operations/Maintenance Activities of EVWD and RMUD

Water production activities consist of pumping water from wells and routing the resulting water to existing distribution systems. Because these activities represent a continuation of existing baseline conditions as defined by CEQA, no substantial impacts caused by these maintenance activities to riparian habitats, jurisdictional areas, or other sensitive natural communities will occur. Since water production operations would remain the same with the implementation of the proposed project, no new impacts related to this issue are anticipated and no mitigation is required.

Cumulative. Existing water production operations and maintenance activities could create or contribute to new or increased impacts to riparian habitats, jurisdictional areas, or other sensitive natural communities because of five cumulative projects. As shown in previously referenced Figure 2.2, the East Branch Extension Phase II, Riverside-Corona Feeder, Plunge Pool Pipeline (Muni/Western Water Rights EIR), Low Flow Pipeline (Muni/Western Water Rights EIR), and Morton Canyon Connector II Pipeline (Muni/Western Water Rights EIR) will be constructed within portions of the Planning Area and its vicinity. However, these cumulative projects are subject to their own environmental reviews, including impact assessment and mitigation formulation. With implementation of their own mitigation measures, cumulative impacts from existing water production operations and maintenance activities in combination with the cumulative projects would be no greater than the impacts defined for the existing water production operations and maintenance activities. In summary, the combined effect on riparian habitats, jurisdictional areas, or other sensitive natural communities from cumulative projects and existing water production operations and maintenance activities would be less than significant.

Impact 4.4.6: The proposed aggregate mining expansion may result in a substantial adverse effect on riparian habitats, jurisdictional areas, or other sensitive natural communities.

Expansion of Aggregate Mining

The proposed project is expected to have a minimal impact on riparian areas or federally protected wetlands because these areas are generally absent from the vicinity due to the widespread occurrence of well drained substrates (used for water percolation and sand and gravel mining). The Riversidean Alluvial Fan Sage Scrub – Pioneer land cover type (Figure 4.4.1) occurs where jurisdictional areas are most likely to also occur, along the active channels of the Santa Ana River, City Creek, Plunge Creek, and Mill Creek. It appears the proposed mining expansion will not affect

any mapped areas of this community type as can be seen by examining Figure 4.4.3. Impacts to wetlands and riparian resources are not expected to be significant due to the general absence from the Planning Area. However, small jurisdictional areas may be impacted by mining expansion. A precise delineation of ACOE and CDFG jurisdictional areas is not feasible for the entire Planning Area; therefore, these areas must be identified during each phase of the proposed mining projects. If jurisdictional areas are identified within the areas to be impacted, CWA § 401 and § 404 and the State Fish and Game Code § 1600 et seq. apply to those activities. Any such area is likely to be small in area and isolated from larger more valuable habitat areas; consequently impacts are expected to be less than significant and more readily avoided or mitigated. Jurisdictional impacts from the proposed expansion of mining may occur in relation to the construction of the 5th Street access road and extraction of sand and gravel from the Plunge Creek Quarry. A brief discussion of these impact areas follows.

5th Street Access Road. The 5th Street Access Road will encompass approximately 2.9 acres of property along the east levee of City Creek for which Robertson's has obtained an easement from the San Bernardino County Flood Control District. The access road will extend a total of approximately 1800 feet at an average width of 40 feet, extending under the 5th Street Bridge to the north side of 5th Street. The new access road will cross over or through Plunge Creek and one lane will be constructed under the 5th Street Bridge within City Creek. The east side levee is in disrepair and may need to be re-constructed or shored up in order to construct and protect the proposed road. This could impact additional stream bed area in the order of 1 to 2 acres. The total jurisdictional area may be approximately 4 to 5 acres including temporary construction impacts. Most of this 4 to 5-acre area is within the active channel of City Creek and contains limited vegetation due to scouring and flood control maintenance activities, but could be considered jurisdictional.

Plunge Creek Quarry. The Plunge Creek Quarry is a proposed 36-acre mining area located south of Plunge Creek and east of SR-30 (see Figure 3.18). The site consists of approximately 17 acres of disturbed area used for concrete product storage and 19 acres of undisturbed RAFSS. The quarry will be mined by Robertson's within the first two years of project approval. The mining plan indicates that approximately 20 feet of material will be extracted from elevated land south of the Plunge Creek channel to form a drainable basin that will enhance the capacity of the East Basin Flood Control Basin. A berm will be constructed on the south side of the site with the top of berm to be a minimum 1.5 feet above the 100-year flood design flow. This berm will be constructed of compacted fill to a typical height of 12 feet above the channel invert at elevation of approximately 1,222 feet amsl with a 30-foot wide top. The proposed quarry is outside the current Plunge Creek channel but within the historic floodplain of Plunge Creek and the Santa Ana River. Most of the proposed quarry is within the active channel of Plunge Creek and contains limited vegetation due to scouring and flood control maintenance activities, but could be considered jurisdictional.

During construction of the 5th Street access Road and permitting of the Plunge Creek Quarry, jurisdictional areas will be located, impacts assessed, and mitigation measures identified. Mitigation measures typically include avoidance, replacement, or participation in in-lieu fee programs such as regional mitigation banks. In order to ensure that jurisdictional areas are located and mitigation identified, mitigation is required.

Riversidean alluvial fan sage scrub is considered to be a sensitive natural community. Approximately 342 acres of this community would be adversely impacted by the expansion of aggregate mining. Such impacts to this plant community would be significant and mitigation is required.

Mitigation Measures. Previously described **Mitigation Measures BIO-1** through **BIO-16** implement habitat conservation strategies associated with the establishment of a Habitat Enhancement Plan for the Planning Area. **Mitigation Measures BIO-1, BIO-3, and BIO-4** will mitigate impacts to species associated with the Riversidean alluvial fan sage scrub habitat while **Mitigation Measures BIO-5, BIO-6, and BIO-7** will preserve and enhance the quality of Riversidean alluvial fan sage scrub that remains in the Planning Area.

The permit proponent shall implement the following mitigation measure for impacts to jurisdictional areas.

BIO-20 Prior to construction of the 5th Street Access Road and mining within the Plunge Creek Quarry, jurisdictional delineation surveys shall be prepared by Robertson's. The jurisdictional delineation surveys shall comply with California Fish and Game Code Sections 1600–1616 and Section 404 requirements from the U.S. Army Corps of Engineers for any discharge of dredged or fill material in jurisdictional waters of the U.S. A Section 401 Certification from the Regional Water Quality Control Board could also be required.

Level of Significance After Mitigation. The significance of impacts to areas of Riversidean alluvial fan sage scrub will depend mostly on the habitat value of those areas for listed and other special interest species. **Mitigation Measures BIO-1, BIO-3, and BIO-4** will only partially mitigate the impacts to those species. **Mitigation Measures BIO-5, BIO-6, and BIO 7** will preserve and enhance the quality of Riversidean alluvial fan sage scrub remaining in the Planning Area. The Habitat Enhancement Plan, through management and stewardship of slender-horned spineflower, Santa Ana woollystar, San Bernardino kangaroo rat, the coastal California gnatcatcher, and the Los Angeles pocket mouse, will reduce impacts from the loss of habitat associated with aggregate mining. The permanent loss of 342 acres of this plant community would remain significant even after implementation of these mitigation measures.

If jurisdictional areas are identified in the proposed 5th Street Access Road and Plunge Creek Quarry, CWA § 401 and § 404 and the State Fish and Game Code § 1600 et seq. may apply to this activity. Any such area is likely to be small in area and isolated from larger more valuable habitat areas; consequently impacts will be less than significant through avoidance and mitigation resulting from any ACOE and/or CDFG jurisdictional permitting actions that may be required. During jurisdictional permit actions, resources will be located and impacts and mitigation measures identified. Mitigation measures typically include avoidance, replacement, or participation in in-lieu fee programs such as regional mitigation banks. Consequently, impacts to riparian habitats and jurisdictional areas will be reduced to less than significant with mitigation.

Cumulative. The expansion of mining activities could create or contribute to new or increased impacts to riparian habitats, jurisdictional areas, and other sensitive natural communities because of four cumulative projects. As shown in previously referenced Figure 2.2, the East Branch Extension Phase II, Plunge Pool Pipeline, Line C Drainage Realignment, and Alabama Street Arch Culvert Projects will be constructed within portions of the Planning Area. However, these cumulative projects are subject to their own environmental review including impact assessment and mitigation formulation. With implementation of their own mitigation measures, cumulative impacts from mining expansion in combination with the cumulative projects would be no greater than the impacts defined for the proposed project. However, with implementation of mitigation, project-specific impacts to sensitive natural communities (Riversidean alluvial fan sage scrub) from the expansion of mining would remain significant and unavoidable. The incremental increase in impacts to sensitive natural communities (Riversidean alluvial fan sage scrub) would be considered a significant cumulative impact.

Adoption of General Plan Amendments

The Cities of Highlands and Redlands would amend the applicable elements of their respective general plans to show trail alignments consistent with new trail alignments, and to change land use designations. These actions would facilitate other portions of the Wash Plan, but would not

themselves have a significant impact on federally protected wetlands, riparian areas or other sensitive natural communities; therefore, no mitigation would be required.

Cumulative. There are no cumulative projects listed in Table 2.A and shown in previously referenced Figure 2.2 that would combine with the General Plan Amendments to create a significant impact to riparian habitats, jurisdictional areas, and other sensitive natural communities over and above the impacts discussed in this section. The General Plan Amendments will have no impact related to riparian habitats, jurisdictional areas, and other sensitive natural communities and therefore would not contribute to any cumulative impact.

Impact 4.4.7: The designation of rights-of-way for proposed future roadway improvement projects may result in a substantial adverse effect on riparian habitats, jurisdictional areas, or other sensitive natural communities.

Roadway/Bridge Rights-of-Way

As summarized in Table 4.4.E, the proposed project will result in the ~~dedication~~ designation of approximately ~~30~~ 47 acres of additional rights-of way for three streets, Alabama Street, Orange Street-Boulder Avenue, and Greenspot Road. The following provides a brief summary of the estimated riparian areas that will be impacted by each roadway.

Greenspot Road. As discussed previously, the Greenspot Road ~~“S” curve and bridge projects project~~ will result in the ultimate widening of Greenspot Road and a new bridge across the Santa Ana River approximately 250 feet west of the existing bridge. Permanent jurisdictional area will likely consist of the bridge crossing over and within the Santa Ana River channel estimated to total about 1.5 acres (estimated at 125 feet by 500 feet). The project would result in temporary disturbances of an approximately 4.7 acres ~~around the bridge site~~. The area north and south of the bridge and the remainder of the Greenspot Road realignment are not within the channel. The river channel is largely scoured from river flows and the embankments on either side are largely disturbed by past activities.

Alabama Street. As discussed previously, the Alabama Street widening project in the City of Redlands will permanently impact 1.4 acres and temporarily impact 5.0 acres within the Planning Area. This portion of the Alabama Street project does not appear to directly affect any stream channels. However, the entire road alignment is within the overall Santa Ana River Wash and may be considered jurisdictional. The surrounding area consists of Riversidean alluvial fan sage scrub and developed/ruderal areas disturbed by the existing road way. Note that the portion of Alabama Street that crosses City Creek is not part of the Wash Plan and is planned to be improved by others.

Orange Street-Boulder Avenue. The Orange Street/Boulder Avenue widening in the City of Highland permanently impact 16.4 acres and temporarily impact 11.4 acres within the Planning Area. The road will cross Plunge Creek near its spillway and cross another un-named drainage to the south of Plunge Creek. The Plunge Creek spillway area consists of scoured wash and Riversidean alluvial fan sage scrub. The un-named drainage consists of a narrow sand channel surrounded by Riversidean alluvial fan sage scrub.

Note that the portion of Orange Street within the City of Redlands (approximately 4.6 acres) does not appear to directly affect any stream channels. The bridge over the Santa Ana River for the ultimate road width was recently completed under separate permits. However, the entire road alignment is within the overall Santa Ana River Wash and could be considered jurisdictional. Subsequent CEQA review for project-specific impacts would be conducted by the City of Redlands.

During construction of the Greenspot Road, Alabama Street, and Orange Street-Boulder Avenue Roadway improvement projects, jurisdictional areas will be located, impacts assessed, and mitigation measures identified. Mitigation measures typically include avoidance, replacement, or participation in in-lieu fee programs such as regional mitigation banks. In order to ensure that jurisdictional areas are located and mitigation identified, mitigation is required. The construction of the roadway improvements will be the subject of separate environmental documents that will tier off this EIR.

Riversidean alluvial fan sage scrub is considered to be a sensitive natural community. Approximately 16.25 acres of this community would be adversely impacted by the proposed improvements to Greenspot Road, Alabama Street, and Orange Street-Boulder Avenue. Such impacts to this plant community would be significant and mitigation is required.

Mitigation Measures. Previously described **Mitigation Measures BIO-1** through **BIO-16** implement habitat conservation strategies associated with the establishment of a Habitat Enhancement Plan for the Planning Area. **Mitigation Measures BIO-1, BIO-3, and BIO-4** will mitigate impacts to species associated with the Riversidean alluvial fan sage scrub habitat while **Mitigation Measures BIO-5, BIO-6, and BIO-7** will preserve and enhance the quality of Riversidean alluvial fan sage scrub that remains in the Planning Area.

The permit proponent shall implement the following mitigation measure for impacts to jurisdictional areas.

BIO-21 Prior to construction of the Greenspot Road, Alabama Street, and Orange Street-Boulder Avenue Roadway improvement projects, jurisdictional delineation surveys shall be prepared by the City of Highland and/or Redlands. The jurisdictional delineation surveys shall comply with California Fish and Game Code Sections 1600–1616 and Section 404 requirements from the U.S. Army Corps of Engineers for any discharge of dredged or fill material in jurisdictional waters of the U.S. A Section 401 Certification from the Regional Water Quality Control Board could also be required.

Level of Significance after Mitigation. The significance of impacts to areas of Riversidean alluvial fan sage scrub will depend mostly on the habitat value of those areas for listed and other special interest species. **Mitigation Measures BIO-1, BIO-3, and BIO-4** will only partially mitigate the impacts to those species. **Mitigation Measures BIO-5, BIO-6, and BIO-7** will preserve and enhance the quality of Riversidean alluvial fan sage scrub remaining in the Planning Area. The permanent loss of 16.25 acres of this plant community would be reduced to less than significant with implementation of these mitigation measures, including inception of the future HCP approved by the USFWS.

If jurisdictional areas are identified as part of the Greenspot Road, Alabama Street, and Orange Street-Boulder Avenue roadway improvement projects, CWA § 401 and § 404 and the State Fish and Game Code § 1600 et seq. may apply to this activity. Any such area is likely to be small in area and isolated from larger more valuable habitat areas; consequently impacts will be less than significant through avoidance and mitigation resulting from any ACOE and/or CDFG jurisdictional permitting actions that may be required. During jurisdictional permit actions, resources will be located and impacts and mitigation measures identified. Mitigation measures typically include avoidance, replacement, or participation in in-lieu fee programs such as regional mitigation banks. Consequently, impacts to riparian habitats and jurisdictional areas will be reduced to less than significant with mitigation.

Cumulative. The roadway improvement projects could create or contribute to new or increased impacts to riparian habitats, jurisdictional areas, and other sensitive natural communities because of three cumulative projects. As shown in previously referenced Figure 2.2, the Alabama Street Area

Culvert Project, Plunge Pool Pipeline, and Morton Canyon Connector Pipeline will be constructed within portions of Alabama Street and Greenspot Road. However, these cumulative projects are subject to their own environmental reviews, including impact assessment and mitigation formulation. With implementation of their own mitigation measures, cumulative impacts from the roadway improvement projects in combination with the cumulative projects would be no greater than the impacts defined for the proposed project. With implementation of mitigation, project-specific impacts from the roadway improvements would be reduced to less than significant. The incremental increase in impacts to riparian habitats, jurisdictional areas, and other sensitive natural communities would be considered a less than significant cumulative impact.

Recreational Trail Rights-of-Way

Planned trails would use existing rights-of-way along their respective streets, with the exception of the Borrow Pit South Rim Trail, which would run along the existing partially-paved maintenance road. All other trails would stay on existing service roads and old railroad beds and would remain in their existing state. As all trails proposed for the Planning Area would either use existing roadways or existing service roads or old railroad beds, no construction or expansion would be necessary and no physical adverse effect on the environment is expected to occur. Except for the placement of signs indicating that trails and service roads would serve a dual purpose, there would be no construction activities associated with trails. Boulders or similar barricades may be placed to direct trail users away from habitat conservation, flood control, water conservation, and mining activities. These activities are not expected to substantially impact riparian habitats, jurisdictional areas, or other sensitive natural communities; therefore, no mitigation would be required.

Cumulative. The recreational trail right-of-way could create or contribute to new or increased impacts to riparian habitats, jurisdictional areas because of one cumulative project. As shown in previously referenced Figure 2.2, the East Branch Extension will be constructed within portions of Cone Camp Road Trail and the Borrow Pit South Rim Trail. However, these cumulative projects are subject to their own environmental review including impact assessment and mitigation formulation. In addition, because the trails will use existing service roads or old railroad beds, no construction or expansion would be necessary. The incremental increase in impacts to riparian habitats, jurisdictional areas would be considered a less than significant cumulative impact.

Land Exchange between the District and BLM

The District's land exchange with the BLM will provide to the BLM and unrestricted habitat corridor for wildlife movement while maintaining continued water conservation activity. The land the BLM will exchange to the District, which is already mostly disturbed, will be used for aggregate mining. The location of these lands and their future use would not result in substantial impacts to riparian habitats, jurisdictional areas, or other sensitive natural communities. Therefore, no mitigation would be required.

Cumulative. There are no cumulative projects listed in Table 2.A and shown in previously referenced Figure 2.2 that would combine with the land exchange between the District and BLM to create a significant impact to riparian habitats, jurisdictional areas, or other sensitive natural communities over and above the impacts discussed in this section. The land exchange between the District and BLM will have a less than significant impact related to riparian habitats, jurisdictional areas, or other sensitive natural communities and therefore would not contribute to any cumulative impact.

Land Exchange between the SBCFCD and Robertson's

The SBCFCD land exchange with Robertson's will allow mining activities to take place on property currently owned by the SBCFCD and habitat preservation to occur on land that is currently owned by Robertson's. The land exchange is necessary for the proposed aggregate mining to occur. However, the impacts of the aggregate mining are evaluated separately and the land exchange itself would not substantially impact riparian habitats, jurisdictional areas, or other sensitive natural communities; therefore, no mitigation would be required.

Cumulative. There are no cumulative projects listed in Table 2.A and shown in previously referenced Figure 2.2 that would combine with the land exchange between the SBCFCD and Robertson's to create a significant impact to riparian habitats, jurisdictional areas, or other sensitive natural communities over and above the impacts discussed in this section. The land exchange between the SBCFCD and Robertson's will have a less than significant impact related to riparian habitats, jurisdictional areas, or other sensitive natural communities and therefore would not contribute to any cumulative impact.

Interference with Wildlife Movement or Migration Corridors

Threshold:	Would the proposed project cause substantial interference with wildlife movement, migration corridors, or nursery sites?
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Impact 4.4.8: The proposed relocated Observation Well No. 4 and future water conservation facilities may result in disturbances to migratory birds, including the burrowing owl, resulting in a significant impact.

Water Conservation Operations/Maintenance Activities of the District

Maintenance activities associated with water conservation are expected to continue at approximately past and current levels and to be limited to previously disturbed areas. The District's Observation Well No. 4 would be displaced by mining and need to be relocated and future water conservation facilities within the District's Phase 1, 2 and 3 areas (see Figure 3.12) will be constructed. Because these activities will generally occur within areas that already contain existing water conservation facilities, the added water conservation facilities would not substantially interfere with wildlife movement or migration corridors.

However, the relocated well and future water conservation facilities will result in the disturbance of existing habitat frequented by the burrowing owl and other migratory bird species. The burrowing owl usually occupies ground squirrel burrows in a wide range of habitats such as open, dry grasslands, agricultural and range lands, railroad rights-of-way, and margins of highways, golf courses, and airports. The owls utilize man-made structures, such as earthen berms, cement culverts, cement, asphalt, rock, or wood debris piles. Migratory birds utilize canopies located within large areas of open space. The Planning Area, including the future water conservation areas (including the District's Phase 3 area), contains large area of suitable habitat for seasonal use by the owl and other migratory birds. The following mitigation measures are required to ensure impacts to the owl and other migratory birds are minimized.

Mitigation Measures. The permit proponent shall implement the following mitigation measures for impacts to burrowing owls and other migratory bird species.

BIO-22 As part of the construction of relocated Observation Well No. 4 and construction of future water conservation facilities, trees and other significant vegetation that may provide nesting habitat for migratory birds shall be removed from the construction areas by the District between September 1 and March 1, outside of the nesting season. If trees or other significant vegetation must be removed during the nesting season, a nesting bird survey shall be conducted by a qualified biologist no more than 14 days prior to any grading or vegetation clearing. If nesting birds are found within the areas to be impacted by the project, the nest and a 100-foot buffer area (200 feet for raptors) around the nest shall be protected and maintained until the biologist determines that young have fledged and/or the nests are no longer active. The buffer area shall be delineated with orange construction fencing.

BIO-23 Prior to construction of relocated Observation Well No. 4 and construction of future water conservation facilities, the District shall conduct a habitat assessment for burrowing owl. If habitat is observed, a focused burrowing owl survey shall be conducted during breeding season (March 1 – August 31) per approved survey protocol. If occupied burrows are found, appropriate mitigation measures shall be implemented which may include one or more of the following in consultation with CDFG:

- Avoid disturbance within 160 feet of occupied burrows during non-breeding season and within 250 feet during breeding season; and/or
- If owls must be moved, passive relocation during the non-breeding season per CDFG recommendations shall be implemented.
- A burrowing owl pre-construction survey shall be conducted by a qualified biologist no more than 14 days prior to any grading or vegetation clearing in areas with potential borrowing owl habitat not previously mitigated. If nesting owls or occupied burrows are found within the areas to be impacted, the above mitigation measure shall be implemented.

Level of Significance after Mitigation. Mitigation Measures BIO-22 and BIO-23 will ensure that ground disturbances associated with the construction of the relocated well and future water conservation facilities will occur outside of the breeding seasons for migratory birds including the burrowing owl. With implementation of these measures, impacts to the burrowing owl and other migratory birds will be reduced to less than significant.

Cumulative. Relocation of Observation Well No. 4 and future water conservation facilities could create or contribute to new or increased impacts to migratory birds, including the burrowing owl, because of two cumulative projects. As shown in previously referenced Figure 2.2, the East Branch Phase II and Plunge Pool Pipeline Projects will be constructed within the eastern portion of the Planning Area, the same area where existing water conservation activities take place and future water conservation facilities will be constructed and operated. However, these cumulative projects are subject to their own environmental review including impact assessment and mitigation formulation. With implementation of their own mitigation measures, cumulative impacts from the relocated well and future water conservation activities in combination with the cumulative projects would be no greater than the impacts defined for the proposed project. Project-specific impacts to the burrowing owl and other migratory birds are mitigated to less than significant and it can be expected that environmental review of the cumulative projects will likely result in the imposition of similar mitigation measures. The incremental increase in impacts to the burrowing owl and other migratory birds would be considered a less than significant cumulative impact.

Flood Control Operations/Maintenance Activities of the SBCFCD

Flood control activities consist of maintaining existing flood control features such as dikes, basins, and channels and will not involve the expansion of flood control features or the construction of new flood control features. Flood control operations and maintenance activities are not expected to change as a result of the proposed project. Therefore, significant impacts to wildlife movement or migration corridors are not anticipated; and no mitigation is required.

Cumulative. There are no cumulative projects listed in Table 2.A and shown in previously referenced Figure 2.2 that would combine with the continuation of existing flood control activities to substantially interfere with wildlife movement and migration corridors. With the exception of the existing mining areas and roadways, the overall Planning Area including the flood control areas are generally undeveloped and will continue to provide wildlife movement and migration corridors for native species. The continuation of existing flood control activities will have a less than significant impact related to wildlife movement and migration corridors and therefore would not contribute to any cumulative impact.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Water production activities consist of pumping water from wells and routing the resulting water to existing distribution systems. Since water production operations would remain the same with the implementation of the proposed project, no new impacts related to this issue are anticipated and no mitigation would be required.

Cumulative. There are no cumulative projects listed in Table 2.A and shown in previously referenced Figure 2.2 that would combine with the continuation of existing water production activities to substantially interfere with wildlife movement and migration corridors. With the exception of the existing mining areas and roadways, the overall Planning Area including the water production areas are generally undeveloped and will continue to provide wildlife movement and migration corridors for native species. The continuation of existing water production areas will have a less than significant impact related to wildlife movement and migration corridors and therefore would not contribute to any cumulative impact.

Impact 4.4.9: The proposed aggregate mining expansion may result in disturbances to migratory birds, including the burrowing owl, resulting in a potentially significant impact.

Expansion of Aggregate Mining

The Santa Ana River Wash provides an important corridor for the east-west movement of wildlife in the general project vicinity. This corridor is becoming increasingly important as upland areas are developed. Portions of this corridor would be narrowed by the expansion of aggregate mining. The greatest impact of the mining expansion on the width of this corridor would occur about 1,500 feet east of Orange Street-Boulder Avenue near the south end of the Planning Area (previously referenced Figure 3.9). At this location, the corridor along the active Santa Ana River channel would be narrowed from its current width of about 1,800 feet, to a width of about 1,100 feet. The resulting width would still be ample compared with the existing nearby constriction at Orange Street, where the corridor (active channel) narrows to approximately 500 feet. The restriction in width is a less than significant impact on a ground level wildlife corridor and no mitigation is required.

However, the project will result in the disturbance of existing habitat frequented by the burrowing owl and other migratory bird species. As described previously, The Planning Area, including the future water conservation areas (including the Districts Phase 3 area), contains large area of suitable habitat

for seasonal use by the owl and other migratory birds. The following mitigation measures are required to ensure impacts to the owl and other migratory birds are minimized.

Mitigation Measures. The mining companies shall implement the following mitigation measures for impacts to burrowing owls and other migratory bird species.

BIO-24 As part of their mining expansion, trees and other significant vegetation that may provide nesting habitat for migratory birds shall be removed by CEMEX and Robertson's from the mining areas between September 1 and March 1, outside of the nesting season. If trees or other significant vegetation must be removed during the nesting season, a nesting bird survey shall be conducted by a qualified biologist no more than 14 days prior to any grading or vegetation clearing. If nesting birds are found within the areas to be impacted by the project, the nest and a 100-foot buffer area (200 feet for raptors) around the nest shall be protected and maintained until the biologist determines that young have fledged and/or the nests are no longer active. The buffer area shall be delineated with orange construction fencing.

BIO-25 Prior to mining within all mining expansion areas, CEMEX and Robertson's shall conduct a habitat assessment for burrowing owl. If habitat is observed, a focused burrowing owl survey shall be conducted during breeding season (March 1 – August 31) per approved survey protocol. If occupied burrows are found, appropriate mitigation measures shall be implemented which may include one or more of the following in consultation with CDFG:

- Avoid disturbance within 160 feet of occupied burrows during non-breeding season and within 250 feet during breeding season; and/or
- If owls must be moved, passive relocation during the non-breeding season per CDFG recommendations shall be implemented.
- A burrowing owl pre-construction survey shall be conducted by a qualified biologist no more than 14 days prior to any grading or vegetation clearing in areas with potential burrowing owl habitat not previously mitigated. If nesting owls or occupied burrows are found within the areas to be impacted, the above mitigation measure shall be implemented.

Level of Significance after Mitigation. Mitigation Measures BIO-24 and BIO-25 will ensure that ground disturbances associated with the aggregate mining expansion will occur outside of the breeding seasons for migratory birds including the burrowing owl. With implementation of these measures, impacts to the burrowing owl and other migratory birds will be reduced to less than significant.

Cumulative. The expansion of mining activities could create or contribute to new or increased impacts to the burrowing owl and other migratory birds because of four cumulative projects. As shown in previously referenced Figure 2.2, the East Branch Extension Phase II, Plunge Pool Pipeline, Line C Drainage Realignment, and Alabama Street Arch Culvert Projects will be constructed within portions of the Planning Area. However, these cumulative projects are subject to their own environmental review including impact assessment and mitigation formulation. With implementation of their own mitigation measures, cumulative impacts from mining expansion in combination with the cumulative projects would be no greater than the impacts defined for the proposed project. With implementation of mitigation, project-specific impacts to the burrowing owl and other migratory birds from the expansion of mining would be reduced to less than significant. The incremental increase in impacts to the burrowing owl and other migratory birds would be considered a less than significant cumulative impact.

Adoption of General Plan Amendments

The Cities of Highlands and Redlands would amend the applicable elements of their respective general plans to show trail alignments consistent with new trail alignments, and to change land use designations. These actions would not have a substantially impact wildlife movement or migration corridors; and no mitigation would be required.

Cumulative. There are no cumulative projects listed in Table 2.A and shown in previously referenced Figure 2.2 that would combine with the General Plan Amendments to create a significant impact to the burrowing owl and other migratory birds over and above the impacts discussed in this section. The General Plan Amendments will have no impact related to the burrowing owl and other migratory birds and therefore would not contribute to any cumulative impact.

Impact 4.4.10: The designation of rights-of-way for proposed future roadway improvement projects may result in disturbances to migratory birds, including the burrowing owl, resulting in a potentially significant impact.

Roadway/Bridge Rights-of-Way

With the implementation of the proposed project, the ~~dedication~~ designation of additional rights-of-way for three streets—Alabama Street, Orange Street-Boulder Avenue, and Greenspot Road—would occur. The setting aside of rights-of-way of the three streets would not have a substantial impact on wildlife movement or migration corridors; and no mitigation would be required.

However, the project will result in the disturbance of existing habitat frequented by the burrowing owl and other migratory bird species. As described previously, the Planning Area, including the new rights-of-way for Greenspot Road, Alabama Street, and Orange Street-Boulder Avenue, contains large area of suitable habitat for seasonal use by the owl and other migratory birds. The following mitigation measures are required to ensure impacts to the owl and other migratory birds are minimized.

Mitigation Measures. The Cities of Highland and Redlands shall implement the following mitigation measures for impacts to burrowing owls and other migratory bird species. These measures will be implemented as part of subsequent environmental review in accordance with CEQA.

BIO-26 As part of the Greenspot Road, Alabama Street, and Orange Street-Boulder Avenue roadway improvements, trees and other significant vegetation that may provide nesting habitat for migratory birds shall be removed by Highland and Redlands from the construction areas between September 1 and March 1, outside of the nesting season. If trees or other significant vegetation must be removed during the nesting season, a nesting bird survey shall be conducted by a qualified biologist no more than 14 days prior to any grading or vegetation clearing. If nesting birds are found within the areas to be impacted by the project, the nest and a 100-foot buffer area (200 feet for raptors) around the nest shall be protected and maintained until the biologist determines that young have fledged and/or the nests are no longer active. The buffer area shall be delineated with orange construction fencing.

BIO-27 As part of the Greenspot Road, Alabama Street, and Orange Street-Boulder Avenue roadway improvements, Highland and Redlands shall conduct a habitat assessment for burrowing owl. If habitat is observed, a focused burrowing owl survey shall be conducted during breeding season (March 1 – August 31) per approved survey protocol. If occupied burrows are found, appropriate mitigation measures shall be implemented which may include one or more of the following in consultation with CDFG:

- Avoid disturbance within 160 feet of occupied burrows during non-breeding season and within 250 feet during breeding season; and/or
- If owls must be moved, passive relocation during the non-breeding season per CDFG recommendations shall be implemented.
- A burrowing owl pre-construction survey shall be conducted by a qualified biologist no more than 14 days prior to any grading or vegetation clearing in areas with potential borrowing owl habitat not previously mitigated. If nesting owls or occupied burrows are found within the areas to be impacted, the above mitigation measure shall be implemented.

Level of Significance after Mitigation. Mitigation Measures BIO-26 and BIO-27 will ensure that ground disturbances associated with the proposed roadway improvements will occur outside of the breeding seasons for migratory birds including the burrowing owl. With implementation of these measures, impacts to the burrowing owl and other migratory birds will be reduced to less than significant.

Cumulative. The roadway improvement projects could create or contribute to new or increased impacts to the burrowing owl and other migratory birds because of three cumulative projects. As shown in previously referenced Figure 2.2, the Alabama Street Area Culvert Project, Plunge Pool Pipeline, and Morton Canyon Connector Pipeline will be constructed within portions of Alabama Street and Greenspot Road. However, these cumulative projects are subject to their own environmental reviews, including impact assessment and mitigation formulation. With implementation of their own mitigation measures, cumulative impacts from the roadway improvement projects in combination with the cumulative projects would be no greater than the impacts defined for the proposed project. With implementation of mitigation, project-specific impacts from the roadway improvements would be reduced to less than significant. The incremental increase in impacts to the burrowing owl and other migratory birds would be considered a less than significant cumulative impact.

Recreational Trail Rights-of-Way

Planned trails would use existing rights-of-way along their respective streets with the exception of the Borrow Pit South Rim Trail, which would run along the existing partially-paved maintenance road. All other trails would stay on existing service roads and old railroad beds and would remain in their existing state. As all trails proposed for the Planning Area would either use existing roadways or existing service roads or old railroad beds, no construction or expansion would be necessary and no physical adverse effect on the environment is expected to occur. Except for the placement of signs indicating that trails and service roads would serve a dual purpose, there would be no construction activities associated with trails. Boulders or similar barricades may be placed to direct trail users away from habitat conservation, flood control, water conservation, and mining activities. These activities are not expected to substantially impact wildlife movement or migration corridors; and no mitigation would be required.

Cumulative. The recreational trail right-of-way could create or contribute to new or increased impacts to wildlife movement or migration corridors because of one cumulative project. As shown in previously referenced Figure 2.2, the East Branch Extension will be constructed within portions of Cone Camp Road Trail and the Borrow Pit South Rim Trail. However, this cumulative project is subject to its own environmental review including impact assessment and mitigation formulation. In addition, because the proposed trails will use existing service roads or old railroad beds, no construction or expansion would be necessary. The incremental increase in impacts to wildlife movement or migration corridors would be considered a less than significant cumulative impact.

Land Exchange between the District and BLM

The District's land exchange with the BLM will provide to the BLM an unrestricted habitat corridor for wildlife movement while maintaining continued water conservation activity. The land the BLM will exchange to the District, which is already mostly disturbed, will be used for aggregate mining. The location of these lands and their future use would enhance the ability of wildlife to move, which is a positive impact. Therefore, no mitigation measures would be required.

Cumulative. There are no cumulative projects listed in Table 2.A and shown in previously referenced Figure 2.2 that would combine with the land exchange between the District and BLM to create a significant impact to wildlife movement or migration corridors over and above those impacts discussed in this section. The land exchange between the District and BLM will have a less than significant impact related to wildlife movement or migration corridors and therefore would not contribute to any cumulative impact.

Land Exchange between the SBCFCD and Robertson's

The SBCFCD land exchange with Robertson's will allow mining activities to take place on property currently owned by the SBCFCD and habitat preservation to occur on land that is currently owned by Robertson's. The land exchange is necessary for the aggregate mining to occur. However, the impacts of the aggregate mining are evaluated separately, and the land exchange itself would not substantially impact wildlife movement or migration corridors; therefore no mitigation would be required.

Cumulative. There are no cumulative projects listed in Table 2.A and shown in previously referenced Figure 2.2 that would combine with the land exchange between the SBCFCD and Robertson's to create a significant impact to wildlife movement or migration corridors over and above the impacts discussed in this section. The land exchange between the SBCFCD and Robertson's will have a less than significant impact related to wildlife movement or migration corridors and therefore would not contribute to any cumulative impact.

Conflict with a Local Biological Policy or Ordinance

Threshold:	Would the proposed project conflict with a local biological policy or ordinance?
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The Planning Area overlaps the land use jurisdiction of the City of Highland and the City of Redlands. The City of Highland does not have an ordinance specifically preserving a particular biological resource; however, in the *City of Highland General Plan Update*, the City commits to the stewardship of the biological resources of the Valley. The *City of Redlands 1995 General Plan* contains three biological preservation policies germane to the proposed project:

- **Policy 7.21q.** Support the U.S. Army Corps of Engineers' efforts to establish a preserve for the Santa Ana River woollystar as mitigation for habitat anticipated to be lost as a result of construction in the Planning Area.
- **Policy 7.21r.** Work with concerned agencies and organizations to preserve the slender-horned spineflower.
- **Policy 7.21t.** Coordinate aggregate resource extraction with habitat preservation and protection of plant and animal species.

The proposed project will comply with local biological resource policies, as mitigation measures are provided for anticipated impacts to all biological resources; furthermore, a Habitat Conservation Plan would be established, and the Santa Ana River Woollystar Preservation Area would be expanded. Therefore, as the proposed project would not conflict with local jurisdiction policies for biological resources, the impacts to local biological policies are less than significant and no mitigation is required.

Conflict with Provisions of an Adopted Habitat Conservation Plan

Threshold:	Would the proposed 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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The proposed project includes the establishment of a Habitat Enhancement Plan as implemented through Mitigation Measures **BIO-1** through **BIO-16**. The Habitat Enhancement Plan establishes the groundwork for the creation of a Habitat Conservation Plan (HCP) that will be approved by the USFWS. The Habitat Enhancement Plan, and eventually the HCP, will work in concert with the existing WSPA in providing stewardship for the natural habitat within the Planning Area. In essence, the entire project is consistent with the WSPA and will augment the benefits it produces by creating more managed habitat within the Planning Area.

4.5 CULTURAL RESOURCES

The purpose of this section is to identify and evaluate the potential for the proposed project to adversely affect paleontological, archaeological, and historical resources. The resources of concern include, but are not limited to fossils, prehistoric and historic artifacts, burials, sites of religious or cultural significance to Native American groups, and historic structures. This section provides a detailed discussion of impacts attributable to the project and criteria used in determining impact significance to cultural and paleontological resources. This section is based in part on *A Cultural Resource Assessment, Upper Santa Ana River Wash Land Management and Habitat Conservation Plan, San Bernardino County* (LSA Associates, Inc., January 19, 2005), which is included in its entirety as Appendix F of this EIR.

4.5.1 Existing Setting

Archaeological Resources

Archaeological resources are those that are associated with prehistoric cultural sites, prehistoric isolates, and the remnants of historic cultural sites that lack substantive building remnants (termed “historic archaeological sites”) such as roads and trails. Prehistoric cultural resources consist of those physical properties that predate the advent of written records in a particular region that are considered important to a culture, subculture, or community for scientific or humanistic reasons. These include geographic districts, structures, sites, objects, and other physical evidence of past human activity. Similar to prehistoric cultural resources, historic cultural resources in a particular geographic region are those resources considered important to a culture, subculture, or community and postdate the advent of written records.

To ascertain past research effort within the Planning Area, a records search was conducted at the San Bernardino County Museum Archaeological Information Center. The search included a review of all recorded historic and prehistoric archaeological sites, as well as a review of known cultural resource surveys and excavation reports generated from projects located within 1.0 mile of the Planning Area. The record search showed that 41 archaeological and historical studies have been conducted within the Planning Area, and 27 of the studies have resulted in the identification of cultural resources.

The records search identified a total of 81 cultural resources within the boundaries of the Planning Area. Of these cultural resources, 18 occur within the projected impact areas. The remaining 63 were assessed for contextual information and are further discussed in the *Cultural Resources Assessment* contained in Appendix F of this EIR. Two of the cultural resources identified within the Planning Area (SBR-5526H and P36-016987) that have been evaluated for listing in the National Register of Historic Places (National Register) are further discussed below.

SBR-5526H. The site that is designated SBR-5526H is a historic orchard complex. Based on information obtained from the California Office of Historic Preservation, the property was not eligible for listing in the National Register of Historic Places.¹ Subsequent documentation shows that it has been determined to be eligible for inclusion.

P36-016987. The P36-016987 site is the Greenspot Road Bridge, which was determined to be eligible for the National Register in 1985. By definition, this made it eligible for the California Register of Historic Resources (California Register).

Other historic resources within the Planning Area include debris dumps associated with the Depression Era and subsequent occupations of Civilian Conservation Corps (CCC), agricultural

¹ *Archaeological Determination of Eligibility Listing*, California Office of Historic Preservation, 1988.

homesteads, and various irrigation features, three bridges, and one railroad alignment. Several pending site numbers represent various historic isolated artifacts and one prehistoric isolate.

Paleontological Resources

Paleontological resources include fossils or assemblages of fossils that are unique, unusual, rare, or add to the existing body of knowledge either stratigraphically, taxonomically, or regionally. Such resources may include the remains of large to very small terrestrial and/or aquatic species that can assist in the interpretation of tectonic events, geomorphic evolution, paleoclimatology, and relationships of terrestrial and aquatic species.

The sediments in the Planning Area contain very coarse sediments deposited during latest Pleistocene and Holocene times. The sediments are topographically stratified with the oldest at the highest, near source elevation, and the youngest, most deeply inset, at the lowest topographic elevation. The sediments are too coarse to preserve significant paleontological specimens or are too young to preserve specimens of the Pleistocene period that could shed light on significant paleontological events.

Prehistory Period

Of the many chronological sequences proposed for southern California, two primary regional syntheses were commonly used in the archaeological literature. The first, advanced by Wallace in 1955, defines four cultural horizons, each with characteristic local variations: Early Man Horizon, Milling Stone, Intermediate, and Late Prehistoric. Employing a more ecological approach,¹ Warren defined five periods in Southern California prehistory: Lake Mojave, Pinto, Gypsum, Saratoga Springs, and Protohistoric. Warren viewed cultural continuity and change in terms of various significant environmental shifts, defining the cultural ecological approach for archaeological research of the California deserts and coast. Many changes in settlement patterns and subsistence focus are viewed as cultural adaptations to a changing environment, beginning with the gradual environmental warming in the late Pleistocene, the desiccation of the desert lakes during the early Holocene, the short return to pluvial conditions during the middle Holocene, and the general warming and drying trend, with periodic reversals, that continues to this day.

Early Holocene Occupations. In the California desert, the Lake Mojave Period (7,000 to 5,000 B.C.), associated with now-dry lakes, is the earliest human occupation represented. The material culture of the Lake Mojave Period is dominated by stylized dart points of the Lake Mojave and Silver Lake series, well-made bifacial knives and other cutting tools, large domed or keeled scrapers, and other characteristic artifact types.² Ground stone tools are rare or absent at most sites.

Middle Holocene Occupations. Milling Stone traditions enjoyed a long history along the coast during the early Holocene. In the desert, the Pinto Period (5,000 to 2,000 B.C.) succeeded the Lake Mojave Period, and appears to have been a time of climatic stress, with resultant changes in environment and staple resources which affected cultural adaptations. As lakes and rivers dried up, plant and animal resources changed.³ It is postulated the populations adjusted to hostile arid conditions by moving to oases in the deserts or to the edges of the desert. This dry period was followed by a moister period in which people returned to the deserts and more plant resources were

¹ Warren, Claude N. The Desert Region. Chapter 8, pp 339-430. In Michael J. Moratto, *California Archaeology*. Academic Press, Inc.: San Diego, California, 1984.

² Wallace, William J. The Little Sycamore Site and the Early Milling Stone Cultures of Southern California. *American Antiquity* 20(2) 112-123., 1994.

³ Warren, Claude N. The Desert Region. Chapter 8, pp 339-430. In Michael J. Moratto, *California Archaeology*. Academic Press, Inc.: San Diego, California, 1984.

utilized.¹ Milling equipment became more prevalent, but, similar to the preceding Lake Mojave Period, dart points, especially Pinto series points, still dominated the material culture. This wet period was followed by another dry spell which again resulted in decreased desert populations and subsequently led into the Little Pluvial at about 2,000 B.C.²

Late Holocene Occupations. In the southern California coastal region, the Late Prehistoric Period began around A.D. 500 or 600, and is marked by the introduction of small projectile points suitable for use with the bow and arrow.³ It continued until the time of European contact, conventionally placed at A.D. 1769 with establishment of the *Mission San Diego de Alcala* in San Diego, the first of 21 missions established by the Spanish in California. In the desert region, cultural periods assigned to this time frame include the Saratoga Springs Period (A.D. 500 to 1,200) and the Protohistoric Period (A.D. 1,200 to historic times, which is as late as 1850 in some locales). The use of the bow and arrow for hunting, as noted by the production of small projectile points and the appearance of arrow shaft straighteners, is characteristic of both these periods.⁴ Pottery use is first noted in the desert regions during these later periods, moving west into southern California desert from western Arizona.

Historic Period

The Spanish/Mission Period. The Spanish/Mission period, 1769–1821, is characterized by the exploration of southern California and the establishment of the San Diego Presidio, Missions San Diego, San Luis Rey, and San Gabriel, and the subsequent decline of Native American populations. European livestock, agricultural goods, architecture, and construction techniques were introduced, and Spanish influence continued after 1821, due to the mission system.

San Bernardino County proved to be too far inland to include any missions or *asistencias* within its limits until 1819, when neophytes from the San Gabriel Mission and the Serrano inhabitants of the nearby Guachama village were utilized to establish the *Asistencia de San Bernardino* on the western edge of present-day Redlands⁵ south of the study area.

For a more detailed review of prehistoric/historic Planning Areas, refer to Appendix F.

Ethnographic Context

The proposed project plan area is situated within the traditional boundary region of two Native American groups: the Serrano and the Cahuilla. The nearest Serrano village was in Yucaipa. The Western or Pass Cahuilla were traditionally found occupying the region to the south of the Planning Area.⁶

4.5.2 Existing Policies and Regulations

Existing policies and regulations include the National Historic Preservation Act, Senate Bill 18, the California Health and Safety Code, and other State laws as described.

¹ Warren, Claude N. The Desert Region. Chapter 8, pp 339-430. In Michael J. Moratto, *California Archaeology*. Academic Press, Inc.: San Diego, California, 1984.

² Warren, Claude N. The Desert Region. Chapter 8, pp 339-430. In Michael J. Moratto, *California Archaeology*. Academic Press, Inc.: San Diego, California, 1984.

³ Wallace, William J. The Little Sycamore Site and the Early Milling Stone Cultures of Southern California. *American Antiquity* 20(2) 112-123., 1994.

⁴ Warren, Claude N. The Desert Region. Chapter 8, pp 339-430. In Michael J. Moratto, *California Archaeology*. Academic Press, Inc.: San Diego, California, 1984.

⁵ Harley, R. Bruce Rev. *Juan Caballeria: Historian or Storyteller? Rethinking the 1810 Dumetz Expedition*. San Bernardino County Museum Quarterly 35(2), 42p, 1988.

⁶ Bean, Lowell John and Charles R. Smith Serrano. In *California*, edited by R.F. Heizer, pp.570-574. Handbook of North American Indians, vol. 8, W.C. Sturtevant, general editor, Smithsonian Institution, Washington, D.C., 1978.

National Historic Preservation Act (NHPA) of 1966 (as amended), Section 106. The NHPA declares a national policy of historic preservation to protect, rehabilitate, restore, and reuse districts, sites, buildings, structures, and objects significant in American architecture, history, archaeology, and culture. The NHPA established the National Register of Historic Places, State Historic Preservation Offices (SHPOs) and programs, and the Advisory Council on Historic Preservation. This Act applies to all properties in or eligible for inclusion in the National Register. The Section 106 review process requires consultation to mitigate damage to “historic properties” (defined per 36 CFR 800.16(1) as places that qualify for the National Register), including Native American traditional cultural places (TCPs). Evaluation of cultural resources consists of determining whether it is significant (i.e., if it meets one or more of the criteria for listing in the National Register). These eligibility criteria are defined in 36 CFR 60.4 as follows:

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association:

- a. that is associated with events that have made a significant contribution to the broad patterns of our history; or*
- b. that is associated with the lives of persons significant in our past; or*
- c. that embodies the distinctive characteristics of a type, period or method of construction, or that represents the work of a master, or possesses high artistic values, or that represents a significant and distinguishable entity whose components may lack individual distinction; and/or*
- d. that has yielded, or may be likely to yield, information important to prehistory or history.*

Senate Bill 18 (SB 18). Signed into law in September 2004 and effective March 1, 2005, Senate Bill 18¹ permits California Native American tribes recognized by the Native American Heritage Commission (NAHC) to hold (on terms mutually satisfactory to the tribe and the landowner) conservation easements. The term “California Native American tribe” is defined as “a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the Native American Heritage Commission.”

Prior to the adoption or amendment of a city or county’s general plan, Senate Bill 18 also requires that the city or county conduct consultations with California Native American tribes for the purpose of preserving specified places, features, and objects that are located within the city or county’s jurisdiction. This bill requires the planning agency to refer to and provide opportunities for involvement to the California Native American tribes specified by the NAHC.

Senate Bill 18 additionally requires that the Office of Planning and Research² (OPR) identify guidelines for consulting with California Native American tribes for the preservation of, or the mitigation of impacts to, specified Native American places, features, and objects. These guidelines address procedures for identifying the appropriate California Native American tribes; for continuing to protect the confidentiality of information concerning the specific identity, location, character, and use

¹ Senate Bill 18, *Traditional Tribal Cultural Places*, http://www.leginfo.ca.gov/pub/03-04/bill/sen/sb_0001-0050/sb_18_bill_20040930_chaptered.html. Due to a drafting error, Senate Bill 18 contains multiple references to California State Public Resources Code §5097.995, which is no longer in existence. In 2004, Public Resources Code (PRC) §5097.995 was amended and renumbered to PRC §5097.993 by Senate Bill 1264 (Chapter 286). This is the Native American Resource Protection Act.

² The OPR provides legislative and policy research support for the Governor’s office. OPR also assists the Governor and the Administration in land-use planning and manages the Office of the Small Business Advocate.

of those places, features, and objects; and for facilitating voluntary landowner participation to preserve and protect the specific identity, location, character, and use of those places, features, and objects.

California Health and Safety Code. The California Health and Safety Code states that if human remains are discovered on site, no further disturbance shall occur until the County Coroner has made a determination of origin and disposition.¹ If the Coroner determines that the remains are not subject to his or her authority and if the Coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the NAHC.

Paleontological Resource Regulations. Section 106 of the NHPA does not apply to paleontological resources unless they are found in a culturally-related context. In addition to the Antiquities Act (16 USC 431-433), the preservation and salvage of fossils and other paleontological resources can be protected under the National Registry of Natural Landmarks (16 USC 461-467) and the NEPA, which directs Federal agencies to “preserve important historic, cultural, and natural aspects of our national heritage.”

Potential impacts to paleontological resources must be accessed for any project subject to CEQA review. California law protects paleontological sites on State lands and establishes authority to protect paleontological resources while allowing mitigation through the permit process.²

Other State Laws

California State law includes a variety of provisions that promote the protection and preservation of Native American cultural places. A number of these provisions address intentional desecration or destruction of cultural places and defines certain of such acts as misdemeanors or felonies punishable by both fines and imprisonment. Others require consideration of potential impacts of planned projects on cultural resources, which may include Native American cultural places. These provisions include the Native American Historic Resource Protection Act;³ Public Resources Code §§5097.2,⁴ 5097.9,⁵ and 5097.99;⁶ Penal Code §622.5;⁷ and California Executive Order W-26-92.⁸

Native American Resource Protection Act. The Native American Resource Protection Act details the acts that are not permissible and their punishment:

5097.993 (a) (1) A person who unlawfully and maliciously excavates upon, removes, destroys, injures, or defaces a Native American historic, cultural, or sacred site, that is listed or may be eligible for listing in the California Register of Historic Resources pursuant to Section 5024.1, including any historic or prehistoric ruins, any burial

¹ California Health and Safety Code, Division 7, *Dead Bodies*; Chapter 2, *General Provisions*, §7050.5.

² California Public Resources Code (§5097.5), Administrative Code (§§4306 and 4309).

³ California Public Resources Code, Division 5, *Parks and Monuments*; Chapter 1.76, *Native American Historic Resource Protection Act*; §5097.993.

⁴ California Public Resources Code, Division 5, *Parks and Monuments*; Chapter 1.7, *Archaeological, Paleontological, and Historical Sites*; §5097.2.

⁵ California Public Resources Code, Division 5, *Parks and Monuments*; Chapter 1.75, *Native American Historical, Cultural, and Sacred Sites*; §5097.9.

⁶ California Public Resources Code, Division 5, *Parks and Monuments*; Chapter 1.75, *Native American Historical, Cultural, and Sacred Sites*; §5097.99.

⁷ The Penal Code of California, Part 1, *Of Crimes and Punishments*; Title 14, *Malicious Mischief*; §622.5.

⁸ State of California, Office of Historic Preservation, Department of Parks and Recreation, California Office of Historic Preservation, *Technical Assistance Series #10: California State Law and Historic Preservation: Statutes, Regulations and Administrative Policies Regarding Historic Preservation and Protection of Cultural and Historical Resources*, October 28, 1999.

ground, any archaeological or historic site, any inscriptions made by Native Americans at such a site, any archaeological or historic Native American rock art, or any archaeological or historic feature of a Native American historic, cultural, or sacred site, is guilty of a misdemeanor if the act was committed with specific intent to vandalize, deface, destroy, steal, convert, possess, collect, or sell a Native American historic, cultural, or sacred artifact, art object, inscription, or feature, or site, and the act was committed as follows:

- (A) On public land.
- (B) On private land, by a person, other than the landowner, as described in subdivision (b).

(2) A violation of this section is punishable by imprisonment in the county jail for up to one year, by a fine not to exceed ten thousand dollars (\$10,000), or by both that fine and imprisonment.

Public Resources Code Section 5097.2. California Public Resources Code §5097.2 requires archaeological surveys to determine the potential impact that any major public works project on State land may have on archaeological resources.

5097.2. Upon receipt of plans for a proposed construction project upon state lands, the department may conduct an archaeological site survey on the affected state lands in order to determine whether the lands may contain any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological sites, including fossilized footprints, inscriptions made by human agency, rock art, or any other archaeological, paleontological or historical feature. The department shall submit to the state agency, by or on whose behalf the project is to be constructed, its recommendations concerning the preservation, photographing, recording, or excavation for, any archaeological, paleontological, or historical features which may be located upon the lands.

Public Resources Code Section 5097.9. The California Public Resources Code in §5097.9 mandates that no interference can occur in free expression or exercise of Native American religion on public lands and promotes preservation of certain Native American cultural places by ensuring tribal access to these places:

5097.9. No public agency, and no private party using or occupying public property, or operating on public property, under a public license, permit, grant, lease, or contract made on or after July 1, 1977, shall in any manner whatsoever interfere with the free expression or exercise of Native American religion as provided in the United States Constitution and the California Constitution; nor shall any such agency or party cause severe or irreparable damage to any Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine located on public property, except on a clear and convincing showing that the public interest and necessity so require. The provisions of this chapter shall be enforced by the commission, pursuant to Sections 5097.94 and 5097.97.

The provisions of this chapter shall not be construed to limit the requirements of the Environmental Quality Act of 1970, Division 13 (commencing with Section 21000).

The public property of all cities, counties, and city and county located within the limits of the city, county, and city and county, except for all parklands in excess of 100 acres, shall be exempt from the provisions of this chapter. Nothing in this section shall, however, nullify protections for Indian cemeteries under other statutes.

Public Resources Code Section 5097.99. Section 5097.99 of the California Public Resources Code describes the actions that are felonies when taken against Native American historical, cultural, and sacred sites:

5097.99 (a) No person shall obtain or possess any Native American artifacts or human remains which are taken from a Native American grave or cairn [a heap of stones piled up as a memorial or as a landmark] on or after January 1, 1984, except as otherwise provided by law or in accordance with an agreement reached pursuant to subdivision (l) of Section 5097.94 or pursuant to Section 5097.98.

(b) Any person who knowingly or willfully obtains or possesses any Native American artifacts or human remains which are taken from a Native American grave or cairn after January 1, 1988, except as otherwise provided by law or in accordance with an agreement reached pursuant to subdivision (l) of Section 5097.94 or pursuant to Section 5097.98, is guilty of a felony which is punishable by imprisonment in the state prison.

(c) Any person who removes, without authority of law, any Native American artifacts or human remains from a Native American grave or cairn with an intent to sell or dissect or with malice or wantonness is guilty of a felony which is punishable by imprisonment in the State prison.

Penal Code Section 622.5. The Penal Code of California indicates that actions against items of archaeological or historical interest are misdemeanors:

622.5. Every person, not the owner thereof, who willfully injures, disfigures, defaces, or destroys any object or thing of archaeological or historical interest or value, whether situated on private lands or within any public park or place, is guilty of a misdemeanor.

California Executive Order W-26-92. Executive Order W-26-92 affirms that all State agencies shall recognize and, to the extent possible, preserve and maintain the significant heritage resources of the State. Among other things, Executive Order W-26-92 directs each State agency to:

- Administer the cultural and historic properties under its control in a spirit of stewardship and trusteeship for future generations;
- Initiate measures necessary to direct its policies, plans, and programs in such a way that State-owned sites, structures, and objects of historical, architectural, or archaeological significance are preserved, restored, and maintained for the inspiration and benefit of the people;
- Ensure that the protection of significant heritage resources are given full consideration in all of its land use and capital outlay decisions; and
- Institute procedures in consultation with the California State Office of Historic Preservation to ensure that State plans and programs contribute to the preservation and enhancement of significant non-State owned heritage resources.

City of Highland General Plan Update. The Conservation and Open Space Element of the City of Highland General Plan Update contains goals and policies relevant to cultural resources.

Goal 5.8 Protect, document and minimize disruption of sites that have archaeological significance

Policy 1 Avoid significant impacts in all new developments within areas determined to be archaeologically sensitive through the following measures:

- Conduct an archaeological records search with the Archaeological Information Center in order to identify potential on-site sensitivities;
- In cooperation with a qualified archaeologist, develop mitigation measures for projects found to be located in or near sensitive areas or sites; and
- Require that environmental review be conducted for all applications within the area designated as archaeologically sensitive, including but not limited to grading, earth moving and stockpiling, and building and demolition permits.

Policy 2 Include the following statement as a condition of approval on all development projects:

“If cultural resources are discovered during project construction, all work in the area of the find shall cease, and a qualified archaeologist shall be retained by the project sponsor to investigate the find, and to make recommendations on its disposition. If human remains are encountered during construction, all work shall cease and the San Bernardino County Coroner’s Office shall be contacted pursuant to Health and Safety Code provisions.”

Policy 3 Coordinate with the San Manuel Band of Mission Indians when proposals for development projects are filed within the Areas of Sensitivity for Archaeological Resources through the following actions:

- Notify the San Manuel Band of Mission Indians via notification mailings about proposed projects in archaeologically sensitive areas; and
- Invite comments and suggestions to be forwarded to City staff and appropriate decision makers to aid the preservation and development review processes.

City of Redlands 1995 General Plan. The Conservation and Open Space Element of the City of Redlands 1995 General Plan contains goals and policies relevant to cultural resources.

Policy 7.30a Protect archaeological and paleontologic resources for their aesthetic, scientific, educational, and cultural values.

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

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

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

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

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

4.5.3 Thresholds of Significance

Based on Appendix G of CEQA Guidelines, the effects of the project on cultural resources are considered to be significant if the proposed project would:

- Alter, directly or indirectly, any of the characteristics of a historic and/or archaeological resources that would diminish the integrity, location, design, setting, material, workmanship, feeling, or association of a “historic resource”;
- Result in the physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the historic and/or archaeological resource would be materially impaired;
- Directly or indirectly destroy a unique paleontological resource or site or unique geological site; and/or
- Result in any disturbance of human remains, including those interred outside of formal cemeteries.

4.5.4 Impact Analysis

4.5.4.1 Destruction of Unique Paleontological Resource

Threshold	Would the proposed project directly or indirectly destroy a unique paleontological resource or site or unique geological site?
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Because there are no paleontological resources located within the vicinity of the Planning Area, and because sediments suitable for containing significant vertebrate paleontological resources are absent there would be no impacts to any of the nine components of the Wash Plan associated with directly or indirectly destroying a unique paleontological resource or site or unique geological site. No mitigation is required.

4.5.4.2 Substantial Adverse Change in the Significance of a Historical Resource

Threshold	Would the proposed project cause a substantial adverse change in the significance of a historical resource as defined in §15064.5 of the Guidelines for California Environment Quality Act?
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Water Conservation Operations/Maintenance Activities of the District

The District will continue to operate, maintain, and repair its water conservation facilities (access roads, canals, culverts, dikes, basins, and diversion structures) within the Planning Area in the same manner as existing conditions. As described in Section 3.6.1, while there is the potential for future water conservation facilities to be built within the Planning Area, at this point in time, the specific location, size, and type of facilities are unknown. Aside from this EIR’s programmatic evaluation of impacts to biological resources associated with any potential future water conservation facilities, these facilities will be required to undergo project-specific environmental analysis prior to their construction and implementation. All water conservation activities would continue to be focused in the eastern part of the Planning Area and not adjacent to or near recognized historical resources. Because no disturbance of a historic resource would occur impacts related to this issue would be considered less than significant and no mitigation would be necessary.

Cumulative. Cumulatively, water conservation activities in combination with other projects in the area will not create or contribute to new or increased impacts to historical resources over and above the impacts discussed in this section.

Flood Control Operations/Maintenance Activities of the SBCFCD

Operation and maintenance activities of the SBCFCD would not change as a result of the proposed project. Flood control operations and maintenance activities currently occur within the northern, eastern, and southern portions of the Planning Area, and are anticipated to continue with implementation of the proposed project. Existing cultural resources are not located within close proximity to the flood control operations/maintenance activities of the SBCFCD. There would be no construction of new facilities within the Planning Area. The SBCFCD will not require maintenance, repairs, or construction work that would cause ground disturbance in addition to what is currently required to operate and maintain existing facilities. For these reasons and because the existing historical resources are not within proximity of these activities, impacts associated with this issue would be less than significant, as existing baseline conditions would remain in effect. No mitigation would be required.

Cumulative. Cumulatively, flood control operations and maintenance activities of the SBCFCD will not create or contribute to new or increased impacts to historical resources in combination with other projects in the area over and above the impacts discussed in this section.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Water production activities currently occur within the Planning Area. Implementation of the proposed project would not disrupt historical resources. Activities conducted include operation and maintenance of wells and pumps. Four facilities, water tanks and wells with boosters are within the Planning Area. Three facilities are located off Greenspot Road and one facility is located off Cone Camp Road. The historical resources are located east of Cone Camp Road. Because no water operations are located near the historical resources, impacts associated with this issue would be less than significant, as existing baseline conditions would remain in effect. No mitigation would be required.

Cumulative. Cumulatively, the operations and maintenance activities of the EVWD and RMUD will not create or contribute to new or increased impacts in combination with other projects in regard to historical resources over and above the impacts discussed in this section.

Aggregate Mining

Aggregate mining activities including construction of haul roads, an access road from the mining area to 5th Street in Highland, expansion of mining activities and reclamation of the mine pits at the end of mining operations would not create a significant impact to historical resources. With the proposed project, the combined footprint of Cemex and Robertson's quarries and associated facilities would total 1,195 acres. Currently, two historical resources, the historic orchard complex (SBR-5526H) and Greenspot Bridge (P36-016987), are located on the eastern portion of the Planning Area. Aggregate mining activities would occur on the western portion of the plan. No historical resources would be disturbed. The proposed project would not cause a substantial adverse change in the significance of a historical resource and impacts related to this issue are less than significant. No mitigation is required.

Cumulative. Cumulatively, the aggregate mining activities will not create or contribute to new or increased impacts in combination with other projects in regard to historical resources over and above the impacts discussed in this section.

Adoption of General Plan Amendments

The Adoption of General Plan Amendments by the Cities of Highland and Redlands for the proposed land use designations and trails would not create a significant impact to historical resources. Based on the analysis in this section, it is anticipated that each of the project components would have a less

than significant impact associated with implementation of the proposed project. Therefore, no mitigation measures would be required.

Cumulative. Cumulatively, the General Plan Amendments will not create or contribute to new or increased impacts in combination with other projects in regard to historical resources over and above the impacts discussed in this section.

Roadway/Bridge Rights-of-Way

The proposed project includes the setting aside of rights-of-way for subsequent improvements to Greenspot Road and the Greenspot Road Bridge, Alabama Street, and Orange Street-Boulder Avenue. The ~~dedication~~ designation of additional rights-of-way for Alabama Street and Orange Street-Boulder Avenue would occur near the existing roadways on the western portion of the Planning Area. These rights-of-way are not located in an area that contains known historic resources. The rights-of-way for the Greenspot Road improvements and the construction of the Greenspot Road Bridge are located in the eastern portion of the Wash Plan. Existing historical resources, the historic orchard complex (SBR-5526H) and Greenspot Bridge (P36-016987), are located on the eastern portion of the Planning Area. As part of the proposed project, the existing Greenspot Road Bridge will be avoided and preserved as a component of a recreational trail plan proposed by this project. Construction-level environmental review will be conducted when the roadways are constructed. For these reasons, the rights-of-way would not have a significant impact on historic resources. No mitigation is necessary.

Cumulative. Cumulatively, the bridge and roadway may have impacts in combination with the construction of the future roadways that are to follow the designation of rights-of-way. The future construction of these roadways will require project-specific environmental analysis and mitigation for any impacts to historical resources. While there may be a cumulative impact associated with these projects, it is anticipated to be less than significant in regard to historical resources.

Recreational Trail Rights-of-Way

As indicated in Section 3.5.7, all existing or trails would be located on existing streets, service roads, or an old railroad. No construction is associated with recreational trails, with the exception of the placement of signs. The Greenspot Road Bridge (P36-016987) will be preserved and incorporated into the recreational trail plan. Since no construction associated with the trails would occur and the preservation of the Greenspot Bridge is proposed as part of the project, no historical resources would be significantly affected; therefore, no impact related to this issue would occur. No mitigation would be required.

Cumulative. Cumulatively, the recreational trail rights-of-way will not create or contribute to new or increased impacts in combination with other projects in regard to historical resources over and above the impacts discussed in this section.

Land Exchange between the District and BLM

The District's land exchange with the BLM will provide to the BLM an unrestricted habitat corridor for wildlife movement while maintaining continued water conservation activity. The land the BLM will exchange to the District, which is already mostly disturbed, will be used for aggregate mining. Restrictions on aggregate mining would occur due to the presence of sensitive habitat. There is a high sensitivity for buried cultural resources and a high possibility that potential gravesites outside of formal cemeteries may be located within the project's mining areas. Therefore, if human remains are encountered during mining activities that could occur on the District portion of the exchange, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County

Coroner has made a determination of origin and dispositions pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately.

If the remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 24 hours of notification by the NAHC. The MLD may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

With adherence to State Health and Safety Code Section 7050.5, potential impacts to human remains buried outside of formal cemeteries would be less than significant, and no mitigation measure would be required.

Cumulative. Cumulatively, the land exchange between the District and the BLM will not create or contribute to new or increased impacts in combination with other projects in regard to historical resources over and above the impacts discussed in this section.

Land Exchange between the SBCFCD and Robertson's

The SBCFCD land exchange with Robertson's will allow mining activities to take place on property currently owned by the SBCFCD and habitat preservation to occur on land that is currently owned by Robertson's. There will be no changes associated with preservation of land. Because this land would be set aside for habitat conservation, mining activities may occur within the Robertson's portion of the exchange. Mining activities within this property will not take place near or adjacent to known historical resources, the historic orchard complex (SBR-5526H) and Greenspot Bridge (P36-016987) are located on the eastern portion of the Planning Area outside of the land proposed for exchange. Impacts would be considered less than significant. No mitigation would be required.

Cumulative. Cumulatively, the land exchange between the SBCFCD and Robertson's will not create or contribute to new or increased impacts in combination with other projects in regard to historical resources over and above the impacts discussed in this section.

4.5.5.3 Human Remains

Threshold	Would the proposed project disturb any human remains, including those interred outside of formal cemeteries?
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The large number of archaeological sites identified by the *Cultural Assessment Report* indicates that there is a high sensitivity for buried cultural resources. Furthermore, the large number suggests the possibility that potential grave sites outside of formal cemeteries may be located in the Planning Area. If human remains are encountered during mining, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately.

If the remains are determined to be prehistoric, the Coroner will notify the NAHC, which will determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 24 hours of notification by the NAHC. The MLD may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

As adherence to State regulations is required for all development, no mitigation is required in the unlikely event human remains are discovered on site.

Water Conservation Operations/Maintenance

The District will continue to operate, maintain, and repair its water conservation facilities (access roads, canals, culverts, dikes, basins, and diversion structures) within the Planning Area in the same manner as existing conditions. As described in Section 3.6.1, while there is the potential for future water conservation facilities to be built within the Planning Area, at this point in time the specific location, size, and type of facilities are unknown. Aside from this EIR's programmatic evaluation of impacts to biological resources associated with any potential future water conservation facilities, these facilities will be required to undergo project-specific environmental analysis prior to their construction and implementation. Since no new construction and because no cemeteries associated with the District would occur as part of the project, which would cause the disturbance of human remains, a less than significant impact would occur. Impacts related to this issue would be considered to be less than significant and no mitigation would be necessary.

Cumulative. Cumulatively, the water conservation activities and maintenance of the District will not create or contribute to new or increased impacts in combination with other projects in regard to the disturbance of human remains of over and above the impacts discussed in this section. All cumulative projects would be required to comply with State law in regard to the discovery of human remains, which would reduce any potential cumulative impacts to a level that is less than significant.

Flood Control Operations/Maintenance Activities of the SBCFCD

Although there is a ~~6-acre~~ 8-acre decrease to the amount of flood control land, there is no change in the operations and maintenance of those lands within the Planning Area. The continued operations and maintenance activities of the SBCFCD within the Planning Area, and streams adjacent to or leading into the Plan Area (Mill Creek, Plunge Creek, and City Creek) would not create significant impact toward the disturbance of human remains because no cemeteries are located within the Plan Area. Therefore, no impacts associated with the disturbance of any human remains, including those interred outside of formal cemeteries, would occur.

Cumulative. Cumulatively, the operations and maintenance activities of the SBCFCD will not create or contribute to new or increased impacts in combination with other projects in regard to the disturbance of human remains of over and above the impacts discussed in this section. All cumulative projects would be required to comply with State law in regard to the discovery of human remains, which would reduce any potential impacts to a level that is less than significant.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Operation and maintenance activities of the EVWD and RMUD would not change as a result of the proposed project. Activities conducted include operation and maintenance of existing wells and pumps and would not include ground-disturbing activities. Therefore, impacts associated with this issue would be less than significant, as existing baseline conditions would remain in effect. No mitigation would be required.

Cumulative. Cumulatively, the operations and maintenance activities of the EVWD and the RMUD will not create or contribute to new or increased impacts in combination with other projects in regard to the disturbance of human remains of over and above the impacts discussed in this section. All cumulative projects would be required to comply with State law in regard to the discovery of human remains, which would reduce any potential impacts to a level that is less than significant.

Aggregate Mining

Aggregate mining activities including the construction of haul roads, an access road from the mining area to 5th Street in Highland, and reclamation of the mine pits at the end of mining operations would not create a significant impact to the disturbance of human remains. The existing mining footprint covers approximately 832 acres. With the proposed project, the combined footprint of Cemex and Robertson's quarries and associated facilities would total 1,195 acres, an approximately 43.6 percent increase in acreage.

The large number of archaeological sites identified by the Cultural Resources Assessment Report indicates that there is a high sensitivity for buried cultural resources. Furthermore, the large number suggests the possibility that potential grave sites outside of formal cemeteries may be located in the Planning Area. If human remains are encountered during mining, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately.

If the remains are determined to be prehistoric, the Coroner will notify the NAHC, which will determine and notify an MLD. With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 24 hours of notification by the NAHC. The MLD may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

With adherence to State Health and Safety Code Section 7050.5, potential impacts to human remains buried outside of formal cemeteries would be less than significant, and no mitigation measures would be required.

Cumulative. Cumulatively, the aggregate mining activities will not create or contribute to new or increased impacts in combination with other projects in regard to the disturbance of human remains of over and above the impacts discussed in this section. All cumulative projects would be required to comply with State law in regard to the discovery of human remains, which would reduce any potential impacts to a level that is less than significant.

Adoption of General Plan Amendments

Implementation of the proposed project would require adoption of General Plan Amendments by the City of Highland and the City of Redlands. With the adoption of the General Plan Amendments, the different project components analyzed in this section would occur. It is anticipated that each of the project components would have a less than significant impact. Therefore, the General Plan Amendments will also have a less than significant impact and no mitigation measures would be required.

Cumulative. Cumulatively, the adoption of the General Plan Amendments will not create or contribute to new or increased impacts in combination with other projects in regard to the disturbance of human remains of over and above the impacts discussed in this section. All cumulative projects would be required to comply with State law in regard to the discovery of human remains, which would reduce any potential impacts to a level that is less than significant.

Roadway/Bridge Rights-of-Way

The ~~dedication~~ designation of additional rights-of-way for Greenspot Road, Greenspot Road Bridge, Alabama Street, and Orange Street-Boulder Avenue would occur near the existing roadways. Given the physical activities associated with expansions of roads, a high sensitivity for buried cultural resources and grave sites outside of formal cemeteries exists within the Wash Plan. If human remains are encountered during mining, State Health and Safety Code Section 7050.5 states that no

further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately.

If the remains are determined to be prehistoric, the Coroner will notify the NAHC, which will determine and notify an MLD. With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 24 hours of notification by the NAHC. The MLD may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

With adherence to State Health and Safety Code Section 7050.5, potential impacts to human remains buried outside of formal cemeteries would be less than significant, and no mitigation measures would be required.

Cumulative. Cumulatively, the designation of the bridge and roadway rights-of-way may have impacts in combination with the construction of the future roadways that are to follow the designation of rights-of-way. The future construction of these roadways will require project-specific environmental analysis and mitigation for any impacts to historical resources. All cumulative projects would be required to comply with State law in regard to the discovery of human remains, which would reduce any potential impacts to a level that is less than significant.

Recreational Trail Rights-of-Way

All trails would be located on existing service roads, utility easements, and old railroad beds, such that there would be no construction activities associated with trails. Since no construction associated with the trails would occur, which could cause the disturbance of human remains, impacts related to this issue would be considered to be less than significant and no mitigation would be necessary.

Cumulative. Cumulatively, the designation of the recreational trail rights-of-way will not create or contribute to new or increased impacts in combination with other projects in regard to the disturbance of human remains of over and above the impacts discussed in this section. All cumulative projects would be required to comply with State law in regard to the discovery of human remains, which would reduce any potential impacts to a level that is less than significant.

Land Exchange between the District and BLM

The District's land exchange with the BLM will provide to the BLM an unrestricted habitat corridor for wildlife movement while maintaining continued water conservation activity. The land the BLM will exchange to the District, which is already mostly disturbed, will be used for aggregate mining. Restrictions on aggregate mining would occur due to the presence of sensitive habitat. There is a high sensitivity for buried cultural resources and a high possibility that potential gravesites outside of formal cemeteries may be located within the project's mining areas. Therefore, if human remains are encountered during mining activities that could occur on the District portion of the exchange, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and dispositions pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately.

If the remains are determined to be prehistoric, the Coroner will notify the NAHC, which will determine and notify an MLD. With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 24 hours of notification by the NAHC. The MLD may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

With adherence to State Health and Safety Code Section 7050.5, potential impacts to human remains buried outside of formal cemeteries would be less than significant and no mitigation measure would be required.

Cumulative. Cumulatively, the land exchange between the District and the BLM will not create or contribute to new or increased impacts in combination with other projects in regard to the disturbance of human remains of over and above the impacts discussed in this section. All cumulative projects would be required to comply with State law in regard to the discovery of human remains, which would reduce any potential impacts to a level that is less than significant.

Land Exchange between the SBCFCD and Robertson's

The SBCFCD land exchange with Robertson's will allow mining activities to take place on property currently owned by the SBCFCD and habitat preservation to occur on land that is currently owned by Robertson's. There will be no changes associated with the property to become habitat. Restrictions on aggregate mining would occur due to the presence of sensitive habitat. There is a high sensitivity for buried cultural resources and a high possibility that potential grave sites outside of formal cemeteries may be located within the Planning Area plan. Therefore, If human remains are encountered during mining activities that could occur on the Robertson's portion of the exchange, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately.

If the remains are determined to be prehistoric, the Coroner will notify the NAHC, which will determine and notify an MLD. With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 24 hours of notification by the NAHC. The MLD may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

With adherence to State Health and Safety Code Section 7050.5, which is required for all development, potential impacts to human remains buried outside of formal cemeteries would be less than significant, and no mitigation measures would be required.

Cumulative. Cumulatively, the land exchange between the SBCFCD and Robertson's will not create or contribute to new or increased impacts in combination with other projects in regard to the disturbance of human remains of over and above the impacts discussed in this section. All cumulative projects would be required to comply with State law in regard to the discovery of human remains, which would reduce any potential cumulative impacts to a level that is less than significant.

4.5.5.4 Substantial Adverse Change in the Significance of an Archaeological Resource

Threshold	Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5 of the Guidelines for California Environment Quality Act?
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Water Conservation Operations/Maintenance Activities of the District

The District will continue to operate, maintain, and repair its water conservation facilities (access roads, canals, culverts, dikes, basins, and diversion structures) within the Planning Area in the same manner as existing conditions. As described in Section 3.6.1, while there is the potential for future water conservation facilities to be built within the Planning Area, at this point in time the specific location, size, and type of facilities are unknown. Aside from this EIR's programmatic evaluation of impacts to biological resources associated with any potential future water conservation facilities, these facilities will be required to undergo project-specific environmental analysis prior to their

construction and implementation. With implementation of the proposed project, all water conservation activities would continue to be focused in the eastern part of the Planning Area, primarily in areas that have been previously disturbed. Impacts related to this issue would be considered to be less than significant and no mitigation would be necessary.

Cumulative. Cumulatively, the water conservation activities of the District will not create or contribute to new or increased impacts in combination with other projects in regard to changing the significance of and archaeological resource over and above the impacts discussed in this section. All cumulative projects would be required to comply with State law in regard to the discovery or disturbance of archaeological resources, which would reduce any potential cumulative impacts to a level that is less than significant.

Flood Control Operations/Maintenance Activities of the SBCFCD

Flood control activities currently occur within the southern, northern, and eastern portions of the Planning Area and are anticipated to continue with implementation of the proposed project plan. Since there would be no change to flood control activities within the Planning Area, the SBCFCD will not require maintenance, repairs, or construction work on or and above generation conditions. Consequently, impacts to archaeological resources would not occur. Therefore, no impacts associated with the adverse change in the significance of archaeological resources would occur and no mitigation would be required.

Cumulative. Cumulatively, the operations and maintenance of SBCFCD facilities will not create or contribute to new or increased impacts in combination with other projects in regard to changing the significance of and archaeological resource over and above the impacts discussed in this section. All cumulative projects would be required to comply with State law in regard to the discovery or disturbance of archaeological resources, which would reduce any potential cumulative impacts to a level that is less than significant.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Water production activities currently occur within the Planning Area and would remain unchanged by the project. Activities conducted include operation and maintenance of existing wells and pumps and would not include ground-disturbing activities. Therefore, impacts associated with adverse change in the significance of an archaeological resource would not occur, as existing baseline conditions would remain in effect. No mitigation would be required.

Cumulative. Cumulatively, the operations and maintenance of EVWD and RMUD facilities will not create or contribute to new or increased impacts in combination with other projects in regard to changing the significance of and archaeological resource over and above the impacts discussed in this section. All cumulative projects would be required to comply with State law in regard to the discovery or disturbance of archaeological resources, which would reduce any potential cumulative impacts to a level that is less than significant.

Impact 4.5.1 Aggregate mining would cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5 of the Guidelines for California Environment Quality Act.

Aggregate Mining. With the implementation of the proposed project, an additional 363 acres would be devoted to mining uses, bringing the total mining area to approximately 1,195 acres. Planned mining uses for Cemex operations are identified in Table 4.5.A. With the implementation of the proposed project, Cemex operations would expand to 678 acres, with 135 of those acres being new mining land. The proposed expansion includes combining existing and former quarries into three large quarries. The existing 73-acre Alabama Street Quarry would be reduced by 1 acre to 72 acres.

The proposed new West Quarry would have a total of 186 acres and would contain two existing active quarries, Alabama Street Southeast (69 acres) and Alabama Street Northeast (69 acres), plus the planned Alabama Street East Quarry (43 acres). The proposed new East Quarry North would encompass 420 acres and include Johnson North, Johnson South, Redlands Aggregate North, and Redlands Aggregate South Quarries in addition to the Orange Street Plant, the Redlands Aggregate Southeast, and the Orange Street North.

Table 4.5.A – Cemex Proposed Mining Operations

Mining Site	Proposed Site Name	Existing Disturbed Area (Acres)	New Area (Acres)*	Total Area (Acres)
Johnson North	East Quarry North	53	6	59
Johnson South	East Quarry North	56	2	58
Redlands Aggregate North	East Quarry North	58	17	75
Redlands Aggregate South	East Quarry North	78	-1	77
Redlands Aggregate Southeast	East Quarry North	Not Applicable	21	21
Orange Street Plant	East Quarry North	84	-8	76
Orange Street North	East Quarry North	Not Applicable	54	54
Alabama Street Northwest	Alabama Street Quarry	73	-1	72
Alabama Street Southeast	West Quarry	69	6	75
Alabama Street Northeast	West Quarry	69	-1	68
Alabama Street East	West Quarry	Not Applicable	43	43
Total		540	138	678

* A negative number connotes a reduction from existing area.

Source: Draft Habitat Conservation Plan for Upper Santa Ana River, Dudek & Associates, Inc. July 2005.

As indicated in Table 4.5.B, with the implementation of the Planning Area, Robertson's mining operations would expand to a total of 513 acres, with 225 of those acres being new mining land. As a result of the proposed project, Robertson's mining operations would be grouped into three general areas. East Quarry South, which would be 290 acres, would be created by merging the following:

- Existing Old Webster Quarry (150 acres);
- New Old Webster Quarry West (70 acres); and
- New Old Webster Quarry East (58 acres).

Table 4.5.B – Robertson's Proposed Mining Operations

Mining Site	Proposed Site Name	Existing Disturbed Area (Acres)	New Area (Acres)*	Total Area (Acres)
Old Webster Quarry	East Quarry South	150	14	162
Old Webster Quarry West	East Quarry South	—	70	70
Old Webster Quarry East	East Quarry South	—	58	58
Silt Pond Quarry	Silt Pond/Plunge Creek Quarry	43	55	98
Plunge Creek Quarry	Silt Pond/Plunge Creek Quarry	13	25	38
West Basin	Facilities	33	3	36
East Basin	Facilities	36	0	36
Silt Pond	Facilities	13	0	13
Total		288	225	513

* A negative number connotes a reduction from existing area.

Source: Habitat Conservation Plan for Upper Santa Ana River, Dudek & Associates, Inc. July 2005.

For the purpose of this analysis, Silt Pond Quarry and Plunge Creek are grouped together to form a 137-acre area with Silt Pond Quarry encompassing 98 acres and Plunge Creek Quarry encompassing 38 acres. The remaining 85 acres would remain as processing facilities:

- West Basin (36 acres);
- East Basin (36 acres); and
- Silt Pond (13 acres).

With the expansion of the mining area, production of Cemex and Robertson's operations would increase to a total of 6 million tons per year. Using the 2005 production amount of 176.4 million tons, the amount of production that would result from the implementation of the proposed project would amount to 3.4 percent of the total production of sand and gravel in California.

Currently, a total of 18 known cultural resources have been identified within the Planning Area most likely to be disturbed (by construction of the 5th Street access road, the new access road, the trail markings, and the extension of mining activities). These 18 cultural resources are listed in Table 4.5.C.

Table 4.5.C – Cultural Resources in Planning Area

Site Designation	Type	Mitigation Measures
CA-SBR-5526H*	Orchard/Building Foundations	delineate boundaries to assess if site is within Planning Area/ subsurface testing, archival research, data recovery, national register evaluation
CA-SBR-6006H*	Cone Camp	subsurface testing/ archival research/data recovery (if required)
CA-SBR-6060H*	Historic Debris	subsurface testing/ archival research/data recovery (if required)
CA-SBR-6061H*	Historic Debris	subsurface testing/ archival research/data recovery (if required)
CA-SBR-6062H*	Historic Debris	subsurface testing/ archival research/data recovery (if required)
CA-SBR-6064H	Historic Debris	none (site destroyed)
CA-SBR-6068H*	Historic Debris	subsurface testing/ archival research/data recovery (if required)
CA-SBR-6070H*	Historic Debris	subsurface testing/ archival research/data recovery (if required)
CA-SBR-6074H	Historic Debris	none (site destroyed)
CA-SBR-6075H**	Historic Debris	subsurface testing/archival research/data recovery (if required)
CA-SBR-6076H**	Historic Debris	subsurface testing/archival research/data recovery (if required)
CA-SBR-6078H	Stone Foundation/ Historic Debris	none (site destroyed)
CA-SBR-6079H*	Historic Debris	subsurface testing/ archival research/data recovery (if required)
CA-SBR-6080H*	Historic Debris	subsurface testing/ archival research/data recovery (if required)
CA-SBR-6087H**	Historic Debris	subsurface testing/archival research/data recovery (if required)
CA-SBR-6088H	Farmstead	none (site destroyed)
CA-SBR-6847H*	Historic Debris	subsurface testing/ archival research/data recovery (if required)
CA-SBR-10184H*	Historic Debris	none (site destroyed)

*Pending a formal evaluation, sites considered "historical resources" pursuant to CEQA because of potential significance.

**Sites affected by proposed land use activities.

Although a significant portion of the Planning Area would remain undisturbed, three cultural resource sites could be affected with implementation of the proposed project:

- **CA-SBR-6075H.** This site is a large historic debris scatter. The loci, as described by previous investigations¹ remain intact, as does the integrity. The alluvial nature of the sediments indicates a potential for subsurface resources. These factors indicate that the resource is potentially eligible

¹ Hampson, R. Paul Cultural Resource Survey, Upper Santa Ana River, California. On File: San Bernardino County Museum Archaeological Information Center, 1988.

for the California Register. To mitigate impacts, subsurface testing and archival research are recommended. This will help determine the depth and distribution of the resource. If the age and assemblage indicate an association with nearby Cone Camp (CA-SBR-6006H), the site would be considered significant for listing in the California Register. If the resource is determined eligible for the California Register, additional archaeological data recovery excavations would be necessary.

- **CA-SBR-6076H.** Since the previous recording of the site, an additional locus has been identified. The four historic debris concentrations occur in and around intermittent drainages, and the discovery of new material during the last site visit underscores potential for the site to yield further data. These factors indicate that the resource is potentially eligible for the California Register. To mitigate impacts, subsurface testing and archival research are recommended. This will help determine the depth and distribution of the resource. If the age and assemblage indicate an association with nearby Cone Camp (CA-SBR-6006H), the site would be considered significant for listing in the California Register. If the resource is determined eligible for the California Register, additional archaeological data recovery excavations would be necessary.
- **CA-SBR-6087H.** The site is a dense concentration of historic debris. Two of the original three loci remain. The site is near mining operations, within the historic SCE power corridor. The remaining artifacts exceed the minimum age requirement of fifty years, and the density of the remaining surface artifacts indicates that site integrity is good. If the resource cannot be avoided during project activities, further study would be necessary to mitigate data potential. Recommendations include a Phase II archaeological test program that would help elucidate site boundary and depth, and reveal whether the missing locus is removed or buried; and archival research which could yield specific data regarding the origin and age of this resource and place it in a historical context. If the resource is determined eligible for the California Register, additional archaeological data recovery excavations would be necessary.

Further subsurface testing, archival research, and data recovery is prescribed to ensure that potential impacts to these three cultural resources are reduced to a less than significant level.

The remaining 15 sites are located in areas that would remain undisturbed or have already been disturbed by mining activities (e.g., sites CA-SBR-6074H, CA-SBR-6078 H and CA-SBR-6088 H have been disturbed by mining activities). Implementation of the proposed project may result in a significant impact to cultural resources. In the event that any sites would be affected by implementation of the proposed project, **Mitigation Measures CUL-1** through **CUL-3** shall be implemented to ensure a less than significant impact would result.

- CUL-1** A qualified archaeological monitor shall be present during initial ground-disturbing activities in the proposed Planning Area. The monitor shall be empowered to temporarily halt or redirect construction/mining activities in the vicinity of the find until the find can be evaluated by a certified archaeologist.
- CUL-2** In the event of a new find, salvage, excavation and reporting shall be required. The Secretary of the Interior's Guidelines for archaeological documentation shall be followed by a qualified archeologist.
- CUL-3** If the archaeological sites CA-SBR-6075H, CA-SBR-6076H, and/or CA-SBR-6087H cannot be avoided during implementation of the proposed project, further study as detailed below shall be necessary for mitigation.
 - *Subsurface Testing:* This would consist of a limited subsurface data collection program to help determine the depth and distribution of the resource.
 - *Archival Research:* Archival research could yield specific data regarding the origin and age of found resources/artifacts and place them in a historical context.
 - *Data Recovery:* If the resource/artifacts are determined eligible for the California Register of Historic Resources, additional archaeological data recovery excavations would be necessary. Data Recovery shall consist of a research design, hand and/or

block architectural excavation, laboratory analysis, research, data recovery report, and curation of collected artifacts.

Level of Significance after Mitigation. With the implementation of the mitigation measures for the proposed project, all impacts to archaeological resources would be mitigated to a level that is considered less than significant.

Cumulative. Cumulatively, the aggregate mining activities may create or contribute to new or increased impacts in combination with other projects in regard to changing the significance of and archaeological resource over and above the impacts discussed in this section. All cumulative projects would be required to comply with State law in regard to the discovery or disturbance of archaeological resources. It is also anticipated that similar mitigation measures would be required for any cumulative projects in the area, which would reduce any potential cumulative impacts to a level that is less than significant.

Adoption of General Plan Amendments

With implementation of the proposed project, the adoption of General Plan Amendments would occur with the City of Highland and the City of Redlands. With the adoption of the General Plan Amendments, the project components analyzed in this section would occur. It is anticipated that each of the project components would have a less than significant impact associated with implementation of the proposed project. Therefore, no mitigation measures would be required.

Cumulative. Cumulatively, the adoption of the General Plan Amendments will not create or contribute to new or increased impacts in combination with other projects in regard to changing the significance of and archaeological resource over and above the impacts discussed in this section. All cumulative projects would be required to comply with State law in regard to the discovery or disturbance of archaeological resources, which would reduce any potential cumulative impacts to a level that is less than significant.

Impact 4.5.2 Roadway/Bridge rights-of-way would cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5 of the Guidelines for California Environment Quality Act.

Roadway/Bridge Rights-of-Way

The ~~dedication~~-designation of additional rights-of-way for Greenspot Road, Greenspot Road Bridge, Alabama Street, and Orange Street-Boulder Avenue would occur near the existing roadways. Given the physical activities associated with expansions of roads, and because cultural resources CA-SBR-6075H and CA-SBR-6076H are located directly east of Orange Street-Boulder Avenue, the proposed plan may result in a significant impact; however, there will be no significant impact of the ~~dedication~~ designation itself. In the event that any sites would be affected by implementation of the proposed project, **Mitigation Measures CUL-1** through **CUL-3** shall be implemented to ensure a less than significant impact would result.

Level of Significance after Mitigation. With the implementation of the mitigation measures for the proposed project, all impacts to archaeological resources would be mitigated to a level that is considered less than significant.

Cumulative. Cumulatively, the designation of the bridge and roadway rights-of-way may create or contribute to new or increased impacts in combination with other projects such as the construction associated with Greenspot Road, Orange Street-Boulder Avenue, and Alabama Street in regard to

changing the significance of and archaeological resource over and above the impacts discussed in this section. All cumulative projects would be required to comply with State law to the discovery or disturbance of archaeological resources. It is also anticipated that similar mitigation measures would be required for any cumulative projects in the area, which would reduce any potential cumulative impacts to a level that is less than significant.

Recreational Trail Rights-of-Way

All the trail rights-of-way would be located on existing service roads, utility easements, and old railroad beds, such that there would be no construction activities associated with trails. Since no construction associated with the trails would occur, no archaeological resources would be disturbed, and no impacts related to this issue would occur. No mitigation would be required.

Cumulative. Cumulatively, the designation of the recreational trail rights of way will not create or contribute to new or increased impacts in combination with other projects in regard to changing the significance of and archaeological resource over and above the impacts discussed in this section. All cumulative projects would be required to comply with State law in regard to the discovery or disturbance of archaeological resources, which would reduce any potential cumulative impacts to a level that is less than significant.

Land Exchange between the District and BLM

The District's land exchange with the BLM will provide to the BLM an unrestricted habitat corridor for wildlife movement while maintaining continued water conservation activity. The land the BLM will exchange to the District, which is already mostly disturbed, will be used for aggregate mining. Restrictions on aggregate mining would occur due to the presence of sensitive habitat. There is a high sensitivity for buried cultural resources and a high possibility that potential gravesites outside of formal cemeteries may be located within the project's mining areas. Therefore, if human remains are encountered during mining activities that could occur on the District portion of the exchange, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and dispositions pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately.

If the remains are determined to be prehistoric, the Coroner will notify the NAHC, which will determine and notify an MLD. With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 24 hours of notification by the NAHC. The MLD may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

With adherence to State Health and Safety Code Section 7050.5, potential impacts to human remains buried outside of formal cemeteries would be less than significant, and no mitigation measure would be required.

Cumulative. Cumulatively, the land exchange between the District and the BLM will not create or contribute to new or increased impacts in combination with other projects in regard to changing the significance of and archaeological resource over and above the impacts discussed in this section. All cumulative projects would be required to comply with State law in regard to the discovery or disturbance of archaeological resources, which would reduce any potential cumulative impacts to a level that is less than significant.

Land Exchange between the SBCFCD and Robertson's

The SBCFCD land exchange with Robertson's will allow mining activities to take place on property currently owned by the SBCFCD and habitat preservation to occur on land that is currently owned by Robertson's. There will be no changes associated with the property to become habitat. However, since this land would be set aside for habitat conservation, restrictions on aggregate mining would occur due to the presence of sensitive habitat.

There is a high sensitivity for buried cultural resources and a high possibility that potential gravesites outside of formal cemeteries may be located within the project's mining areas. Therefore, if human remains are encountered during mining activities that could occur on the District portion of the exchange, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and dispositions pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately.

If the remains are determined to be prehistoric, the Coroner will notify the NAHC, which will determine and notify an MLD. With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 24 hours of notification by the NAHC. The MLD may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

With adherence to State Health and Safety Code Section 7050.5, potential impacts to human remains buried outside of formal cemeteries would be less than significant, and no mitigation measure would be required.

Cumulative. Cumulatively, the land exchange between the SBCFCD and Robertson's will not create or contribute to new or increased impacts in combination with other projects in regard to changing the significance of and archaeological resource over and above the impacts discussed in this section. All cumulative projects would be required to comply with State law in regard to the discovery or disturbance of archaeological resources, which would reduce any potential cumulative impacts to a level that is less than significant.

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4.6 GEOLOGY AND SOILS

Soils, geology, and seismicity conditions are important aspects to consider in any area in southern California. Although most projects have little or no effect on geology, all projects in California are affected by certain geologic events, such as earthquakes, landslides, and erosion. The purpose of reviewing the geology and soils information of any project is to:

- Identify potentially hazardous conditions;
- Identify potential impacts of the proposed project; and
- Provide guidance to reduce, eliminate, or avoid these conditions and impacts.

This section describes the location of the Planning Area relative to the known geologic and soil conditions and qualitatively evaluates potential impacts to geological and soil resources. Additionally, this section evaluates whether the proposed project would significantly alter land features that could be subject to or result in erosion or unstable slopes, liquefaction, settlement, expansive soils or other soil conditions.

This section is based in part on general geologic information and maps available from the California Division of Mines and Geology and the *Soil Survey of San Bernardino County, Southwestern Part*,¹ which are incorporated by reference. This section is also based in part on the following documents, which are included in the appendices of this document:

- *Mine and Reclamation Plans for the Upper Santa Ana River Wash Aggregate Lands to be Operated by Cemex Construction Material L.P.*, prepared by Lilburn Corporation, March 2006; Appendix G; and
- *Mine and Reclamation Plans for the Upper Santa Ana River Wash Aggregate Lands to be Operated by Robertson's Ready Mix.*, prepared by Lilburn Corporation, March 2006; Appendix H.

4.6.1 Existing Setting

The Planning Area is located within the Bunker Hill-San Timoteo Basin portion of the San Bernardino Valley at the northern edge of the Peninsular Ranges Geomorphic Province. This geomorphic province is typified by northwest to southeast trending mountain ridges, valleys, and faults parallel and sub-parallel to the San Andreas Fault. The surficial geologic material of the Peninsular Ranges Geomorphic Province generally consists of igneous and metamorphic rocks.

The Bunker Hill-San Timoteo Basin is a subsiding series of horsts (high ground flanked by faults) and grabens (low ground flanked by faults) bounded on the northeast by the San Andreas Fault and on the southeast by the San Jacinto Fault. Alluvial fans derived from the San Bernardino Mountains (to the north) and, to a lesser extent, from the San Timoteo Badlands (to the south) are filling the basin as it subsides. These alluvial deposits have formed the alluvial plain known as the Santa Ana River Wash.

The Santa Ana River Wash includes various stream channels associated with drainages emanating from the San Bernardino Mountains. Individual channels within the Planning Area include the Santa Ana River, Mill Creek, City Creek, and Plunge Creek. The geologic units present within the Planning Area include alluvium associated with modern washes or older washes. Because of the irregular surface of the basin floor, the depth of alluvial sediments varies. Artificial fill, associated with earthen berms, roadway fill, and stockpiles of unprocessed material at mining sites, is located throughout the Planning Area.

¹ *Soil Survey of San Bernardino County, Southwestern Part, California*, U.S. Department of Agriculture, U.S. Soil Conservation Service, U.S. Government Printing Office, Washington, D.C., 1980.

The existing setting for geology and soils, includes faulting and seismicity; soils; and geologic and seismic hazards, which is discussed below.

Faulting and Seismicity

The Planning Area is located in a seismically active region between two major fault systems. Motion on both the San Andreas and San Jacinto Faults is transferred laterally from one fault to another and then back again. Activity on any fault in this transfer zone will produce associated motion on other faults in the zone.

Figure 4.6.1 depicts faults in the Planning Area. The Alquist-Priolo Earthquake Fault Zone established for the San Andreas Fault extends into the northeastern corner of the Planning Area. In addition to the major faults depicted in Figure 4.6.1 and discussed below, there is a series of unnamed faults in the Planning Area and nearby vicinity, including two near the foot of the Seven Oaks Dam.

San Andreas Fault. The San Andreas Fault represents the major surface expression of the tectonic boundary between the Pacific and North American plates. The San Andreas Fault zone is actually composed of numerous fault strands that traverse the base of the San Bernardino Mountains. The San Bernardino Mountains segment of the San Andreas Fault consists of three paleotectonic strands (the Wilson Creek, Mission Creek, and Mill Creek Faults). The different strands of the San Andreas Fault separate the San Bernardino Mountains block, which is being actively pushed upward and over the block comprising the San Bernardino Valley. The Wilson Creek Fault, the older strand, generated about 40 kilometers of displacement before it was deformed into a trace in the vicinity of the San Bernardino Mountains.¹

In the San Bernardino area, the toe of the mountain (approximately 2.0 miles north-northeast of the Planning Area) marks the present active trace of the San Andreas Fault. In 1995, the Working Group on California Earthquake Probabilities tentatively assigned a 28 percent probability that a major earthquake could occur on the San Bernardino Mountain segment of the San Andreas Fault between 1994 and 2024.

San Jacinto Fault. The main trace of the San Jacinto Fault is located approximately 5.25 miles southeast of the Planning Area. This fault is a system of northwest-trending, right-lateral, strike-slip faults.² The Working Group on California Earthquake Probabilities (1995) tentatively assigned a 37 percent probability that a major earthquake would occur on the San Bernardino Valley segment of the San Jacinto Fault between 1994 and 2024.

Greenspot Fault. The Greenspot Fault, located just outside the extreme eastern edge of the Planning Area, is located somewhat parallel to and is considered part of the San Andreas/San Jacinto Fault zone. This fault is considered by the California Geologic Survey to be potentially active. Studies performed to date have not established activity, nor have structural setbacks been recommended for this feature.

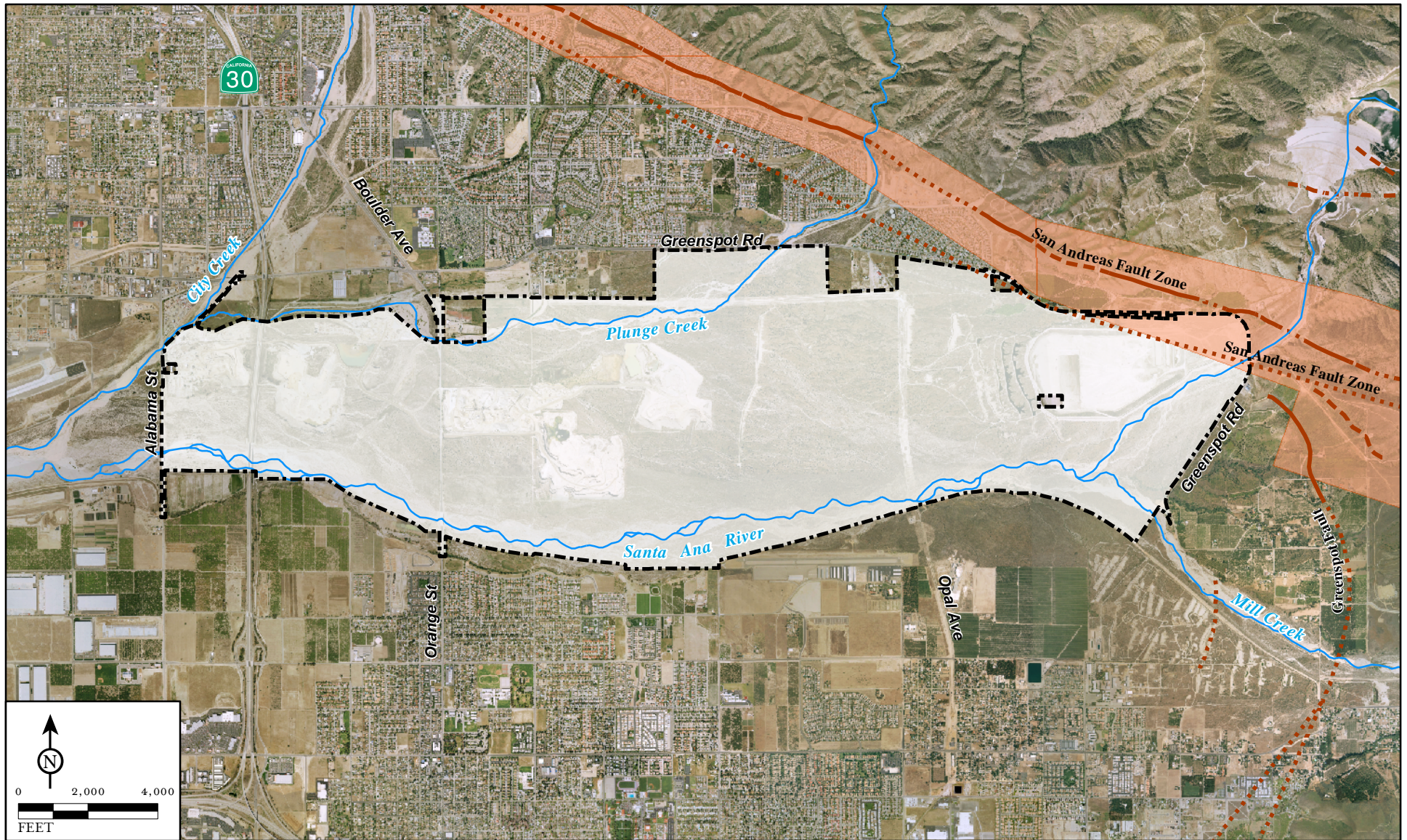
Soils

Soil is composed of organic and mineral matter. The following factors cause soils to differ from site to site, often within close proximity to each other:

- Physical and chemical composition of the parent material;






¹ U.S. Geological Survey, *Southern California Aerial Mapping Project Home* (<http://scamp.wr.usgs.gov>).

² In a *right lateral strike-slip* fault movement, rock on the opposite side of the fault moves to the right.



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FIGURE 4.6.1

- | | |
|--|--|
|  PLAN BOUNDARY | FAULT SYMBOLS |
|  ALQUIST-PRIOLO ZONE |  FAULT, CERTAIN |
| |  FAULT, APPROXIMATE |
| |  FAULT, CONCEALED |

*Upper Santa Ana River Wash
Land Management Plan
Environmental Impact Report*

**Earthquake Fault Zones
and Alquist-Priolo Zones**

SOURCES: USGS Fault Data from San Bernardino Geologic Map, 2003; County of San Bernardino; AirPhoto USA (2007).

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- Climate under which the soil material has accumulated and existed since accumulation;
- Biological influence subjected upon the soil material;
- Relief, or lay of the land; and
- Length of time these factors have acted upon the soil material.

The relative influence of each factor differs from place to place but generally the interaction of all factors determines the kind of soil that forms in any given place.

Based on the *Soil Survey of San Bernardino County, Southwestern Part*, general soil associations within the Planning Area are of the Tujunga-Soboba Association. These very deep soils are derived from granitic rock and occur on nearly level to moderately sloping areas on alluvial valley floors. The soils in this association are somewhat excessively to excessively drained. Specific soils within the Planning Area are discussed below and include the following:

- Soboba stony loamy sand, 2 to 9 percent slopes (SpC);
- Psamments and Fluvents, frequently flooded (Ps);
- Hanford Coarse Sandy Loam, 2 to 9 percent slopes (HaC);
- Soboba gravelly loamy sand, 0 to 9 percent slopes (SoC);
- Soboba-Hanford Families Association;
- Hanford Sandy Loam, 0 to 2 percent slopes (HbA);
- Ramona Sandy Loam (RmC); and
- Tujunga Loamy Sand, 0 to 5 percent slopes (TuB).

Soboba Stony Loamy Sand, 2 to 9 percent slopes (SpC). SpC soils consist of excessively drained, nearly level to moderately sloping soils formed on alluvial fans from granitic alluvium. Vegetation consists of chamise, annual grasses, and forbs. The profile for this soil consists of a grayish-brown stony loamy sand about 10 inches thick, underlain by brown very stony loamy sand and very pale brown, very stony sand that extends to a depth of 60 inches or more. This soil is very rapidly permeable and possesses a low shrink-swell potential. SpC soils cover approximately 3,221 acres, or approximately 72 percent of the Planning Area.

Psamments and Fluvents, frequently flooded (Ps): Ps soils consist of sandy and gravelly material in intermittent streambeds. Some areas consist of cobbles, stones, and boulders. During each flood, alluvium from stream banks is freshly deposited and partly reworked. These soils are a source of sand and gravel for construction material, and vegetation is limited. Ps soils cover around 1,116 acres, or approximately 25 percent of the Planning Area.

Hanford Coarse Sandy Loam, 2 to 9 percent slopes (HaC). HaC soils consist of well-drained, gently sloping to moderately sloping soils in alluvial fans. The surface layer is light brownish-gray coarse sandy loam about 10 inches thick. Runoff is slow to medium and the hazard of erosion is slight to moderate. This soil is used for irrigated crops such as citrus and alfalfa. Approximately 7 acres, less than one percent, of the Planning Area consist of HaC soils.

Soboba Gravelly Loamy Sand, 0 to 9 percent slopes (SoC). SoC soils consist of nearly level to moderately level sloping soil on long broad alluvial fans. The surface layer is grayish-brown stony loamy sand about 10 inches thick and are very rapidly permeable. This soil is used mainly for

irrigated citrus and dry-farmed seeded pasture. SoC soils cover approximately 5 acres, less than one percent, of the Planning Area.

Soboba-Hanford Families Association. The Soboba series consists of deep, excessively drained soils that formed in alluvium from predominantly granite rock sources. Soboba soils are on alluvial fans and floodplains and have slopes of 0 to 30 percent. The Hanford soil series generally consists of deep, well-drained solids that formed in moderately coarse textured alluvium, dominantly from granite. Hanford soils are on stream bottoms, floodplains and alluvial fans and have slopes of 0 to 15 percent. Soils with a mixture of these characteristics have been identified in the Planning Area. Approximately 5 acres, less than one percent of the Planning Area, consists of Soboba-Hanford Families Association soils.

Hanford Sandy Loam, 0 to 2 percent slopes (HbA). HbA soils consist of nearly level soil on valley floors and toe slopes of alluvial fans. The soils are loamy sand below a depth of 40 inches. Runoff is slow and the hazard of erosion is slight. This soil is used for irrigated crops such as citrus, alfalfa, small grains, and pasture plants. HbA soils cover less than 1 acre, less than one percent of the Planning Area.

Ramona Sandy Loam (RmC). RmC soils consist of gently sloping to moderately sloping soil of alluvial fans. The soil surface layer is brown sandy loam and fine sand loam about 23 inches thick. Runoff is medium, and the hazard of erosion is moderate where the soil is not protected by vegetation. This soil is used for dry-farmed small grains and irrigated citrus, alfalfa, and pasture plants. Approximately 3 acres, less than 1 percent of the Planning Area consists of RmC soils.

Tujunga Loamy Sand, 0 to 5 percent slopes (TuB). TuB soils consist of brown loamy sand and pale-brown coarse sand that extends to a depth of 60 inches or more, and runoff is slow to very slow. The hazard of water erosion is slight. This soil is used for irrigated crops such as citrus, grapes, small grains, and pasture plants. Less than 1 acre, less than one percent of the Planning Area consists of TuB soils.

Geologic and Seismic Hazards

Geologic and seismic hazards discussed in this subsection include the following:

- Surface rupture;
- Ground shaking;
- Liquefaction;
- Subsidence and seismic settlement;
- Landslides/slope stability; and
- Expansive soils.

Surface Rupture. Surface rupture occurs where displacement or fissuring occurs along a fault zone. While primary ground damage due to earthquake fault rupture typically results in a relatively small percentage of the total damage in an earthquake, the location of structures or facilities too close to a rupturing fault can cause profound damage. It is difficult to reduce the hazards of surface rupture through structural design. The primary method to avoid this hazard is to either set structures and facilities away from active faults, or avoid their construction in proximity to an active fault.

Faults throughout southern California have formed over millions of years. Some of these faults are generally considered inactive under present geologic conditions, and other faults are known to be active.¹ Such faults have either generated earthquakes in historical times (200 years), or show geologic and geomorphic indications of relatively recent movement. Faults that have moved in the relatively recent geological past are generally presumed to be the most likely candidates to generate damaging earthquakes in the lifetimes of residents, buildings or communities. As previously stated, an Alquist-Priolo Earthquake Fault Zone established for the San Andreas Fault extends into the eastern portion of the Planning Area (refer to Figure 4.6.1).

Ground Shaking. Ground shaking causes the vast majority of earthquake damage. Because of the proximity of the Planning Area to two major faults (2.0 miles from the San Andreas Fault and 5.25 miles from the San Jacinto Fault), the Planning Area can be expected to be subject to severe ground shaking during the lifetime of the project. In general, the degree of shaking depends upon source effects, path effects, and site effects. These three effects are explained in the following paragraphs.

Source effects include earthquake size, location, and distance. The bigger and closer the earthquake is, the more severe the damage will be. The exact way that rocks move along the fault can also influence shaking, as can the orientation of the fault in the ground.

Path effects are caused by seismic waves that change direction as they travel through the earth's contrasting layers, just as light bounces (reflects) and bends (refracts) as it moves from air to water. Sometimes this can focus seismic energy at one location, and cause damage in unexpected areas.

Site effects are brought about by seismic waves that slow down in the loose sediments and weathered rock at the surface of the earth. As they slow, their energy converts from speed to amplitude, which increases shaking. This is identical to the behavior of ocean waves. As the waves slow down near shore, their crests grow higher. Sometimes, too, seismic waves get trapped at the surface and resonate. Whether resonance will occur depends on the period (the length) of the incoming waves. Waves, soils and buildings all have resonant periods. When these match, tremendous damage can occur.

Liquefaction. Liquefaction occurs primarily in saturated, loose, fine-to-medium-grained soils in areas where the groundwater table is within 50 feet of the surface. Shaking suddenly causes soils to lose strength and behave as a liquid. Excess water pressure is vented upward through fissures and soil cracks, and a water-soil slurry bubbles onto the ground surface. The resulting features are called "sand boils," "sand blows," or "sand volcanoes." Liquefaction-related effects include loss of bearing strength, ground oscillations, lateral spreading, and flow failures or slumping.

The Planning Area is located within the Santa Ana River Wash, an area of relatively shallow historical groundwater levels. Groundwater levels in the Planning Area fluctuate as a result of changes in surface flows, and regional changes in the extraction and recharge of groundwater. Based on California Department of Water Resources and Western Municipal Water District, earlier groundwater levels were generally shallower than current levels. Current groundwater depths range from approximately 130 feet below ground level in the western portion of the Planning Area, to approximately 100 feet below ground level in the center portion of the Planning Area. Historic groundwater levels in the western and center portions of the Planning Area were recorded as shallow as 30 and 78 feet below ground level, respectively. Groundwater levels in the eastern portion of the Planning Area ranged from 65 feet below ground level in 1998 to 253 feet below ground level in 2000.

¹ The Alquist-Priolo Earthquake Fault Zoning Act defines *active faults* as those that show proven displacement of the ground surface within about the last 11,000 years. *Potentially active faults* are those that show evidence of movement within the last 1.6 million years.

As illustrated in Figure 4.6.2, the majority of the Planning Area has been identified in the General Plans for Highland and Redlands as being highly susceptible to liquefaction hazards.

Subsidence and Seismic Settlement. Ground subsidence is typically a gradual settling or sinking of the ground surface with little or no horizontal movement, although fissures (cracks and separations) are common. Subsidence can range from small or local collapses to broad regional lowering of the surface of the earth. The causes of subsidence include:

- Dewatering of peat or organic soils;
- Dissolution in limestone aquifers;
- First-time wetting of moisture-deficient, low-density soils (hydrocompaction);
- Natural compaction;
- Liquefaction;
- Crustal deformation;
- Subterranean mining; and
- Withdrawal of fluids (groundwater, petroleum, or geothermal).

Most of the damage caused by subsidence is the result of oil, gas, or groundwater extraction from below the ground surface, or the organic decomposition of peat deposits. Ground subsidence may occur as a response to natural forces such as earthquake movements, which can cause abrupt elevation changes of several feet.

Historically, portions of southwestern San Bernardino County experience subsidence (resulting from the withdrawal of groundwater). This phenomenon has not been identified within the City of Redlands or the City of Highland (which make up the majority of the Planning Area). While insufficient data exist to identify specific areas highly susceptible to subsidence, areas of shallow groundwater, corresponding to those areas more prone to liquefaction hazards, appear also to be susceptible to subsidence and/or seismic settlement.

Landslides/Slope Stability. The topography in the Planning Area slopes relatively evenly from the east to west. Due to the lack of any natural extreme variations in topography, the Cities of Highland and Redlands have not identified the Planning Area as being susceptible to landslide/slope stability hazards. Despite the lack of an identified slope stability hazard, existing sand and gravel extraction operations have created areas with significant topographic relief within the Planning Area.

Within the existing quarries operated by Robertson's Ready Mix, quarry slopes include near-vertical upper walls (typically ± 30 feet high) with a colluvial wedge and/or stockpiled boulder material along the base. An earthquake event on local faults or other natural or man-made action may trigger movement of earth or rock materials on quarried slopes. Strong ground shaking would cause quarried slopes to "fail" to a flatter inclination of approximately 2H:1V (2 horizontal to a 1 vertical ratio).¹

Expansive Soils. Expansive soils generally have a significant amount of clay particles that can give up water (shrink) or take on water (swell). The change in volume exerts stress on buildings and other loads placed on these soils. The extent of shrink/swell is influenced by the amount and kind of clay in the soil. The occurrence of these soils is often associated with geologic units having marginal stability. Expansive soils can be widely dispersed, and they can occur in hillside areas as well as low-lying alluvial basins.

¹ 2H:1V means that the horizontal slope is twice the vertical slope.

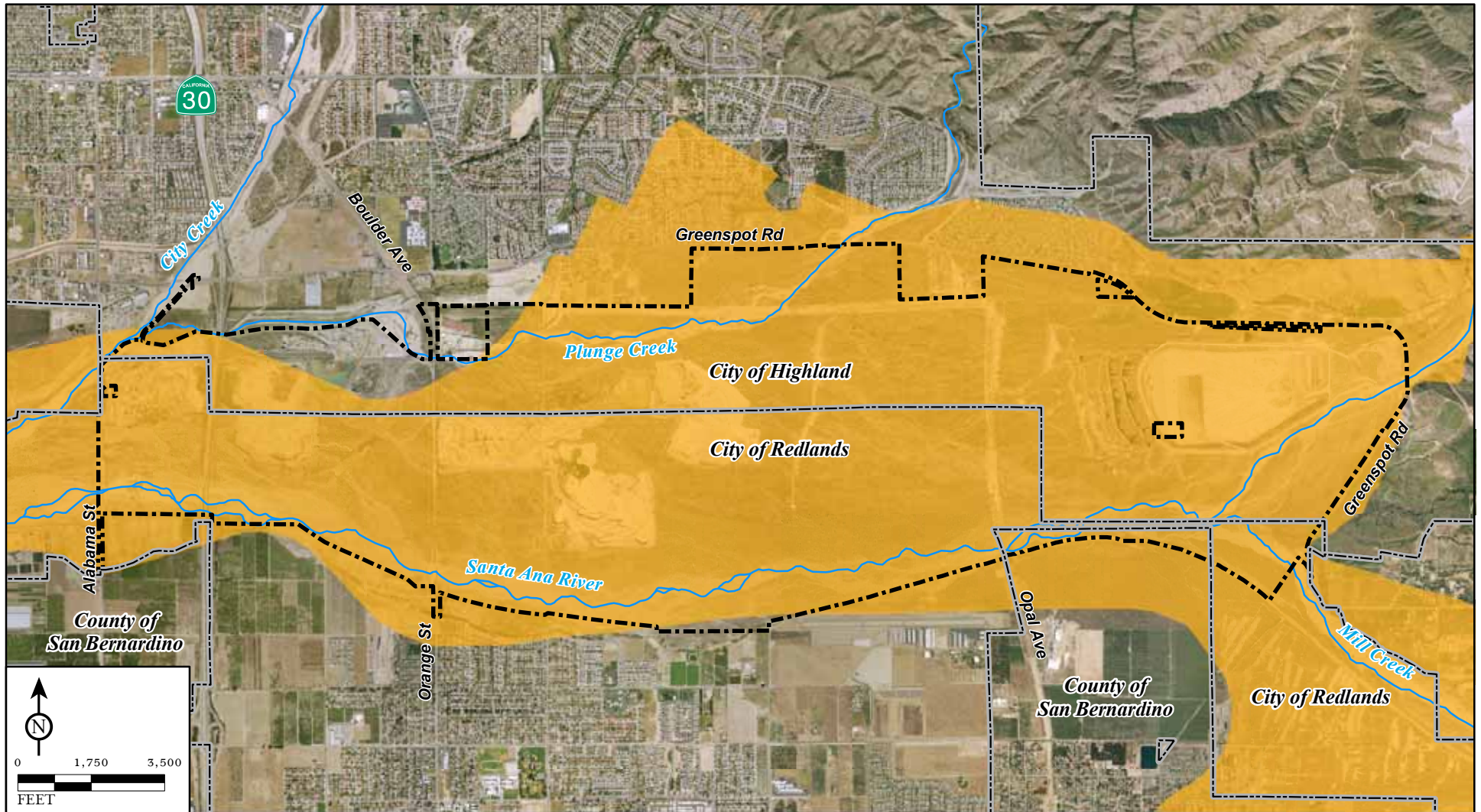





FIGURE 4.6.2

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-  PLAN BOUNDARY
-  JURISDICTIONAL BOUNDARY
-  HIGH LIQUEFACTION SUSCEPTIBILITY

Upper Santa Ana River Wash
Land Management Plan
Environmental Impact Report

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According to the *Soil Survey of San Bernardino County, Southwestern Part*, soils within the Planning Area are derived from granitic rock and are somewhat excessively to excessively drained. Soils in the Planning Area consist of stony, loamy sands and sandy, gravelly material in intermittent streambeds. These soils are very rapidly permeable and possess a low shrink-swell potential. The Cities of Highland and Redlands do not identify the Planning Area as susceptible to hazards associated with expansive soils.

4.6.2 Existing Policies and Regulations

The following existing policies and regulations that apply to geology and soils are discussed in this subsection:

- *City of Highland General Plan Update*;
- *City of Redlands 1995 General Plan*;
- Alquist-Priolo Earthquake Fault Zoning Act;
- The Seismic Hazards Mapping Act; and
- Natural Hazards Disclosure Act.

City of Highland General Plan Update

The Public Health and Safety Element of the *City of Highland General Plan Update* (March 2006) contains goals and policies relevant to geology and soils.

Goal 6.1 Minimize the risk to public health and safety and disruption to social, economic, and environmental welfare resulting from seismic and geologic activities.

Many of the policies associated with Goal 6.1 and geologic issues are related to the development of structures. Several of the policies require adherence to proper construction design criteria or discuss requirements that would be addressed during the development review process. For example, Policy 9 listed under Goal 6.1 states:

Continue to enforce as part of the development review process site-specific analysis of soils and other conditions related to the onsite impact of maximum credible seismic and geologic events.

While the policies contained in this section are relevant to geology and soils, the proposed project does not include the construction of any structures; therefore, geology and soils policies contained in the *City of Highland General Plan* do not apply to the proposed project.

City of Redlands 1995 General Plan

The *City of Redlands 1995 General Plan* does not contain any policies relative to geology and soils that would apply to the Planning Area.

Alquist-Priolo Earthquake Fault Zoning Act

The major State legislation regarding earthquake fault zones is the *Alquist-Priolo Earthquake Fault Zoning Act*. In 1972, the State of California began delineating “Earthquake Fault Zones” (called Special Studies Zones prior to 1994) around and along faults that are “sufficiently active” and “well defined” to reduce fault-rupture risks to structures for human occupancy (California Public Resources Code §2621–2630). The boundary of an “Earthquake Fault Zone” is generally 500 feet from major active faults and from 200 to 300 feet from well-defined minor faults. The mapping of active faults has

been completed by the State Geologist, and these maps are distributed to all affected cities, counties, and State agencies for their use in developing planning policies and controlling renovation or new construction.

The Seismic Hazards Mapping Act

Passed in 1990, the Seismic Hazards Mapping Act (SHMA) addresses non-surface fault rupture earthquake hazards, including strong ground shaking, liquefaction, and seismically induced landslides. The California Geological Survey (CGS) is the principal State agency charged with implementing the 1990 SHMA. Pursuant to the SHMA, the CGS is directed to provide local governments with seismic hazard zone maps that identify areas susceptible to amplified shaking, liquefaction, earthquake-induced landslides, and other ground failures. The goal is to minimize loss of life and property by identifying and mitigating seismic hazards. The seismic hazard zones delineated by the CGS are referred to as “zones of required investigation.” Site-specific geotechnical hazard investigations are required by SHMA when construction projects fall within these areas.

Natural Hazards Disclosure Act

Effective June 1, 1998, 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. If a property is located in a Seismic Hazard Zone as shown on a map issued by the State Geologist, the seller or the seller’s agent must disclose this fact to potential buyers.

4.6.3 Thresholds of Significance

Pursuant to CEQA, the geology and soils impacts would be considered significant if the project would:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
 - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault (refer to Division of Mines and Geology Special Publication 42).
 - Strong seismic ground shaking.
 - 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-site 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 or most current edition), creating substantial risks to life or property; and/or
- 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.

Impacts in any of these categories would be considered unavoidable significant effects of the project if they could not be (a) reduced to an acceptable level of risk; (b) eliminated; or (c) avoided by using existing techniques that are generally recognized by geotechnical consultants in the Planning Area to be applicable and feasible.

4.6.4 Impacts and Mitigation Measures

The following impacts were determined to be less than significant. In each of the following issues, either no impact would occur (thus, no mitigation measure would be required) or adherence to established regulations, standards, policies, and/or mitigation would reduce impacts to a less than significant level.

Less than Significant Impacts

All issues associated with geology and soils are considered to be less than significant. The discussion that follows addresses:

- Fault rupture;
- Ground shaking;
- Soil erosion or loss of topsoil;
- Landslide, lateral spreading, subsidence, or liquefaction;
- Expansive soils; and
- Septic tanks.

4.6.4.1 Fault Rupture

Threshold	Would the proposed project expose persons or structures to potential substantial adverse effects, including the risk of loss, injury, or death resulting from rupture of a known earthquake fault?
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Water Conservation Operations/Maintenance Activities of the District

The primary operation of the District is groundwater recharge. Water conservation activities are located within the northeastern corner of the Planning Area. Water conservation uses include existing percolation basins, dikes, canals, diversions structures, culverts, and access roads. Although the Planning Area is located in a seismically active region between two major fault systems—the San Andreas and San Jacinto Faults—none of the existing or planned water conservation facilities is located within the A-P zone established for either fault system; therefore, no potential fault rupture hazard to these facilities would occur. No Impacts would occur and no mitigation would be necessary.

Cumulative. Cumulatively, water conservation activities in combination with other projects in the area will not create or contribute to new or increased impacts related to fault rupture over and above the impacts discussed in this section. The proposed project has no impact in relation to rupture of a known earthquake fault and therefore has no cumulative contribution to these impacts.

Flood Control Operations/Maintenance Activities of the SBCFCD

Flood control activities within the Planning Area include the continuation of an existing flood control program related to the Santa Ana River and its tributaries. Flood control activities are located within the northeastern corner of the Planning Area. Although the Planning Area is located in a seismically active region between two major fault systems—the San Andreas and San Jacinto Faults—none of the existing or planned flood control activities is located within the A-P zone established for the San Andreas Fault; therefore, no potential fault rupture hazard to these activities would occur. No Impacts would occur and no mitigation would be necessary.

Cumulative. Cumulatively, flood control activities of the SBCFCD in combination with other projects in the area will not create or contribute to new or increased impacts related to fault rupture over and above the impacts discussed in this section. The proposed project has no impact in relation to rupture of a known earthquake fault and therefore has no cumulative contribution to these impacts.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Activities conducted include operation and maintenance of wells and pumps. It does not include the development of any habitable structures that would expose persons or structures to potential substantial adverse effects resulting from rupture of a known earthquake fault. Further, provisions of the A-P zone prohibits structures intended for human occupancy from being placed over the trace of the fault and must be set back, generally no closer than 50 feet to the fault. Because the proposed activity would not result in the development of any habitable structures, no fault rupture hazard would occur. No impacts would occur and no mitigation would be necessary.

Cumulative. Cumulatively, water production activities of the EVWD and the RMUD in combination with other projects in the area will not create or contribute to new or increased impacts related to fault rupture over and above the impacts discussed in this section. The proposed project has no impact in relation to rupture of a known earthquake fault and therefore has no cumulative contribution to these impacts.

Aggregate Mining

Mining activities would be expanded from an existing 832 acres to 1,195 acres; an increase of 363 acres. Provisions of the A-P Act prohibit structures intended for human occupancy from being placed over the trace of the fault and must be set back, generally no closer than 50 feet to the fault. Mining activities are located in the eastern section of the Planning Area and although the Planning Area is located in a seismically active region between two major fault systems—the San Andreas and San Jacinto Faults—mining areas are located more than 50 feet from the faults. No habitable structures would be located within that portion of the A-P zone located within the Planning Area; therefore, no fault rupture hazard would occur and no impacts would occur. No mitigation would be necessary.

Cumulative. Cumulatively, aggregate mining within the Planning Area in combination with other projects in the area will not create or contribute to new or increased impacts related to fault rupture over and above the impacts discussed in this section. The proposed project has no impact in relation to rupture of a known earthquake fault and therefore has no cumulative contribution to these impacts.

Adoption of General Plan Amendments

Although the Planning Area is located in a seismically active region, this component would not result in the development of any habitable structures that would expose persons or structures to potential substantial adverse effects resulting from rupture of a known earthquake fault. Therefore, no impact would occur and no mitigation would be necessary.

Cumulative. Cumulatively, the General Plan Amendments in combination with other projects in the area will not create or contribute to new or increased impacts related to fault rupture over and above the impacts discussed in this section. The proposed project has no impact in relation to rupture of a known earthquake fault and therefore has no cumulative contribution to these impacts.

Roadway/Bridge Rights-of-Way

Although the Planning Area is located in a seismically active region, this component would not result in the development of any habitable structures that would expose persons or structures to potential

substantial adverse effects resulting from rupture of a known earthquake fault. Therefore, no impact would occur and no mitigation would be necessary.

Cumulative. Cumulatively, the designation of rights-of-way in combination with other projects in the area will not create or contribute to new or increased impacts related to fault rupture over and above the impacts discussed in this section. The proposed project has no impact in relation to rupture of a known earthquake fault and therefore has no cumulative contribution to these impacts.

Recreational Trail Rights-of-Way

All trails would be located on existing service roads, utility easements, and old railroad beds, such that there would be no construction activities or built structures associated with trails. Although the Planning Area is located in a seismically active region, this component would not result in the development of any habitable structures and therefore would not result with impacts associated with fault ruptures. No mitigation would be necessary.

Cumulative. Cumulatively, the designation of recreational trail rights-of-way in combination with other projects in the area will not create or contribute to new or increased impacts related to fault rupture over and above the impacts discussed in this section. The proposed project has no impact in relation to rupture of a known earthquake fault and therefore has no cumulative contribution to these impacts.

Land Exchange between the District and BLM

Although the Planning Area is located in a seismically active region, this component would not result in the development of any habitable structures that would expose persons or structures to potential substantial adverse effects resulting from rupture of a known earthquake fault. The District's land exchange with the BLM will provide to the BLM an unrestricted habitat corridor for wildlife movement while maintaining continued water conservation activity. The land the BLM will exchange to the District, which is already mostly disturbed, will be used for aggregate mining. Therefore, no impact would occur and no mitigation would be necessary. Impacts from aggregate mining are discussed above, and do not add any short term or cumulatively significant impacts.

Cumulative. Cumulatively, the land exchange between the District and the BLM in combination with other projects in the area will not create or contribute to new or increased impacts related to fault rupture over and above the impacts discussed in this section. The proposed project has no impact in relation to rupture of a known earthquake fault and therefore has no cumulative contribution to these impacts.

Land Exchange between the SBCFCD and Robertson's

Although the Planning Area is located in a seismically active region, this component would not result in the development of any habitable structures that would expose persons or structures to potential substantial adverse effects resulting from rupture of a known earthquake fault. Therefore, no impact would occur and no mitigation would be necessary.

Cumulative. Cumulatively, the land exchange between the SBCFCD and Robertson's in combination with other projects in the area will not create or contribute to new or increased impacts related to fault rupture over and above the impacts discussed in this section. The proposed project has no impact in relation to rupture of a known earthquake fault and therefore has no cumulative contribution to these impacts.

4.6.4.2 Ground Shaking

Threshold	Would the proposed project expose persons or structures to potential substantial adverse effects, including the risk of loss, injury, or death resulting from strong ground shaking?
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Water Conservation Operations/Maintenance Activities of the District

The primary operation of the District is groundwater recharge that includes percolation basins with a wetted area of 64 acres. Because of the proximity of the Planning Area to two major faults, the Planning Area can be expected to experience significant ground shaking within the Planning Area throughout the lifetime of the project. The maximum credible earthquake (MCE) for the southern California segment of the San Andreas Fault is calculated as magnitude 8.3. The extent of ground shaking associated with an earthquake is dependent upon the size of the earthquake and the geologic material of the underlying area. The geologic material located within the Planning Area, as stated previously, consists primarily of alluvial deposits derived from granitic rock.

While ground shaking resulting from activity on local faults would be felt within the Planning Area, the nature of the existing and proposed uses, and the relatively limited number of persons that may be on the site during any such activity would limit the significance of any potential ground shaking impact. Structures located within the District maintenance and operating areas are presently limited to water conservation facilities. No residential, commercial, or institutional use is proposed within the Planning Area; therefore, there would be no substantial increase in the number of persons on the site. For these reasons, no impacts would occur and no mitigation would be necessary.

Cumulative. Cumulatively, the water conservation activities of the District in combination with other projects in the area will not create or contribute to new or increased impacts resulting from strong ground shaking over and above the impacts discussed in this section. The proposed project has no impact in relation to adverse effects from strong ground shaking and therefore has no cumulative contribution to these impacts.

Flood Control Operations/Maintenance Activities of the SBCFCD

Flood control activities include the continuation of an existing flood control program related to the Santa Ana River and its tributaries. As discussed above, while the ground shaking resulting from activity on local faults would be felt within the Planning Area, the nature of the existing and proposed uses, and the relatively limited number of persons that may be on the site during any such activity would limit the significance of any potential ground shaking impact. Structures located within the flood control maintenance and operation areas are limited to flood control facilities. These facilities do not include development of residential, commercial, or institutional uses that would substantially increase the number of persons within the Planning Area. For these reasons, no impacts would occur and no mitigation would be necessary.

Cumulative. Cumulatively, the SBCFCD flood control operation and maintenance in combination with other projects in the area will not create or contribute to new or increased impacts resulting from strong ground shaking over and above the impacts discussed in this section. The proposed project has no impact in relation to adverse effects from strong ground shaking and therefore has no cumulative contribution to these impacts.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Activities conducted include operation and maintenance of wells and pumps. No residential, commercial, or institutional uses are proposed for water production operations and maintenance activities of the EVWD and RMUD. Therefore, there would be no substantial increase in the number of persons on the site, resulting in a significant impact related to ground shaking. Because no

habitable structures are proposed within this activity, no significant impacts are anticipated. No mitigation would be necessary.

Cumulative. Cumulatively, the operation and maintenance of EVWD and RMUD water production facilities in combination with other projects in the area will not create or contribute to new or increased impacts resulting from strong ground shaking over and above the impacts discussed in this section. The proposed project has no impact in relation to adverse effects from strong ground shaking and therefore has no cumulative contribution to these impacts.

Aggregate Mining

The mining activities associated with the Planning Area would result in the creation of quarry slopes of up to 150 feet. A discussion of slope stability and landslides is included below, under the heading "Landslide, Lateral Spreading, Subsidence, or Liquefaction." The presence of slopes in the Planning Area results in the potential for loss, injury, or death associated with slope instability during a ground shaking event. There are no residences located within the Planning Area. Mining workers would be present in the area and would be susceptible to injury or death in the event of slope failure during a seismic event; however, mining operations are required to comply with Occupational Health and Safety Administration (OHSA) and the Mine Safety and Health Administration (MSHA). OSHA is the main Federal agency charged with the enforcement of safety and health legislation. MSHA is the Federal enforcement agency responsible for the health and safety of the nation's miners. Compliance with OSHA and MSHA requirements will ensure potential impacts to workers associated with quarry slope failure during a ground shaking event remain less than significant.

Because of the low density of human population within the Planning Area and the lack of residential, commercial, or industrial development associated with the proposed project, and the requirements set forth by OSHA and MSHA for mining workers, the proposed plan would not substantially increase the risk for injury, death or property damage resulting from local ground shaking. A limited number of persons are and would continue to be employed at aggregate extraction facilities within the Planning Area. The project does not include the construction of new structures or the reworking of old ones; therefore, the effects on persons and property resulting from a ground shaking episode would not be significant. The continued adherence to seismic design and construction standards for the processing plants within the Planning Area would reduce potential ground shaking hazards for the project to a less than significant level. No mitigation would be necessary.

Cumulative. Cumulatively, the aggregate mining activities in combination with other projects in the area will not create or contribute to new or increased impacts resulting from strong ground shaking over and above the impacts discussed in this section.

Adoption of General Plan Amendments

While the ground shaking resulting from activity on local faults would be felt within the Planning Area, the nature of the proposed uses, and the relatively limited number of persons that may be on the site during any such activity would limit the significance of any potential ground shaking impact. Under this project component, the development of residential, commercial, or institutional uses would not occur and therefore would not substantially increase the number of persons within the Planning Area. For these reasons, no impacts would occur and no mitigation would be necessary.

Cumulative. Cumulatively, the adoption of the General Plan Amendments in combination with other projects in the area will not create or contribute to new or increased impacts resulting from strong ground shaking over and above the impacts discussed in this section.

Roadway/Bridge Rights-of-Way

While ground shaking resulting from activity on local faults would be felt within the Planning Area, the nature of the existing and proposed uses, and the relatively limited number of persons that may be on the site during any such activity would limit the significance of any potential ground shaking impact. No residential, commercial, or institutional use is proposed within this project component; therefore, there would be no substantial increase in the number of persons on the site with the expansion of roadway rights-of-way for surrounding roads and bridges. For these reasons, no impacts would occur and no mitigation would be necessary.

Cumulative. Cumulatively, the designation of bridge and roadway rights-of-way in combination with other projects in the area will not create or contribute to new or increased impacts resulting from strong ground shaking over and above the impacts discussed in this section. The proposed project has no impact in relation to adverse effects from strong ground shaking and therefore has no cumulative contribution to these impacts. Ultimate construction of the roadway improvements would follow standard roadway and bridge design techniques designed to minimize risks from any of the types of geologic hazards discussed in this section. Such construction, therefore, would not add any cumulatively significant impacts.

Recreational Trail Rights-of-Way

All trails would be located on existing service roads, utility easements, and old railroad beds, such that there would be no construction activities or built structures associated with trails. Recreational facilities within the Planning Area would consist of a series of trails (and would not include any built structures), and persons using the trails would not be substantially affected by any future ground shaking event. Because no habitable structures are anticipated to be built in connection with the development of recreational trails, and because of the anticipated intermittent use of such trails by a limited number of persons, significant impacts arising from exposure of persons or structures to adverse seismic effects are considered less than significant.

Cumulative. Cumulatively, the designation of trail rights-of-way in combination with other projects in the area will not create or contribute to new or increased impacts resulting from strong ground shaking over and above the impacts discussed in this section. Ultimate construction of the roadway improvements would follow standard roadway and bridge design techniques designed to minimize risks from any of the types of geologic hazards discussed in this section. Such construction, therefore, would not add any cumulatively significant impacts.

Land Exchange between the District and BLM

As previously discussed, because of the proximity of the Planning Area to two major faults, it can be expected to experience significant ground shaking within the Planning Area throughout the lifetime of the project. However, activities proposed under the land exchange component would not include the development of any habitable structures that would result in a potential significant impact. The District's land exchange with the BLM will provide to the BLM an unrestricted habitat corridor for wildlife movement while maintaining continued water conservation activity. The land the BLM will exchange to the District, which is already mostly disturbed, will be used for aggregate mining. The nature of the existing and proposed uses and the relatively limited number of persons that may be on the site during any such activity would limit the significance of any potential ground shaking impact. For these reasons, no impacts would occur and no mitigation would be necessary.

Cumulative. Cumulatively, the land exchange between the BLM and the District in combination with other projects in the area will not create or contribute to new or increased impacts resulting from strong ground shaking over and above the impacts discussed in this section. The proposed project has no impact in relation to adverse effects from strong ground shaking and therefore has no cumulative contribution to these impacts.

Land Exchange between the SBCFCD and Robertson's

Similar to the land exchange component between the District and the BLM, this component would result in similar impacts. Because of the proximity of the Planning Area to two major faults, it can be expected to experience significant ground shaking within the Planning Area throughout the lifetime of the project. However, activities proposed under the land exchange component would not include the development of any habitable structures that would expose persons or structures to a significant ground shaking impact. The existing and proposed uses and the relatively limited number of persons that may be on the site during any such activity would limit the significance of any potential ground shaking impact. For these reasons, no impacts would occur and no mitigation would be necessary.

Cumulative. Cumulatively, the land exchange between the SBCFCD and Robertson's in combination with other projects in the area will not create or contribute to new or increased impacts resulting from strong ground shaking over and above the impacts discussed in this section. The proposed project has no impact in relation to adverse effects from strong ground shaking and therefore has no cumulative contribution to these impacts.

4.6.4.3 Soil Erosion or Loss of Topsoil

Threshold	Would the proposed project result in substantial soil erosion or the loss of topsoil?
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Water Conservation Operations/Maintenance Activities of the District

The predominant soil within the Planning Area is Soboba stony loamy sand, 2 to 9 percent slopes (SpC). This soil consists of excessively drained, nearly level to moderately sloping soils formed on alluvial fans from granitic alluvium. Runoff from this soil is slow; therefore, the potential for erosion is slight. Within streambed areas, soils consist of Psammments and Fluvents (frequently flooded) (Ps), which consists of sandy and gravelly material in intermittent streambeds. Some areas consist of cobbles, stones, and boulders. During each flood, alluvium from stream banks is freshly deposited and partly reworked. The Planning Area is not identified as an area susceptible to significant erosion hazards in the General Plans of either the City of Highland or City of Redlands.

Some of the activities conducted under the water conservation operations of the District have been shown to modify the existing floor of the Planning Area. The potential for natural erosion is likely to be high in areas of moderately steep to steep slopes, little or no vegetative cover, loose to unconsolidated sediments, and/or uncontrolled surface water runoff. The modification of topography from water conservation activities may result in the removal of surface vegetation and the creation of slopes that may increase the potential for localized erosion. However, as described in Section 3.6.1, sediment resulting from localized erosion is accumulated in the basins and is removed from the beds of the basins periodically and used for maintenance of dikes, canals, and access roads. While maintenance activities may change in location due to unforeseen circumstances, the frequency and methods of maintenance would not change from existing operations. Furthermore, adherence to standard requirements would ensure impacts associated with soil erosion remain less than significant. No mitigation is necessary.

Cumulative. Cumulatively, the District's water conservation activities in combination with other projects in the area could create or contribute to new or increased impacts related to the loss of topsoil over and above the impacts discussed in this section. It is anticipated that, like the water conservation activities of the District, other cumulative projects in the area would be required to comply with standard requirements to reduce impacts related to the loss of topsoil to a level that is less than significant, which would result in a less than significant cumulative impact.

Flood Control Operations/Maintenance Activities of the SBCFCD

Flood control activities include the continuation of an existing flood control program related to the Santa Ana River and its tributaries. As discussed above, the Planning Area is not identified as an area susceptible to significant erosion hazards in the General Plans of either the City of Redlands or City of Highland.

Some of the activities controlled by the flood control operations of the SBCFCD may modify the existing floor of the Planning Area. The modification of topography from flood control activities may result in the removal of surface vegetation and the creation of slopes that may increase the potential for localized erosion. However, as noted in Section 3.6.2, the SBCFCD would not require additional maintenance, repairs, or construction work associated with the Santa Ana River, Mill Creek, Plunge Creek, or City Creek as a result of the proposed project. To maintain these flood control facilities (levees, flood walls, etc.) and ensure safe water flows, maintenance is necessary on an ongoing basis. Therefore, impacts associated with soil erosion remain less than significant.

Cumulative. Cumulatively, the operation and maintenance activities of the SBCFCD in combination with other projects in the area could create or contribute to new or increased impacts related to the loss of topsoil over and above the impacts discussed in this section. However, it is anticipated that, like the flood control activities of the SBCFCD, other cumulative projects in the area would be required to comply with standard requirements to reduce impacts related to the loss of topsoil to a level that is less than significant, which would result in a less than significant cumulative impact.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Activities controlled by the EVWD and RMUD include operation and maintenance of wells and pumps. These activities would not result in the modification of the existing floor of the Planning Area and therefore would not result in the removal of surface vegetation and/or creation of slopes that may increase the potential for localized erosion. The Planning Area is not identified as an area susceptible to significant erosion hazards in the General Plans of either the City of Redlands or City of Highland. For these reasons, impacts from soil erosion associated with the water production operations and maintenance activities of the EVWD and RMUD would not occur. No mitigation would be necessary.

Cumulative. Cumulatively, the water production operation and maintenance activities of the EVWD and the RMUD in combination with other projects in the area would not create or contribute to new or increased impacts related to the loss of topsoil over and above the impacts discussed in this section. The proposed project would not have an individual impact on EVWD and RMUD activities; therefore, in combination with other cumulative projects in the area, it is anticipated that there would be no cumulative impact.

Aggregate Mining

Mining activities would be expanded from an existing mining footprint of 832 acres to 1,195 acres; this is an additional 363 acres. The mined areas and groundwater recharge basins would continue to act as settling ponds, preventing any significant sedimentation on the site from leaving the Planning Area.

Activities conducted under the aggregate mining component of the proposed project would result in the modification of topography resulting in the removal of surface vegetation, and the creation of slopes that may increase the potential for localized erosion. The completion of Seven Oaks Dam and the existence of flood control berms in the vicinity of mined areas greatly reduce and likely eliminate the potential for any significant natural runoff from these areas. Surface runoff draining into excavations would percolate rapidly into the porous alluvium material. Slope revegetation within mined areas would aid in the prevention of any significant erosion.

Furthermore, existing mining operations are conducted under a General Construction Activity Storm Water Permit issued by the Santa Ana Regional Water Quality Control Board (RWQCB) pursuant to National Pollutant Discharge Elimination System (NPDES) regulations. The Storm Water Pollution Prevention Plan (SWPPP) prepared for the existing operations identifies Best Management Practices (BMPs) to minimize stormwater pollutants (including sediment) from entering downstream water bodies. The Mine and Reclamation Plans for the Robertson's and Cemex facilities identify actions that the mine operators must implement to limit or reduce erosion within areas under their control. Standard permit requirements and erosion control measures are presently implemented and include the following:

- Any location where runoff is entering the pits will be reinforced with rock or riprap as necessary to eliminate potential erosion.
- To limit potential erosion, slopes within mined areas will be revegetated during the reclamation process.
- To safeguard against potential future erosion, the [mining] operator will conduct erosion monitoring before and after each major storm event or at least once per month during the rainy season defined as between October 1 and May 31. A major storm event is defined as precipitation totals of 0.5 inch or more per 24-hour period. The operator will visually inspect the perimeter of the excavations and berm to observe any drainage that may be entering the pit and document the observed and potential erosion occurring. The inspector shall note the occurrence and severity of any sheet, rill, or gully erosion and any evidence of surficial instability. If erosion or the potential for substantial erosion is evident, the operator shall implement appropriate control measures. A small berm or and interceptor ditch along the pit rim will be constructed depending on the observed flow and/or erosion. If the operator allows other flows to enter the pit, then downslope drains will be installed. The downslope drains will typically be constructed with one of the following: rock reinforced with energy dissipaters; a corrugated metal pipe; or flexible conduit of heavy-duty fabric.

Adherence to standard requirements will ensure that impacts associated with soil erosion remain less than significant. No mitigation is necessary.

Cumulative. Cumulatively, the aggregate mining in combination with other projects in the area could create or contribute to new or increased impacts related to the loss of topsoil over and above the impacts discussed in this section. It is anticipated that, like the aggregate mining activities, other cumulative projects in the area would be required to comply with standard requirements to reduce cumulative impacts related to the loss of topsoil to a level that is less than significant.

Adoption of General Plan Amendments

This project component would not result in the modification of the existing floor of the Planning Area and therefore would not result in the removal of surface vegetation and/or creation of slopes that may increase the potential for localized erosion. The Planning Area is not identified as an area susceptible to significant erosion hazards in the General Plans of either the City of Redlands or City of Highland. For these reasons, impacts from soil erosion associated with the adoption of General Plan Amendments would not occur. No mitigation would be necessary.

Cumulative. Cumulatively, the adoption of the General Plan Amendments in combination with other projects in the area would not create or contribute to new or increased impacts related to the loss of topsoil over and above the impacts discussed in this section. The General Plan Amendments would not have an individual impact; therefore, in combination with other cumulative projects in the area, it is anticipated that there would be no cumulative impact.

Roadway/Bridge Rights-of-Way

The designation of roadway and bridge rights-of-way would not modify the existing floor of the Planning Area. The modification of topography from future roadway construction activities may result in the removal of surface vegetation, and the creation of slopes that may increase the potential for localized erosion. However, the rights-of-way designation themselves would not create any erosion impacts. Impacts that may occur from construction will be addressed in future construction-level environmental review. Impacts associated with soil erosion remain less than significant. No mitigation is necessary.

Cumulative. Cumulatively, the designation of the bridge and roadway rights-of-way in combination with other projects in the area could create or contribute to new or increased impacts related to the loss of topsoil over and above the impacts discussed in this section; however, as stated, any future roadway construction would be required to complete further construction-level project environmental analysis to address possible impacts. It is anticipated that any impacts associated with the construction of these roadways would require mitigation to reduce impacts to a level that is less than significant, which would reduce any cumulative impacts related to the loss of topsoil to a level that is less than significant.

Recreational Trail Rights-of-Way

All trails would be located on existing service roads, utility easements, and old railroad beds, such that there would be no construction activities or built structures associated with trails. This project component would not result in the modification of the existing floor of the Planning Area and therefore would not result in the removal of surface vegetation and/or creation of slopes that may increase the potential for localized erosion. The Planning Area is not identified as an area susceptible to significant erosion hazards in the General Plans of either the City of Redlands or City of Highland. For these reasons, impacts from soil erosion associated with the recreational trail rights-of-way would not occur. No mitigation would be necessary.

Cumulative. Cumulatively, the designation of the recreational trail rights-of-way in combination with other projects in the area would not create or contribute to new or increased impacts related to the loss of topsoil over and above the impacts discussed in this section. The recreational trail rights-of-way would not have an individual impact; therefore, in combination with other projects in the area, it is anticipated that there would be no cumulative impact.

Land Exchange between the District and BLM

This project component would result in the modification of the existing floor of the Planning Area. The District's land exchange with the BLM will provide to the BLM an unrestricted habitat corridor for wildlife movement while maintaining continued water conservation activity. The land the BLM will exchange to the District, which is already mostly disturbed, will be used for aggregate mining. Upon the completion of the land exchange, mining will occur in new portions of the Planning Area and therefore would result in the removal of surface vegetation and/or creation of slopes that may increase the potential for localized erosion. However, the Planning Area is not identified as an area susceptible to significant erosion hazards in the General Plans of either the City of Redlands or City of Highland. For these reasons, impacts from soil erosion associated with land exchange between the District and BLM would be less than significant. No mitigation would be necessary.

Cumulative. Cumulatively, the land exchange between the District and the BLM in combination with other projects in the area would not create or contribute to new or increased impacts related to the loss of topsoil over and above the impacts discussed in this section. The land exchange would not have an individual impact in relation to erosion; therefore, in combination with other projects in the area, it is anticipated that there would be no cumulative impact.

Land Exchange between the SBCFCD and Robertson's

This project component would result in the modification of the existing floor of the Planning Area. Upon the completion of the land exchange, mining will occur in new portions of the Planning Area and therefore would result in the removal of surface vegetation and/or creation of slopes that may increase the potential for localized erosion. However, the Planning Area is not identified as an area susceptible to significant erosion hazards in the General Plans of either the City of Redlands or City of Highland. For these reasons, impacts from soil erosion associated with land exchange between the SBCFCD and Robertson's would be less than significant. No mitigation would be necessary.

Cumulative. Cumulatively, the land exchange between the SBCFCD and Robertson's in combination with other projects in the area would not create or contribute to new or increased impacts related to the loss of topsoil over and above the impacts discussed in this section. The land exchange would not have an individual impact; therefore, in combination with other projects in the area, it is anticipated that there would be no cumulative impact.

4.6.4.4 Landslide, Lateral Spreading, Subsidence, or Liquefaction

Threshold	Would the proposed 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-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?
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Water Conservation Operations/Maintenance Activities of the District

The topography in the Planning Area slopes relatively evenly from the east to west. Due to the lack of any natural extreme variations in topography, outside of currently mined areas, the Cities of Redlands and Highland have not identified the Planning Area as being susceptible to landslide/slope stability hazards. Current groundwater depths range from approximately 130 feet below ground level in the western portion of the Planning Area to approximately 100 feet below ground level in the center portion of the Planning Area. In 2000, groundwater levels in the eastern portion of the Planning Area were located 253 feet below ground level. While liquefaction is typically considered more likely in areas where groundwater is within 50 feet of ground level, as depicted in Figure 4.6.2, the Cities of Highland and Redlands have both designated the majority of the Planning Area as susceptible to liquefaction. As explained in Section 3.6.1, the District will not be increasing its amount of groundwater recharge in connection with the project and, given its agreement to subordinate its groundwater recharge decisions to a deliberative regional administrative process, may well decrease such recharge, as compared to historical practice. As such, it is not anticipated that the project, or the District's prospective spreading operations as a part of it, will increase or exacerbate any existing liquefaction risk. While the construction of a potential expanded groundwater recharge facilities within the water conservation area of the Land Use Plan may result in increased overall recharge, spreading in both these and existing recharge facilities will proceed under the regional groundwater management process, under the auspices of the amended Seven Oaks Accord, the Integrated Regional Water Management Plan, or both. Both have adopted the avoidance of liquefaction as one of the primary objectives for groundwater management in the basin, and both adopt a guideline of attempting to maintain groundwater levels at least 50 feet below ground surface, and outside the area of liquefaction risk.

There is therefore no indication that the District's continued groundwater spreading operations will increase any liquefaction risk and no mitigation is necessary. Any such risk from potential future facilities within the water conservation area of the Land Use Plan will have to be examined at project-level environmental review, once the specifics of such proposed facilities are known.

Cumulative. Cumulatively, the water conservation activities of the District in combination with other projects in the area would not create or contribute to new or increased impacts related to landslide, lateral spreading, subsidence, or liquefaction over and above the impacts discussed in this section.

The District's water spreading operations will proceed at or somewhat below historical levels and will not create or aggravate any risk or liquefaction. The activities of the District would not have an individual impact; therefore, in combination with other projects in the area, it is anticipated that there would be no cumulative impact.

Flood Control Operations/Maintenance Activities of the SBCFCD

Flood control activities include the continuation of an existing flood control program for the Santa Ana River and its tributaries. As discussed above, the topography in the Planning Area slopes relatively evenly from the east to west. Due to the lack of any natural extreme variations in topography, outside of currently mined areas, the Cities of Redlands and Highland have not identified the Planning Area as being susceptible to landslide/slope stability hazards. However, due to the high liquefaction susceptibility within the Planning Area, the owners/operators of existing flood control (e.g., levees) activities would be required to adhere to applicable design and engineering standards during the construction, operation, and maintenance of these facilities. Such adherence would ensure liquefaction-related impacts remain less than significant. No mitigation measures would be necessary.

Cumulative. Cumulatively, the operation and maintenance activities of the SBCFCD in combination with other projects in the area could potentially create or contribute to new or increased impacts related to landslide, lateral spreading, subsidence, or liquefaction over and above the impacts discussed in this section. However, like the activities of the SBCFCD all cumulative projects would be required to comply with applicable design and engineering standards; therefore, in combination with other projects in the area, it is anticipated that there would be a less than significant cumulative impact.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Activities conducted include operation and maintenance of wells and pumps. As discussed above, the topography in the Planning Area slopes relatively evenly from the east to west. Due to the lack of any natural extreme variations in topography, outside of currently mined areas, the Cities of Redlands and Highland have not identified the Planning Area as being susceptible to landslide/slope stability hazards. However, due to the high liquefaction susceptibility within the Planning Area, the owners/operators of existing and/or future utility features would be required to adhere to applicable design and engineering standards during the construction, operation, and maintenance of these facilities. Such adherence would ensure liquefaction-related impacts remain less than significant.

Cumulative. Cumulatively, the water production operation and maintenance activities of the EVWD and the RMUD in combination with other projects in the area could potentially create or contribute to new or increased impacts related to landslide, lateral spreading, subsidence, or liquefaction over and above the impacts discussed in this section. However, like the activities of the EVWD and the RMUD, all cumulative projects would be required to comply with applicable design and engineering standards; therefore, in combination with other projects in the area, it is anticipated that there would be a less than significant cumulative impact.

Aggregate Mining

Mining activities would be expanded from an existing mining footprint of 832 acres to 1,195 acres; this is an additional 363 acres. The topography in the Planning Area slopes relatively evenly from the east to west. Due to the lack of any natural extreme variations in topography, outside of currently mined areas, the Cities of Redlands and Highland have not identified the Planning Area as being susceptible to landslide/slope stability hazards. Within the existing quarries operated by Robertson's Ready Mix, quarry slopes include near-vertical upper walls (typically ± 30 feet high) with a colluvial wedge and/or stockpiled material along the base. Strong ground shaking would cause quarried slopes to "fail" to a flatter inclination of approximately 2H:1V (2 horizontal to a 1 vertical ratio).

Existing and proposed quarry slopes are entirely within river channel deposits consisting of sands and gravels. The *Mine and Reclamation Plans* for the Cemex and Robertson's operations have identified these materials as having a very low susceptibility to significant slope failure due to lack of geologic structures such as joints, contacts, and bedding. A greater potential for slope instability may exist when slopes have been significantly oversteepened by cutting.

The proposed project would increase the area mined within the Planning Area, thereby increasing the amount and extent of mined and reclaimed slopes. Mining operations would occur within the western portions of the Planning Area to maximum depths of up to 150 feet with slopes at 2H:1V (2 horizontal to a 1 vertical ratio). The slope stability analysis prepared to support the Robertson's *Mine Reclamation Plan* indicates that the creation of these slopes "are feasible from a geotechnical standpoint, and that the planned slopes demonstrate adequate safety factors against gross failure."¹ Additionally, the slope stability analysis prepared for the Cemex *Mine and Reclamation Plan* indicates that the creation of slopes associated with the Cemex mining activities "are feasible from a geotechnical standpoint, provided the recommendations contained in this report are implemented."² While the project would increase the number and extent of slopes potentially vulnerable to slope failure, because an adequate factor of safety for quarried and reclaimed slopes (as established in the *Mine and Reclamation Plans*) has been demonstrated, no significant slope instability hazard would occur.

Current groundwater depths range from approximately 130 feet below ground level in the western portion of the Planning Area to approximately 100 feet below ground level in the center portion of the Planning Area. In 2000, groundwater levels in the eastern portion of the Planning Area were located 253 feet below ground level. While liquefaction is typically considered more likely in areas where groundwater is within 50 feet of ground level, as depicted in Figure 4.6.2, the Cities of Highland and Redlands have both designated the majority of the Planning Area as susceptible to liquefaction.

Areas of shallow groundwater, corresponding to those areas more prone to liquefaction hazards, appear also to be susceptible to subsidence and/or seismic settlement. Mining activities would reach to depths ranging from 120 to 150 feet below ground level. The presence of groundwater within quarried areas, routine mining and reclamation processes, and the proximity to local faults increase the potential for liquefaction and seismic settlement to occur.

Mining operations associated with the project would reach depths of up to 150 feet below surface grade. If it were to take place, liquefaction would most likely occur within the backfills of previously mined benches that had been reclaimed, in localized "sand boils," isolated settlements, or localized surficial "pop out" type slope failures. The proposed project would increase the area mined, thereby increasing the potential for localized liquefaction on reclaimed benches. Because of the impermeability of underlying native material on reclaimed benches, any such liquefaction would be localized, limited in size, near the surface, and would not significantly affect the stability of nearby slopes, or the safety of persons and/or facilities.

The owners/operators of existing and/or future mining activities would be required to adhere to applicable design and engineering standards during the construction, operation, and maintenance of existing and future mined areas as well as adhering to the 1979 CEMEX land lease, and the most recent 1997 amendment that states that mining will stop within 20 feet of groundwater levels. Such adherence would ensure liquefaction-related impacts remain less than significant. No mitigation would be necessary.

Cumulative. Cumulatively, the aggregate mining activities in combination with other projects in the area could potentially create or contribute to new or increased impacts related to landslide, lateral

¹ *Slope Stability Investigation Revision 2 Mine Plan, Old Webster Quarry, Redlands, California*, CHJ, Inc., January 15, 2002, page 14.

² *Slope Stability Investigation Reclamation Plan Cemex Alabama Street Northeast Quarry, Highland, California*, CHJ, Inc., August 20, 2001, page 14.

spreading, subsidence, or liquefaction over and above the impacts discussed in this section. However, like the aggregate mining activities, all cumulative projects would be required to comply with applicable design and engineering standards; therefore, in combination with other projects in the area, it is anticipated that there would be a less than significant cumulative impact.

Adoption of General Plan Amendments

As discussed above, the topography in the Planning Area slopes relatively evenly from the east to west. Due to the lack of any natural extreme variations in topography, outside of currently mined areas, the Cities of Redlands and Highland have not identified the Planning Area as being susceptible to landslide/slope stability hazards. The General Plan Amendments do not include the construction of any structures; therefore, liquefaction-related impacts remain less than significant. No mitigation measures would be necessary.

Cumulative. Cumulatively, the General Plan Amendments in combination with other projects in the area could potentially create or contribute to new or increased impacts related to landslide, lateral spreading, subsidence, or liquefaction over and above the impacts discussed in this section. However, like the General Plan Amendments, all cumulative projects would be required to comply with applicable design and engineering standards; therefore, in combination with other projects in the area, it is anticipated that there would be a less than significant cumulative impact.

Roadway/Bridge Rights-of-Way

As previously discussed, the topography in the Planning Area slopes relatively evenly from east to west. Due to the lack of any natural extreme variations in topography, outside of currently mined areas, the Cities of Redlands and Highland have not identified the Planning Area as being susceptible to landslide/slope stability hazards. However, due to the high liquefaction susceptibility within the Planning Area, the owners/operators of existing and/or future utility features would be required to adhere to applicable design and engineering standards during the construction, operation, and maintenance of these facilities. Such adherence would ensure liquefaction-related impacts remain less than significant. No mitigation would be necessary.

Cumulative. Cumulatively, the designation of bridge and roadway rights-of-way in combination with other projects in the area could potentially create or contribute to new or increased impacts related to landslide, lateral spreading, subsidence, or liquefaction over and above the impacts discussed in this section. However, all cumulative projects would be required to comply with applicable design and engineering standards; therefore, in combination with other projects in the area, it is anticipated that there would be a less than significant cumulative impact.

Recreational Trail Rights-of-Way

All trails would be located on existing service roads, utility easements, and old railroad beds, such that there would be no construction activities or built structures associated with trails. Since there are no construction activities or built structures associated with this project component, no significant impact from soil that is unstable would occur. Therefore, a less than significant impact would result and no mitigation would be necessary.

Cumulatively, the designation of recreational trail rights-of-way in combination with other projects in the area would not create or contribute to new or increased impacts related to landslide, lateral spreading, subsidence, or liquefaction over and above the impacts discussed in this section. Due to the lack of impact associated with the designation of recreational trail rights-of-way, in combination with other projects in the area, there would be no cumulative impact.

Land Exchange between the District and BLM

The District's land exchange with the BLM will provide to the BLM an unrestricted habitat corridor for wildlife movement while maintaining continued water conservation activity. The land the BLM will exchange to the District, which is already mostly disturbed, will be used for aggregate mining. Since there are no construction activities or built structures associated with this component, no significant impact from unstable soil would occur. Therefore, a less than significant impact would result and no mitigation would be necessary.

Cumulative. Cumulatively, the land exchange between the District and the BLM in combination with other projects in the area would not create or contribute to new or increased impacts related to landslide, lateral spreading, subsidence, or liquefaction over and above the impacts discussed in this section. Due to the lack of impact associated with the land exchange, in combination with other projects, there would be no cumulative impact.

Land Exchange between the SBCFCD and Robertson's

Since there are no construction activities or built structures associated with this project component, no significant impact from unstable soil would occur. Therefore, a less than significant impact would result and no mitigation would be necessary.

Cumulative. Cumulatively, the land exchange between the SBCFCD and Robertson's in combination with other projects in the area would not create or contribute to new or increased impacts related to landslide, lateral spreading, subsidence, or liquefaction over and above the impacts discussed in this section. Due to the lack of impact associated with the land exchange, in combination with other projects, there would be no cumulative impact.

4.6.4.5 Expansive Soils

Threshold	Would the proposed project be located on expansive soil, creating substantial risks to life or property?
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The Cities of Highland and Redlands do not identify the Planning Area as an area susceptible to hazards associated with expansive soils. While the majority (approximately 3,221 acres, or 72%) of the Planning Area is covered by Soboba stony loamy sand (SpC), there are eight soil types present within the Planning Area. Table 4.6.A identifies each of the types of soil present within the Planning Area, as well as the shrink-swell potential of each soil type.

Water Conservation Operations/Maintenance Activities of the District

This project component does not include the construction of habitable structures upon expansive soils that would substantially create the risk to life or property. Expansive soils generally have a significant amount of clay particles that can give up water (shrink) or take on water (swell). The change in volume exerts stress on buildings and other loads placed on these soils. Soils within the Planning Area are derived from granitic rock and are somewhat excessively to excessively drained. Soils in the Planning Area consist of stony, loamy sands and sandy, gravelly material in intermittent streambeds. These soils are very rapidly permeable and possess a low shrink-swell potential. As demonstrated in Table 4.6.A, soils within the majority of the Planning Area have a low shrink-swell potential. Therefore, no impact related to expansive soils would occur with implementation of the activities conducted under water conservation operations/maintenance of District. No mitigation is necessary.

Table 4.6.A – Shrink-Swell Potential of Soils in the Planning Area

Soil Type	Approximate Acreage within Planning Area	Percentage of Planning Area	Shrink-Swell Potential ¹
Soboba Stony Loamy Sand (SpC)	3,221	72	Low
Psamments and Fluvents, frequently flooded (Ps)	1,116	25	N/A ²
Hanford Coarse Sandy Loam (HaC)	7	<1	Low
Soboba Gravelly Loamy Sand (SoC)	5	<1	Low
Soboba-Hanford Families Association	5	<1	Other ³
Ramona Sandy Loam (RmC)	3	<1	Low to Moderate ⁴
Hanford Sandy Loam (HbA)	<1	<1	Low
Tujunga Loamy Sand (TuB)	<1	<1	Low

¹ *Soil Survey of San Bernardino County, Southwestern Part, California*, United States Department of Agriculture, Soil Conservation Service, 1980.

² According to the *Soil Survey of San Bernardino County, Southwestern Part*, the properties associated with the *Psamments and Fluvents* soil type are too variable to be estimated.

³ The *Soil Survey of San Bernardino County, Southwestern Part* does not identify a shrink-swell potential for the Soboba-Hanford Families Association.

⁴ The shrink-swell potential of soil in the Ramona series ranges from low to moderate, depending on depth from surface. A typical profile has low shrink-swell potential for 0-23 inches from the surface, while the shrink-swell potential of soils from 23-54 inches in depth from the surface (in a typical profile) is moderate.

Cumulative. Cumulatively, the water conservation activities of the District in combination with other projects in the area would not create or contribute to new or increased impacts related to expansive soils over and above the impacts discussed in this section. The activities of the District would not have an individual impact; therefore, in combination with other projects in the area, it is anticipated that there would be no cumulative impact.

Flood Control Operations/Maintenance Activities of the SBCFCD

Flood control activities include the continuation of an existing flood control program related to the Santa Ana River and its tributaries. As discussed above, soils within the Planning Area have low shrink-swell potential. In addition, flood control activities of the SBCFCD would not result in the development of any habitable structure that would cause substantial risk to life or property. Therefore, no impact related to expansive soils would occur with implementation of the project activity. No mitigation is necessary.

Cumulative. Cumulatively, the operations and maintenance activities of the SBCFCD in combination with other projects in the area would not create or contribute to new or increased impacts related to expansive soils over and above the impacts discussed in this section. The activities of the SBCFCD would not have an individual impact; therefore, in combination with other projects in the area, it is anticipated that there would be no cumulative impact.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Activities conducted include operation and maintenance of wells and pumps. As previously discussed and shown in Table 4.6.A, soils within the Planning Area have low shrink-swell potential. In addition, water production activities of the EVWD and RMUD would not result in the development of any habitable structure that would cause substantial risk to life or property from expansive soils. Therefore, no impact related to expansive soils would occur with implementation of the project activity. No mitigation is necessary.

Cumulative. Cumulatively, the water production operations and maintenance activities of the EVWD and the RMUD in combination with other projects in the area would not create or contribute to new or increased impacts related to expansive soils over and above the impacts discussed in this section. The activities of the EVWD and RMUD would not have an individual impact; therefore, in combination with other projects in the area, it is anticipated that there would be no cumulative impact.

Aggregate Mining

Mining activities would be expanded from an existing mining footprint of 832 acres to 1,195 acres; this is an additional 363 acres that would be devoted to mining activities. As displayed in Table 4.6.A, the Planning Area contains soils that have a low shrink-swell potential. Furthermore, aggregate mining activities would not result in the development of any habitable structures that would cause substantial risk to life or property. Therefore, no impact related to expansive soils would occur. No mitigation is necessary.

Cumulative. Cumulatively, the aggregate mining activities in combination with other projects in the area would not create or contribute to new or increased impacts related to expansive soils over and above the impacts discussed in this section. The aggregate mining activities would not have an individual impact; therefore, in combination with other projects in the area, it is anticipated that there would be no cumulative impact.

Adoption of General Plan Amendments

As shown in Table 4.6.A, the Planning Area contains soils that have a low shrink-swell potential. Furthermore, adoption of General Plan Amendments would not result in the development of any habitable structures that would cause substantial risk to life or property. Therefore, no impact related to expansive soils would occur. No mitigation is necessary.

Cumulative. Cumulatively, the General Plan Amendments in combination with other projects in the area would not create or contribute to new or increased impacts related to expansive soils over and above the impacts discussed in this section. The General Plan Amendments would not have an individual impact; therefore, in combination with other projects in the area, it is anticipated that there would be no cumulative impact.

Roadway/Bridge Rights-of-Way

As identified in Table 4.6.A, the Planning Area contains soils that have a low shrink-swell potential. Furthermore, this project component would not result in the development of any habitable structures that would cause substantial risk to life or property. Therefore, no impact related to expansive soils would occur. No mitigation is necessary.

Cumulative. Cumulatively, the designation of the bridge and roadway rights-of-way in combination with other projects in the area would not create or contribute to new or increased impacts related to expansive soils over and above the impacts discussed in this section. The bridge and roadway rights-of-way would not have an individual impact; therefore, in combination with other projects in the area, it is anticipated that there would be no cumulative impact. Ultimate construction of the roadway improvements would follow standard roadway and bridge design techniques designed to minimize risks from any of the types of geologic hazards discussed in this section. Such construction, therefore, would not add any cumulatively significant impacts

Recreational Trail Rights-of-Way

All trails would be located on existing service roads, utility easements, and old railroad beds, such that there would be no construction activities or built structures associated with trails. As displayed in

Table 4.6.A, the Planning Area contains soils that have a low shrink-swell potential. Therefore, no impact related to expansive soils would occur. No mitigation is necessary.

Cumulative. Cumulatively, the designation of the recreational trail rights-of-way in combination with other projects in the area would not create or contribute to new or increased impacts related to expansive soils over and above the impacts discussed in this section. The recreational trail rights-of-way would not have an individual impact; therefore, in combination with other projects in the area, it is anticipated that there would be no cumulative impact.

Land Exchange between the District and BLM

As identified in Table 4.6.A, the Planning Area contains soils that have a low shrink-swell potential. Furthermore, the land exchange between the District and BLM would not result in the development of any habitable structures that would cause substantial risk to life or property. Therefore, no impact related to expansive soils would occur. No mitigation is necessary.

Cumulative. Cumulatively, the District land exchange with the BLM, in combination with other projects in the area, would not create or contribute to new or increased impacts related to expansive soils over and above the impacts discussed in this section. The land exchange would not have an individual impact; therefore, in combination with other projects in the area, it is anticipated that there would be no cumulative impact.

Land Exchange between the SBCFCD and Robertson's

As shown in Table 4.6.A, the Planning Area contains soils that have a low shrink-swell potential. Furthermore, the land exchange between the SBCFCD and Robertson's would not result in the development of any habitable structures that would cause substantial risk to life or property. Therefore, no impact related to expansive soils would occur. No mitigation is necessary.

Cumulative. Cumulatively, the SBCFCD land exchange with Robertson's in combination with other projects in the area would not create or contribute to new or increased impacts related to expansive soils over and above the impacts discussed in this section. The land exchange would not have an individual impact; therefore, in combination with other projects in the area, it is anticipated that there would be no cumulative impact.

4.6.4.6 Septic Tanks

Threshold	Would the proposed Planning Area 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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Water Conservation Operations/Maintenance Activities of the District

This project component does not include the construction of any habitable structures; therefore, new septic tanks would not be necessary under this activity. For this reason, activities associated with water conservation operations/maintenance of the District would result in a less than significant impact. No mitigation is necessary.

Cumulative. Cumulatively, water conservation activities of the District in combination with other projects in the area would not create or contribute to new or increased impacts related to the use of septic tanks over and above the impacts discussed in this section. The activities would not have a significant individual impact; therefore, in combination with other projects in the area, it is anticipated that there would be no cumulative impact. Additionally, it is anticipated that any cumulative projects in

the area would utilize the local sewer system, thereby reducing the possibility of cumulative impacts even further.

Flood Control Operations/Maintenance Activities of the SBCFCD

Flood control activities include the continuation of an existing flood control program related to the Santa Ana River and its tributaries. This project component does not include the construction of any habitable structures; therefore, new septic tanks would not be necessary under this activity. For this reason, activities associated with flood control operations/maintenance of the SBCFCD would result in a less than significant impact. No mitigation is necessary.

Cumulative. Cumulatively, the flood control operations and maintenance activities of the SBCFCD in combination with other projects in the area would not create or contribute to new or increased impacts related to septic systems over and above the impacts discussed in this section. The activities would not have a significant individual impact; therefore, in combination with other projects in the area, it is anticipated that there would be no cumulative impact. Additionally, it is anticipated that any cumulative projects in the area would utilize the local sewer system, thereby reducing the possibility of cumulative impacts even further.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Activities conducted include operation and maintenance of wells and pumps. This project component does not include the construction of any habitable structures; therefore, new septic tanks would not be necessary under this activity. For this reason, activities associated with water production operations activities of the EVWD and RMUD would result in a less than significant impact. No mitigation is necessary.

Cumulative. Cumulatively, the operations and maintenance activities of the EVWD and the RMUD in combination with other projects in the area would not create or contribute to new or increased impacts related to septic systems over and above the impacts discussed in this section. The EVWD and RMUD activities would not have a significant individual impact; therefore, in combination with other projects in the area, it is anticipated that there would be no cumulative impact. Additionally, it is anticipated that any cumulative projects in the area would utilize the local sewer system, thereby reducing the possibility of cumulative impacts even further.

Aggregate Mining

Mining activities would be expanded from an existing mining footprint of 832 acres to 1,195 acres; this is an additional 363 acres that would be devoted to mining activities. There are seven septic tanks that are used within the Cemex operations. Of these seven, two septic tanks are located at the Orange Street Plant. One is located on the east side of the "Tower," which is the block office building located south of the processing plant. The other septic tank is located south of the entrance to the plant site. The remaining five septic tanks are located at the Alabama Street Plant. Robertson's operations currently use two septic systems, one located at the batch plant and one at the processing plant. Although the mining's existing footprint would be expanding, the mining structural facilities would not. No additional septic facilities would be required. As the project does not include the installation of any new septic tanks or any ground disturbance that would result in impacts to existing septic systems, impacts associated with septic tanks are less than significant. No mitigation is necessary.

Cumulative. Cumulatively, the aggregate mining activities in combination with other projects in the area would not create or contribute to new or increased impacts related to septic systems over and above the impacts discussed in this section. The aggregate mining activities would not have a significant individual impact; therefore, in combination with other projects in the area, it is anticipated

that there would be no cumulative impact. Additionally, it is anticipated that any cumulative projects in the area would utilize the local sewer system, thereby reducing the possibility of cumulative impacts even further.

Adoption of General Plan Amendments

This project component does not include the construction of any habitable structures; therefore, new septic tanks would not be necessary under this activity. For this reason, activities associated with adoption of General Plan Amendments would result in a less than significant impact. No mitigation is necessary.

Cumulative. Cumulatively, the adoption of General Plan Amendments in combination with other projects in the area would not create or contribute to new or increased impacts related to septic systems over and above the impacts discussed in this section. The General Plan Amendments would not have a significant individual impact; therefore, in combination with other projects in the area, it is anticipated that there would be no cumulative impact. Additionally, it is anticipated that any cumulative projects in the area would utilize the local sewer system, thereby reducing the possibility of cumulative impacts even further.

Roadway/Bridge Rights-of-Way

This project component does not include the construction of any habitable structures; therefore, new septic tanks would not be necessary under this activity. For this reason, activities associated with roadway and bridge rights-of-way would result in a less than significant impact. No mitigation is necessary.

Cumulative. Cumulatively, the designation of bridge and roadway rights-of-way in combination with other projects in the area would not create or contribute to new or increased impacts related to septic systems over and above the impacts discussed in this section. The bridge and roadway rights-of-way would not have a significant individual impact; therefore, in combination with other projects in the area, it is anticipated that there would be no cumulative impact. Additionally, it is anticipated that any cumulative projects in the area would utilize the local sewer system, thereby reducing the possibility of cumulative impacts even further.

Recreational Trail Rights-of-Way

This project component does not include the construction of any habitable structures; therefore, new septic tanks would not be necessary under this activity. For this reason, activities associated with recreational trail rights-of-way would result in a less than significant impact. No mitigation is necessary.

Cumulative. Cumulatively, the designation of recreational trail rights-of-way in combination with other projects in the area would not create or contribute to new or increased impacts related to septic systems over and above the impacts discussed in this section. The recreational trail rights-of-way would not have an individual impact; therefore, in combination with other projects in the area, it is anticipated that there would be no cumulative impact. Additionally, it is anticipated that any cumulative projects in the area would utilize the local sewer system, thereby reducing the possibility of cumulative impacts even further.

Land Exchange between the District and BLM

This project component does not include the construction of any habitable structures; therefore, new septic tanks would not be necessary under this activity. For this reason, activities associated with land exchange would result in a less than significant impact. No mitigation is necessary.

Cumulative. Cumulatively, the District land exchange with the BLM, in combination with other projects in the area, would not create or contribute to new or increased impacts related to septic systems over and above the impacts discussed in this section. The land exchange would not have an individual impact; therefore, in combination with other projects in the area, it is anticipated that there would be no cumulative impact. Additionally, it is anticipated that any cumulative projects in the area would utilize the local sewer system, thereby reducing the possibility of cumulative impacts even further.

Land Exchange between the SBCFCD and Robertson's

This project component does not include the construction of any habitable structures; therefore, new septic tanks would not be necessary under this activity. For this reason, activities associated with land exchange would result in a less than significant impact. No mitigation is necessary.

Cumulative. Cumulatively, the SBCFCD land exchange with Robertson's, in combination with other projects in the area, would not create or contribute to new or increased impacts related to septic systems over and above the impacts discussed in this section. The land exchange would not have an individual impact; therefore, in combination with other projects in the area, it is anticipated that there would be no cumulative impact. Additionally, it is anticipated that any cumulative projects in the area would utilize the local sewer system, thereby reducing the possibility of cumulative impacts even further.

Significant Impacts

There are no significant geology and soils impacts associated with implementation of the proposed project.

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4.7 HAZARDS AND HAZARDOUS MATERIALS

This section analyzes the existing setting, policies and regulations, thresholds of significance, impacts and mitigation measures (if necessary), and cumulative impacts of the proposed project with respect to hazards and hazardous materials.

4.7.1 Existing Setting

A hazardous material may become hazardous waste upon its accidental release into the environment and, if handled inappropriately, hazardous materials and hazardous waste could pose potential risks to the health, safety, and welfare of workers in the Planning Area and adjacent downstream occupants. The discussion that follows describes three different types of existing hazards and hazardous materials associated with the Planning Area:

- Mining hazards;
- Aviation hazards; and
- Wildland fire hazards.

Mining Hazards

Mining activities within the Planning Area involve the use of materials commonly used in the industry, including concrete admixtures,¹ fuels, oils, and lubricants. The transport, storage, and handling of these substances are routinely conducted at both the Cemex and Robertson's mining sites, and usage varies depending on production levels and haul distances. Tanks for storage of fuels and oils are permitted and installed in accordance with local and State regulations.

Cemex conducts maintenance on mining equipment and vehicles at its Alabama Street maintenance shop. Hazardous wastes generated at the Orange Street and Alabama Street plant sites in the City of Redlands include waste oils, grease, hydraulic fluid, and solvents. Robertson's conducts truck and equipment maintenance at its workshop located on 3rd Street near Alabama Street. Hazardous wastes generated at this location include waste oil, hydraulic fluids, and solvents that are used for maintenance.

Used oils and other waste hydrocarbon products are recycled. These waste products are stored in sealed containers in the Planning Area, but are periodically removed by a licensed private recycler. Solvents and other hazardous wastes are stored in approved containers, appropriately labeled, and removed to a licensed recycling or disposal facility within required time limits.

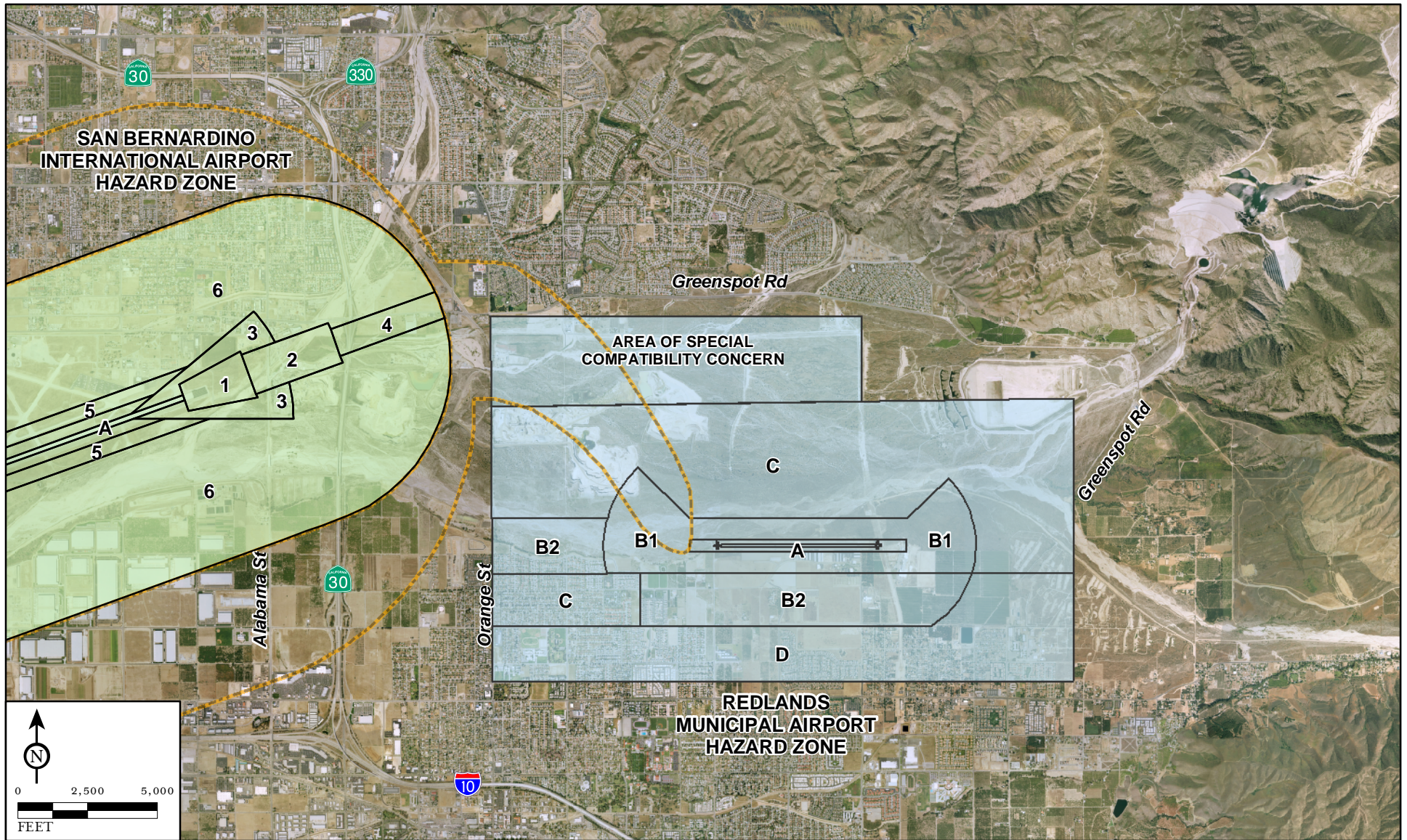
Aviation Hazards

The Planning Area is bordered by the San Bernardino International Airport to the west and the Redlands Municipal Airport to the south. Figure 4.7.1 depicts aviation hazards of both.

San Bernardino International Airport. The western portion of the Planning Area is located in the San Bernardino International Airport Traffic Pattern Zone, which includes all portions of the airport's designated traffic pattern and pattern entry routes. A larger portion of the Planning Area is located within the Airport Influence Area, which is the space surrounding the airport that can be affected by airport operations. A small portion in the northwest corner of the Planning Area is located in the Inner Turning Zone, which is the area where aircraft are typically turning and descending for landing, or turning and climbing for departure.

¹ Admixture is a material other than water, aggregates, or cement that is used as an ingredient of concrete or mortar to control setting and early hardening, workability, or to provide additional cementing properties.

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PLAN BOUNDARY

SAN BERNARDINO INTERNATIONAL AIRPORT

- 1 RUNWAY PROTECTION ZONE
- 2 INNER SAFETY ZONE
- 3 INNER TURNING ZONE

4 OUTER SAFETY ZONE

- 5 SIDELINE SAFETY ZONE
- 6 TRAFFIC PATTERN ZONE
- A RUNWAY

REDLANDS MUNICIPAL AIRPORT

- A RUNWAY PROTECTION ZONE
- B1 APPROACH/DEPARTURE ZONE
- B2 EXTENDED APPROACH/DEPARTURE ZONE
- C COMMON TRAFFIC PATTERN
- D OTHER AIRPORT ENVIRONS

FIGURE 4.7.1

Upper Santa Ana River Wash
Land Management Plan
Environmental Impact Report

Aviation Hazards Map

SOURCES: California Department of Transportation, Division of Aeronautics, 2003; Shutt Moen Associates, 2003; Air Photo USA, 2007.

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Redlands Municipal Airport. The southern tip of the Planning Area is located within the Redlands Municipal Airport Influence Area, which is divided into Compatibility Zones. The Redlands Airport Influence Area that overlaps the Planning Area contains Compatibility Zones A, B1, B2, and C. Zone A includes the airport runway and immediately adjacent areas where uses are restricted to aeronautical functions. The approach/departure zone is designated as Zone B1, and Zone B2 is the extended approach/departure zone. Areas covered by Zone C are areas commonly overflown by aircraft at an altitude of 1,000 feet or less above ground level.

An area of Special Compatibility Concern is located on the southern edge of the City of Highland. Section 2.2.4 of the *Redlands Municipal Airport Land Use Compatibility Plan*¹ states:

2.2.4. Areas of Special Compatibility Concern. The purpose of this designation is to take note of locations which: (1) are routinely overflown by aircraft approaching and/or departing the Redlands Municipal Airport, but at some distance from the airport; and (2) have existing and planned land uses which are compatible with the airport activity.

(a) Notation of areas of special compatibility concern is intended to serve as a reminder that airport impacts should be carefully considered in any decision to change the current land use designation.

(b) These areas are not part of the Redlands Municipal Airport influence area and are not subject to the review policies contained in this Compatibility Plan, except with respect to the notification requirements indicated in Paragraph 1.8.4. Also, establishment of a buyer awareness program is encouraged if any of these areas are to be converted to residential uses.

(c) The only portion of the Redlands Municipal Airport environs designated in this manner is the southern edge of the City of Highland.

Wildland Fire Hazards

A wildland fire hazard exists within the Planning Area, because the proposed project is located near vegetated natural hillsides susceptible to wildland fires. A portion of the proposed project, near the northeastern project boundary within the City of Highland, is located in Fire Severity Zone II, as depicted in Figure 6.6 of the *City of Highland General Plan Update* and established by the Uniform Building Code.² Zones I and II are considered areas at high-risk for fire. Certain occupancies are prohibited in Zones I and II, and the Uniform Building Code establishes standards for fire safety to be built into structures of various types, with Zone I containing the most stringent standards.

Portions of the proposed project located within the City of Redlands are within the City's High Fire Hazard Zone and also within the San Bernardino County Fire Safety Overlay District's FR-2 Fire Safety Review Area 2.³ The proposed project does not include the development of structures or residences; however, additional persons working in expanded mining operations could be exposed to the risk of wildland fires.

Fire protection is provided to the Planning Area by a number of agencies. Fire protection services and emergency medical services for the City of Highland are provided by the California Department of Forestry and Fire Protection.⁴ In the City of Redlands, fire protection services are provided by the City

¹ *Redlands Municipal Airport Land Use Compatibility Plan*, prepared by Shutt Moen Associates, adopted by Redlands City Council February 18, 1997; revised May 6, 2003.

² *City of Highland General Plan and Development Code Update Environmental Impact Report*, SCH #2005021046, prepared by The Planning Center, September 2005, page 5.7-18.

³ *Master Environmental Assessment General Plan Update*, City of Redlands, October 1995, Figure 15.1.

⁴ *City of Highland General Plan and Development Code Update Environmental Impact Report*, SCH #2005021046, prepared by The Planning Center, September 2005, page 5.7-18.

of Redlands Fire Department. Additionally, the cities have entered into mutual aid agreements¹ with other agencies. The City of Highland has mutual aid agreements with the Cities of Redlands and Yucaipa, California Department of Forestry and Fire Protection, and the U.S. Forest Service. The City of Highland also participates in the Statewide Master Mutual Aid Agreement, which provides assistance from other fire departments throughout the State.

4.7.2 Policies and Regulations

There are many policies and regulations that apply to hazards and hazardous materials. Those that are discussed in this subsection include the following:

- *City of Highland General Plan Update*
- *City of Redlands 1995 General Plan*
- *San Bernardino County Hazardous Waste Management Plan*
- San Bernardino County Fire Department
- The California Hazardous Waste Control Law
- California Code of Regulations
- California Emergency Services Act
- *California Airport Land Use Planning Handbook*
- California Health and Safety Code
- California 2007 Vehicle Code
- *California Fire Plan*
- Comprehensive Environmental Response, Compensation, and Liability Act
- Superfund Amendments and Reauthorization Act
- Hazardous Materials Transportation Act
- Resource Conservation and Recovery Act
- Federal Aviation Administration

City of Highland General Plan Update

The Public Health and Safety Element of the *City of Highland General Plan Update*² contains Goal 6.4 and its associated policies and Goal 11.2, which are relevant to hazards and hazardous materials.

Goal 6.4 Protect life and property from the potential short- and long-term risks of transporting, storing, treating, and disposing of hazardous materials and wastes in the City.

Policy 1 Ensure compliance with current federal, state, and local regulations governing hazardous materials transport, storage, treatment, and disposal by working with appropriate agencies.

Policy 2 Require that new facilities involved in the production, use, storage, transport or disposal of hazardous materials locate a safe distance from land uses that may be adversely impacted by such activities. Conversely, do not allow new sensitive facilities, such as schools, child-care centers, and senior centers, to be located near existing sites that use, store or generate hazardous materials.

Policy 3 Identify City roadways along which hazardous materials are routinely transported. If essential facilities, such as schools, hospitals, child care centers or other facilities with special evacuation needs are located along these routes, identify emergency response plans that these facilities can implement in the event of an unauthorized release of hazardous materials in their area.

¹ A mutual aid agreement is a written agreement between agencies and/or jurisdictions in which they agree to assist one another upon request, by furnishing personnel and equipment.

² *City of Highland General Plan Update*, City of Highland, updated March 14, 2006.

Policy 4 Provide information to the public on regulations that address the transport, storage, treatment, and disposal of hazardous materials and wastes.

Goal 11.2 Reduce the risk to people and property by limiting the type and intensity of development in identified impact areas, ensuring adequate emergency response facilities within or adjacent to airport uses, and requiring adequate public notification of safety policies and procedures.

Policy 1 Evaluate land use compatibility and safety issues in designated Airport Influence Areas (AIAs) by:

- Coordinated planning with regional planning authorities
- Compliance with applicable Airport Master Plans, Federal Aviation Administration (FAA) requirements and the California Airport Land Use Planning Handbook.

Policy 2 Limit the type and intensity of development in designated Airport Influence Areas (AIAs).

Policy 3 Avoid siting sensitive uses, especially residences, schools and hospitals, nearby airport runways or along approved flight paths.

Policy 4 Encourage the development of open space areas in Highland adjacent to designated airport safety zones.

Policy 5 Encourage notification requirements and establish a buyer awareness program for areas of Highland within established Areas of Special Compatibility Concern.

City of Redlands 1995 General Plan

The Health and Safety Element of the *City of Redlands 1995 General Plan*¹ contains Guiding Policy 8.30a and its associated implementing policies for fire hazards, which is applicable to hazards and hazardous materials.

Policy 8.30a Work to prevent wildland and urban fire, and protect lives, property, and watershed from fire dangers.

Policy 8.30b Adhere to the requirements for high fire hazard areas designated by the Redlands Fire Department on the official Roof Classification Zone Map, updated as of June, 1994, and as specified in the document on file at the Redlands Fire Department describing High Fire Hazard Area Fire Safety Modification Zones.

Policy 8.30c Monitor fire-flow capability throughout the Planning Area, and improve water availability if any locations have flows considered inadequate for fire protection.

Policy 8.30f Consult the San Bernardino County Fire Safety Overlay Ordinance (July 1989 Development Code) for possible appropriate implementation measures for development in the foothills area.

Policy 8.30F refers to the San Bernardino County Fire Safety Overlay Ordinance. The Fire Safety Overlay Ordinance is the successor to the "Foothill Communities Protective Greenbelt Program" which specifies parts of the Santa Ana River Wash and the proposed Sunrise Ranch (Greenspot) development area as a wildland/urban interface, subject to increased risk of fire, flood, or erosion. The Fire Safety Overlay Ordinance contains recommendations for access and traffic circulation, fuel modification zones, site and street identification, roadside vegetation specifications, water supply and system standards, construction and development design, erosion control, and several other requirements.

¹ City of Redlands 1995 General Plan, City of Redlands, as amended on December 12, 1997.

San Bernardino County Hazardous Waste Management Plan

Functioning as the primary planning document for the management of hazardous waste in San Bernardino County, the *San Bernardino County Hazardous Waste Management Plan*¹ accomplishes the following:

- 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.

San Bernardino County Fire Department

The San Bernardino County Fire Department is responsible for the regulation of businesses and institutions that handle hazardous materials or generate hazardous waste in the County of San Bernardino (with the exception of the City of Victorville). The San Bernardino County Fire Department, as a Certified Uniform Program Agency, is tasked with the job of conducting compliance inspections for regulated facilities in San Bernardino County. These regulated facilities are those that handle hazardous material, generate or treat a hazardous waste, and/or operate an underground storage tank.

As part of the State-mandated Certified Unified Programs administered by the California Environmental Protection Agency,² the San Bernardino County Fire Department coordinates six hazardous material and hazardous waste programs:

- Hazardous Materials Release Response Plans and Inventory;
- California Accidental Release Program;
- Underground Storage Tanks;
- Aboveground Petroleum Storage Spill Prevention Control and Countermeasures;
- Hazardous Waste Generation and Onsite Treatment; and
- Hazardous Materials Management Plans and Inventory Statements.

The California Hazardous Waste Control Law

The Hazardous Waste Control Law is the primary hazardous waste statute in the State of California and it implements the Resource Conservation and Recovery Act (RCRA), which is discussed later in this subsection. The RCRA is a “cradle-to-grave” waste management system in the State of California and specifies that generators have the primary duty to determine whether their wastes are hazardous and to ensure their proper management. The Hazardous Waste Control Law also establishes criteria for the reuse and recycling of hazardous wastes used or reused as raw materials. It exceeds Federal requirements by mandating source reduction planning and a much broader requirement for permitting facilities that treat hazardous waste. The Hazardous Waste Control Law also regulates a number of

¹ *San Bernardino County Hazardous Waste Management Plan*, adopted by the San Bernardino County Board of Supervisors, February 1990.

² San Bernardino County Fire Department, Certified Unified Program Agency (CUPA)/Inspection <http://www.sbcfire.org/hazmat/cupa.asp>, website accessed December 12, 2006.

types of wastes and waste management activities that are not covered by Federal law with the RCRA.

California Code of Regulations

Most State and Federal regulations and requirements that apply to generators of hazardous waste are spelled out in the California Code of Regulations, Title 22, Division 4.5. Title 22 contains the detailed compliance requirements for hazardous waste generators; transporters; and treatment, storage, and disposal facilities. Because California is a fully authorized State according to the RCRA, most RCRA regulations (those contained in 40 Code of Federal Regulations [CFR] 260 et seq.) have been duplicated and integrated into Title 22. However, because the Department of Toxic Substance Control (DTSC) regulates hazardous waste more stringently than the U.S. Environmental Protection Agency (EPA), the integration of California and Federal hazardous waste regulations that make up Title 22 do not contain as many exemptions or exclusions as does 40 CFR 260. Title 22 also regulates a wider range of waste types and waste management activities than do the RCRA regulations in 40 CFR 260. To aid the regulated community, California compiled the hazardous materials, waste and toxics-related regulations contained in CCR, Titles 3, 8, 13, 17, 19, 22, 23, 24, and 27 into one consolidated CCR Title 26 “Toxics.” However, the California hazardous waste regulations are still commonly referred to as Title 22.

California Emergency Services Act

Government Code §§ 8550–8692 provide for the assignment of functions to be performed by various agencies during an emergency so that the most effective use may be made of all manpower, resources, and facilities for dealing with any emergency. The coordination of all emergency services is recognized by the State to mitigate the effects of natural, man-made, or war-caused emergencies that could result in conditions of disaster or extreme peril to life, property, and the resources of the State, and generally to protect the health and safety and preserve the lives and property of the people of the State.

California Airport Land Use Planning Handbook

The California Department of Transportation, Division of Aviation has developed and published the *California Airport Land Use Planning Handbook*.¹ Providing compatibility planning guidance to airport land use commissions, the *California Airport Land Use Planning Handbook* is a guidance document, according to Public Resources Code § 21096, and its recommendations are not binding but simply guidance that should be used as a reference, along with other documents.

California Health and Safety Code

Chapter 6.5 of the California Health and Safety Code (§§ 25100 through 25250) contains requirements for the handling and transportation of hazardous wastes. The requirements include manifesting procedures and registration requirements for persons transporting hazardous wastes.

California 2007 Vehicle Code

The California *2007 Vehicle Code*² contains requirements for the transportation of hazardous materials and highway spill containment and abatement of hazardous substances procedures. Table 4.7.A lists some examples of sections.

¹ *California Airport Land Use Planning Handbook*, State of California, Department of Transportation, Division of Aeronautics, January 2002.

² *2007 Vehicle Code*, State of California, Department of Motor Vehicles, Sacramento, California Communication Programs Division, Publishing and Online Information Branch, 2007.

Table 4.7.A – Examples for Hazardous Materials Sections in 2007 Vehicle Code

Section	Title
Division 2, Chapter 2, Article 4	Highway Spill Containment and Abatement of Hazardous Substances
Division 2, Chapter 2.5, Article 4	Transportation of Hazardous Material
Division 13, Chapter 5, Article 1	Hazardous Materials
Division 14.1	Transportation of Hazardous Material

California Fire Plan

The *California Fire Plan*,¹ a cooperative effort between the State Board of Forestry and Fire Protection and the California Department of Forestry and Fire Protection, is a plan for reducing the risk of wildfire. Its basic tenets include the following:

- Defines a level of service measurement;
- Considers assets at risk;
- Incorporates the cooperative interdependent relationships of wildland fire protection providers;
- Provides for public stakeholder involvement; and
- Creates a fiscal framework for policy analysis.

Comprehensive Environmental Response, Compensation, and Liability Act

Discovery of environmental health damage from disposal sites prompted the U.S. Congress to pass the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund) on December 11, 1980. This law created a tax on the chemical and petroleum industries and provided broad Federal authority to respond directly to releases or threatened releases of hazardous substances that could endanger public health or the environment. The purpose of CERCLA is to identify and clean up chemically contaminated sites that pose a significant environmental health threat, and the Hazard Ranking System is used to determine whether a site should be placed on the National Priorities List for cleanup activities.

Superfund Amendments and Reauthorization Act

The Superfund Amendments and Reauthorization Act (SARA) pertains primarily to emergency management of accidental releases. It requires formation of State and local emergency planning committees, which are responsible for collecting material handling and transportation data for use as a basis for planning. Chemical inventory data are made available to the community at large consistent with the “right-to-know” provision of the law. In addition, SARA also requires annual reporting of continuous emissions and accidental releases of specified compounds. These annual submissions are compiled into a nationwide Toxics Release Inventory (TRI).

Hazardous Materials Transportation Act

The Hazardous Materials Transportation Act of 1975 is the major transportation-related statute affecting transportation of hazardous cargoes. Its objective, according to the policy stated by Congress, is:

¹ State Board of Forestry and Fire Protection and the California Department of Forestry and Fire Protection, *California Fire Plan*, March 1996.

[T]o improve the regulatory and enforcement authority of the Secretary of Transportation to protect the Nation adequately against risks to life and property which are inherent in the transportation of hazardous materials in commerce.

Regulations apply to “any person who transports, or causes to be transported or shipped, a hazardous material; or who manufactures, fabricates, marks, maintains, reconditions, repairs, or tests a package or container which is represented, marked, certified, or sold by such person for use in the transportation in commerce of certain hazardous materials.”

Enforcement of the Hazardous Materials Transportation Act is shared by each of the following administrations pursuant to delegations from the Secretary of the Department of Transportation:

- Research and Special Programs Administration, which is responsible for container manufacturers, reconditioners, and retesters and shares authority over shippers of hazardous materials;
- Federal Highway Administration, which enforces all regulations pertaining to motor carriers;
- Federal Railroad Administration, which enforces all regulations pertaining to rail carriers;
- Federal Aviation Administration, which enforces all regulations pertaining to air carriers; and
- Coast Guard, which enforces all regulations pertaining to shipments by water.

Resource Conservation and Recovery Act

The RCRA Subtitle C addresses hazardous waste generation, handling, transportation, storage, treatment, and disposal. It includes requirements for a system that uses hazardous waste manifests to track the movement of waste from its site of generation to its ultimate disposition. The 1984 amendments to RCRA created a national priority for waste minimization. Subtitle D establishes national minimum requirements for solid waste disposal sites and practices. It requires states to develop plans for the management of wastes within their jurisdictions. Subtitle I requires monitoring and containment systems for underground storage tanks that hold hazardous materials. Owners of tanks must demonstrate financial assurance for the cleanup of a potential leaking tank.

Federal Aviation Administration

The Federal Aviation Administration (FAA) establishes land use criteria around airports. Advisory circular 150/5300-13, *Airport Design*,¹ contains its standards and recommendations for airport design, such as airport geometry and runway and taxiway design. It describes the runway protection zone and imaginary surfaces (primary, approach, and transitional surfaces). In addition, Federal Aviation Regulation, Part 77,² establishes a series of imaginary surfaces in the airspace surrounding a runway or helicopter landing area.

4.7.3 Thresholds of Significance

The proposed project would result in significant hazards and hazardous materials impacts if it would result in any of the following:

¹ U.S. Department of Transportation, Federal Aviation Administration, *Airport Design*, Advisory Circular 150.5300-13, Incorporates Changes 1 through 5, Initiated by AAS-110, September 29, 1989.

² Code of Federal Regulations, Title 14, *Aeronautics and Space*; Chapter I, *Federal Aviation Administration, Department of Transportation*; Subchapter D, *Airmen*; Part 77, *Objects Affecting Navigable Airspace*; <http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=f11d09ab5899aa8dae92d8cef5d00d0a&rgn=div5&view=text&node=14:2.0.1.2.9&idno=14>, current as of January 1, 2006.

- 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 one-quarter mile of an existing or proposed school;
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, result in a safety hazard for people residing or working in the Planning Area;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan;
- Expose recreational trail users to open pit hazards;
- 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;
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5 and, as a result, create a significant hazard to the public or the environment; and/or
- Result in a safety hazard for motorists due to falling debris from trucks.

4.7.4 Impacts and Mitigation Measures

Hazards and hazardous materials impacts and mitigation measures are discussed in this subsection. The components of the proposed project would continue to require the use and storage of hazardous materials within the Planning Area. As previously stated, some of the hazardous materials would consist of operating supplies, including fuels and oils, concrete admixtures, hydraulic fluids, solvents, and other materials required for the mining activities, maintenance of facilities and equipment, and cleaning activities associated with the various project components.

All fuel and oil storage tanks will continue to be permitted and installed in accordance with State and local regulations. Used oils and other waste hydrocarbon products will be stored in sealed containers and periodically removed from the site by a licensed private recycler. Solvents and other chemicals will be stored in approved containers, appropriately labeled and removed to a licensed recycling or disposal facility within appropriate time frames.

Security measures will be enforced to protect mining operations, personnel, and the general public. These measures include physical barriers, such as fencing and signage, as well as controlling public access at the main entrance gates, and warning signs will be posted around various facilities and potential access points. All mining operations will be conducted in accordance with Mine Safety and Health Administration requirements and guidelines. In addition, personnel will continue to receive regular safety and first aid training for their specific work tasks in accordance with State and County health and safety codes.

4.7.4.1 Routine Transport, Use, and Disposal of Hazardous Materials

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

Exposure to hazardous materials associated with the proposed project could result from the following:

- Improper handling or use of hazardous substances;
- Transportation accident; and/or
- An unforeseen event (e.g., fire, flood, or earthquake).

The severity of any such exposure is dependent upon the:

- Type, amount, and characteristic of the hazardous material involved;
- Timing, location, and nature of the event; and
- Sensitivity of the individual or environment affected.

If improperly handled, stored, or disposed of, these materials can have substantial health and environmental consequences.

As with any operation that uses hazardous material, components of the proposed project involving hazardous substances must adhere to applicable local, State, and Federal safety standards, ordinances, or regulations. Businesses engaged in the use, sale, storage, or transport of hazardous substances are monitored by various local (e.g., San Bernardino County Fire Department) and State (e.g., Department of Toxic Substance Control) entities. The San Bernardino County Fire Department, as the local agency charged with implementing hazardous material and hazardous waste programs in San Bernardino County, will continue to provide permitting, inspections, and enforcement of the required regulations. Hazardous wastes produced in the Planning Area are subject to requirements associated with accumulation time limits, proper storage locations and containers, and proper labeling. Additionally, for removal of hazardous waste from the site, hazardous waste generators are required to use a certified hazardous waste transportation company, which must ship hazardous waste to a permitted facility for treatment, storage, recycling, or disposal.

Water Conservation Operations/Maintenance Activities of the District

The District will continue to operate, maintain, and repair its water conservation facilities (access roads, canals, culverts, dikes, basins, and diversion structures) within the Planning Area in the same manner as existing conditions. As described in Section 3.6.1, while there is the potential for future water conservation facilities to be built within the Planning Area, at this point in time, the specific location, size, and type of facilities are unknown. Aside from this EIR's programmatic evaluation of impacts to biological resources associated with any potential future water conservation facilities, these facilities will be required to undergo project-specific environmental analysis prior to their construction and implementation. As described in Section 3.6.1, approximately ~~514~~ 520 fewer acres of water conservation activities would result from implementation of the Wash Plan; however, there would be no reduction in groundwater recharge basin acreage. The reduction in total acreage would result from the land exchange between the District and the BLM and would be designated habitat conservation as depicted in Figure 3.16. The water conservation operations of the District within the Wash Plan do not include the routine transport of hazardous materials. Facility maintenance schedules range from once a year to once every five years and maintenance activities would not routinely transport, use, or dispose of hazardous materials; therefore, there will be a less than significant impact in relation to this issue. No mitigation is necessary.

Cumulative. Cumulatively, the District's water conservation activities in combination with other projects in the area would not create or contribute to new or increased impacts related to the routine transport of hazardous materials over and above the impacts discussed in this section. The water conservation activities would not have an individual impact; therefore, in combination with other projects in the area, it is anticipated that there would be no cumulative impact. Cumulative projects within the area would be conditioned to fully mitigate project-specific hazardous material impacts and comply with local, State, and Federal laws pertaining to the use and transport of hazardous materials, thereby reducing the potential for cumulative impact further.

Flood Control Operations/Maintenance Activities of the SBCFCD

As described in Section 3.6.2, there is only a ~~6-acre~~ 8-acre change to the amount of land used for flood control or the operations and maintenance of those lands with the proposed project. No new SBCFCD activity would occur within the Planning Area. SBCFCD activities will be limited to maintaining and operating existing flood control facilities. Operation and maintenance activities of the SBCFCD currently do not involve the routine transport, use or disposal of hazardous materials and would not exposed the public to hazardous materials. A less than significant impact would result and no mitigation is necessary.

Cumulative. Cumulatively, the operations and maintenance activities of the SBCFCD in combination with other projects in the area would not create or contribute to new or increased impacts related to the routine transport of hazardous materials over and above the impacts discussed in this section. The operations and maintenance activities of the SBCFCD would not have a significant individual impact; therefore, in combination with other projects in the area, it is anticipated that there would be no cumulative impact. Like the proposed project, cumulative projects within the area would be conditioned to fully mitigate project-specific hazardous material impacts and comply with local, State, and Federal laws pertaining to the use and transport of hazardous materials, thereby reducing the potential for cumulative impact further.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

The EVWD and the City of Redlands both have water production operations within the Planning Area. There is no change associated with water production operations/maintenance of the EVWD and RMUD. Existing water supply wells, tanks, and pipelines of the EVWD and RMUD are expected to remain and would not be affected by the proposed project. The operation and maintenance of these facilities would continue as they do at the present time and they would not involve the routine transport, use or disposal of hazardous materials. A less than significant impact would result and no mitigation is necessary.

Cumulative. Cumulatively, the water production activities of the RMUD and the EVWD in combination with other projects in the area would not create or contribute to new or increased impacts related to the routine transport of hazardous materials over and above the impacts discussed in this section. The operations and maintenance activities of the EVWD and RMUD would not have a significant individual impact; therefore, in combination with other projects in the area, it is anticipated that there would be no cumulative impact. Cumulative projects within the area would be conditioned to fully mitigate project-specific hazardous material impacts and comply with local, State, and Federal laws pertaining to the use and transport of hazardous materials, thereby reducing the potential for cumulative impact further.

Aggregate Mining

With implementation of the proposed project, mining activities conducted as part of normal operations at Cemex and Robertson's would continue and the presence of hazardous materials and the routine transport, use, or disposal of hazardous materials would occur. The mining operations would use petroleum products, concrete admixtures, oils, fuels, greases, and other hazardous materials in conjunction with their operations.

Access and haul roads associated with the proposed project may use hazardous materials during construction; however, the implementation of standard construction techniques would minimize hazardous waste releases. Additionally, the use of any hazardous material during the construction of these roads would be temporary. The proposed roads would be for the routine transport of mined aggregate and not a hazardous material. Any proposed use or disposal of hazardous material by the

mining operations would be required to comply with regulations regarding hazardous materials and hazardous waste. Compliance with Federal, State, and local regulations will ensure impacts associated with the routine transport, use, and disposal of hazardous materials remain less than significant and no mitigation is necessary.

Cumulative. Cumulatively, the aggregate mining activities in combination with other projects in the area would not create or contribute to new or increased impacts related to the routine transport of hazardous materials over and above the impacts discussed in this section. The aggregate mining activities would not have a significant individual impact; therefore, in combination with other projects in the area, it is anticipated that there would be no cumulative impact. Cumulative projects within the area would be conditioned to fully mitigate project-specific hazardous material impacts and comply with local, State, and Federal laws pertaining to the use and transport of hazardous materials, thereby reducing the potential for cumulative impacts further.

Adoption of General Plan Amendments

General Plan Amendments will be required to allow changes in land use to occur so that the project components can take place. Each component of the proposed project has been analyzed individually throughout this EIR to determine if any potential impacts exist. A discussion of each of component that could take place regarding hazardous materials transport is discussed within this section. If necessary mitigation measures are proposed for the activities that would take place as part of the proposed project and General Plan Amendments to reduce any impacts to a less than significant level, no mitigation would be necessary.

Cumulatively, the General Plan Amendments in combination with other projects in the area would not create or contribute to new or increased impacts related to the routine transport of hazardous materials over and above the impacts discussed in this section.

Roadway/Bridge Rights-of-Way

The proposed project will set aside rights-of-way for roads in Highland and Redlands. During the construction of the roads within the newly dedicated rights-of-way, hazardous materials may be used for construction, and paving and striping operations. However, roadway construction is not included as a part of the proposed project. Compliance with Federal, State, and local regulations concerning the storage and handling of hazardous materials or volatile fuels will reduce the potential for significant impacts to a less than significant level. Disposal of hazardous materials used on site would be required to adhere to Federal, State, and local regulations regarding the proper disposal of hazardous materials resulting in a less than significant impact. No mitigation is necessary.

Cumulative. Cumulatively, the designation of bridge and roadway right-of-way in combination with other projects in the area would not create or contribute to new or increased impacts related to the routine transport of hazardous materials over and above the impacts discussed in this section. These rights-of-way would not have a significant individual impact; therefore, in combination with other projects in the area, it is anticipated that there would be no cumulative impact. During the construction, hazardous substances may be transported, used, and stored on site. Construction of the roadways would include the grading of earth and paving with asphalt and concrete materials. The roadway construction and other cumulative projects within the area would be conditioned to fully mitigate project-specific hazardous material impacts and comply with local, State, and Federal laws pertaining to the use and transport of hazardous materials reducing the potential for cumulative impact further.

Recreational Trail Rights-of-Way

The trail rights-of-way to be dedicated will not require construction activities and will not be used for motorized transport. All trails would be located on existing streets, service roads, and an old railroad right-of-way. The operational use and maintenance of the trail rights-of-way would not include the regular use or transport of hazardous materials and would not have an impact in relation to this issue. No mitigation is necessary.

Cumulative. Cumulatively, the designation of trail rights-of-way in combination with other projects in the area would not create or contribute to new or increased impacts related to the routine transport of hazardous materials over and above the impacts discussed in this section. The recreational trails would have no impact in relation to this issue and, therefore, no cumulative impact.

Land Exchange between the District and the BLM

The District's land exchange with the BLM will allow mining activities to take place on property currently owned by the BLM, and preservation of habitat on land that is presently owned by the District. Within the habitat area, water conservation activities would be allowed to continue. The activities of the District within the exchanged lands would be for water conservation purposes and would not include the transportation, use, or disposal of hazardous materials or present a hazard to the public and environment. The mining activities that would take place on the BLM property would be the same as those that are discussed above regarding aggregate mining and would have a less than significant impact in relation to this issue. No mitigation is required.

Cumulative. Cumulatively, the land exchange in combination with other projects in the area would not create or contribute to new or increased impacts related to the routine transport of hazardous materials over and above the impacts discussed in this section. The land exchanges would not have a significant individual impact; therefore, in combination with other projects in the area, it is anticipated that there would be no cumulative impact. Cumulative projects within the area would be conditioned to fully mitigate project-specific hazardous material impacts and comply with local, State, and Federal laws pertaining to the use and transport of hazardous materials, thereby reducing the potential for cumulative impacts further.

Land Exchange between the SBCFCD and Robertson's

The SBCFCD land exchange with Robertson's will allow mining activities to take place on property currently owned by the SBCFCD and habitat preservation to occur on land that is currently owned by Robertson's. There will be no changes associated with the property to become habitat. This property will remain in its natural state and therefore there would be no impact in relation to hazardous materials use, transport, and disposal. The mining activities that would take place on the Robertson's property would be the same as those that are discussed above regarding aggregate mining within the proposed project and would have a less than significant impact in relation to this issue. No mitigation is necessary.

Cumulative. Cumulatively, the land exchange in combination with other projects in the area would not create or contribute to new or increased impacts related to the routine transport of hazardous materials over and above the impacts discussed in this section. The land exchange would not have a significant individual impact; therefore, in combination with other projects in the area, it is anticipated that there would be no cumulative impact. Cumulative projects within the area would be conditioned to fully mitigate project-specific hazardous material impacts and comply with local, State, and Federal laws pertaining to the use and transport of hazardous materials, thereby reducing the potential for cumulative impacts further.

4.7.4.2 Reasonable Foreseeable Upset and Accident Conditions

Threshold:	Would the proposed 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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Water Conservation Operations/Maintenance Activities of the District

The operation and maintenance of these facilities does not require the use of quantities of hazardous materials that could create a significant impact to the public or the environment. Any hazardous materials in the Planning Area will continue to be handled in accordance with all applicable State and Federal laws, including laws for containment, reporting, and remediation requirements in the event of a spill or accidental release. The water conservation operations of the District within the Wash Plan do not include the routine transport of hazardous materials. Hazardous materials and hazardous waste on the project will be handled in accordance with all applicable State and Federal laws, which will ensure that impacts remain less than significant. No mitigation is necessary.

Cumulative. Cumulatively, the water conservation activities in combination with other projects in the area would not create or contribute to new or increased hazards related to the reasonably foreseeable upset and accident conditions involving the release of hazardous materials over and above the impacts discussed in this section. The District's activities would not have a significant individual impact; therefore, in combination with other projects in the area, it is anticipated that there would be no cumulative impact. Cumulative projects within the area would be conditioned to fully mitigate project-specific hazardous material impacts and comply with local, State, and Federal laws pertaining to the use and transport of hazardous materials, thereby reducing the potential for cumulative impacts further. In addition, accidental spills and leaks are unplanned occurrences. It is impossible to predict the occurrences of such events and the likelihood of such events occurring in close proximity to each other at the same time is very small; therefore, such events cannot be considered cumulatively significant.

Flood Control Operations/Maintenance Activities of the SBCFCD

As described in Section 3.6.2, there is only a ~~6-acre~~ 8-acre change to the amount of land used for flood control or the operations and maintenance of those lands with the proposed project. Similar to the discussion for water conservation, activities associated with flood control would not increase. However, the use, transport and disposal of hazardous materials that may be required for the operation and maintenance of the SBCFCD facilities are regulated. Any hazardous materials in the Planning Area will continue to be handled in accordance with all applicable State and Federal laws, including laws for containment, reporting, and remediation requirements in the event of a spill or accidental release. Hazardous materials and hazardous waste on the project will be handled in accordance with all applicable State and Federal laws, which will ensure that impacts remain less than significant. No mitigation is necessary.

Cumulative. Cumulatively, the operation and maintenance activities of the SBCFCD in combination with other projects in the area would not create or contribute to new or increased hazards related to the reasonably foreseeable upset and accident conditions involving the release of hazardous materials over and above the impacts discussed in this section. The SBCFCD's activities would not have a significant individual impact; therefore, in combination with other projects in the area, it is anticipated that there would be no cumulative impact. Cumulative projects within the area would be conditioned to fully mitigate project-specific hazardous material impacts and comply with local, State, and Federal laws pertaining to the use and transport of hazardous materials, thereby reducing the potential for cumulative impacts further. In addition, accidental spills and leaks are unplanned occurrences. It is impossible to predict the occurrences of such events and the likelihood of such events occurring in close proximity to each other at the same time is very small; therefore, such events cannot be considered cumulatively significant.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

The proposed project includes the continued operation and occasional maintenance of water production facilities. There is no change associated with water production operations/maintenance of the EVWD and RMUD. The use, transport and disposal of hazardous materials that may be required for the operation and maintenance of water production facilities are regulated. Any hazardous materials in the Planning Area will continue to be handled in accordance with all applicable State and Federal laws, including laws for containment, reporting, and remediation requirements in the event of a spill or accidental release. Hazardous materials and hazardous waste on the project will be handled in accordance with all applicable State and Federal laws, which will ensure that impacts remain less than significant. No mitigation is necessary.

Cumulatively, the water production operation and maintenance activities of the EVWD and the RMUD in combination with other projects in the area would not create or contribute to new or increased hazards related to the reasonably foreseeable upset and accident conditions involving the release of hazardous materials over and above the impacts discussed in this section. Cumulative projects within the area would be conditioned to fully mitigate project-specific hazardous material impacts and comply with local, State, and Federal laws pertaining to the use and transport of hazardous materials, thereby reducing the potential for cumulative impacts further. In addition, accidental spills and leaks are unplanned occurrences. It is impossible to predict the occurrences of such events and the likelihood of such events occurring in close proximity to each other at the same time is very small; therefore, such events cannot be considered cumulatively significant.

Aggregate Mining

Hazardous materials are currently used in mining activities conducted in the Planning Area. While mining activities are already occurring, the proposed project includes an expansion of current mining operations, which would increase the amount of hazardous materials used. Accidental release of hazardous materials could occur under many circumstances in the Planning Area, including equipment leaking, storage containers leaking, or a spill of hazardous materials. Any hazardous materials in the Planning Area will continue to be handled in accordance with all applicable State and Federal laws, including laws for containment, reporting, and remediation requirements in the event of a spill or accidental release. Hazardous materials and hazardous waste in the Planning Area will be handled in accordance with all applicable State and Federal laws, which will ensure that impacts remain less than significant. No mitigation is necessary.

Cumulative. Cumulatively, the aggregate mining activities in combination with other projects in the area would not create or contribute to new or increased hazards related to the reasonably foreseeable upset and accident conditions involving the release of hazardous materials over and above the impacts discussed in this section. Cumulative projects within the area would be conditioned to fully mitigate project-specific hazardous material impacts and comply with local, State, and Federal laws pertaining to the use and transport of hazardous materials, thereby reducing the potential for cumulative impacts further. In addition, accidental spills and leaks are unplanned occurrences. It is impossible to predict the occurrences of such events and the likelihood of such events occurring in close proximity to each other at the same time is very small; therefore, such events cannot be considered cumulatively significant.

Adoption of General Plan Amendments

The adoption of General Plan Amendments will allow the proposed project components to take place. An analysis of each of the project components that would require a General Plan Amendment is included in this section. For the analysis of a specific component, please refer to the appropriately titled section. No mitigation is necessary.

Cumulative. Cumulatively, the adoption of General Plan Amendments in combination with other projects in the area would not create or contribute to new or increased hazards related to the reasonably foreseeable upset and accident conditions involving the release of hazardous materials over and above the impacts discussed in this section.

Roadway/Bridge Rights-of-Way

The proposed project includes the reserving of rights-of-way for subsequent improvements to Greenspot Road and the Greenspot Road Bridge, Alabama Street, and Orange Street-Boulder Avenue. Improvements to Greenspot Road and the Greenspot Road Bridge include a realignment (smoothing of the existing “S” curve) to accommodate a 65 mph design speed, widening, and a new bridge with sidewalks. Improvements to Alabama Street and Orange Street-Boulder Avenue include widening to their ultimate widths as identified in the General Plans of the Cities of Highland and Redlands. Subsequent project-specific impact analysis and design-level construction drawings for these roadways will be prepared at a later date. Since no construction of roads or changes in design features are proposed as part of the project, there is no potential for the accidental release of hazardous materials. No mitigation is necessary.

Cumulative. Cumulatively, the designation of bridge and roadway rights-of-way in combination with other projects in the area would not create or contribute to new or increased hazards related to the reasonably foreseeable upset and accident conditions involving the release of hazardous materials over and above the impacts discussed in this section. Cumulative projects such as the construction of the bridge and roadways would be conditioned to fully mitigate project-specific hazardous material impacts and comply with local, State, and Federal laws pertaining to the use and transport of hazardous materials, thereby reducing the potential for cumulative impacts further. In addition, accidental spills and leaks are unplanned occurrences. It is impossible to predict the occurrences of such events and the likelihood of such events occurring in close proximity to each other at the same time is very small; therefore, such events cannot be considered cumulatively significant.

Recreational Trail Rights-of-Way

As indicated in Section 3.6.7, all trails would be located on existing streets, service roads, or an old railroad right-of-way. No construction is associated with recreational trails, with the exception of the placement of signs. Trails within the proposed project will not require the use or storage of hazardous materials. Therefore, there is no potential of an accidental release of a hazardous material that would harm the public or the environment. No impact in relation to this issue is anticipated and no mitigation is necessary.

Cumulative. Cumulatively, the designation of recreational trail rights-of-way in combination with other projects in the area would not create or contribute to new or increased hazards related to the reasonably foreseeable upset and accident conditions involving the release of hazardous materials over and above the impacts discussed in this section. The designation of recreational trail rights-of-way would have no impact in relation to this issue and therefore no cumulative impact.

Land Exchange between the District and the BLM

The land exchange occurring between the District and the BLM is illustrated in Figure 3.16. The District's land exchange with the BLM will allow mining activities to take place on property owned by the BLM and preservation of habitat on land that is presently owned by the District. The activities of the District within the exchanged lands would be for water conservation purposes and would not include hazardous materials. The mining activities that would take place on the BLM property would be the same as those that are discussed above regarding aggregate mining. Therefore, the risk of an accidental release of a hazardous material that could harm the public or the environment is remote. A less than significant impact is anticipated in relation to this issue and no mitigation is necessary.

Cumulative. Cumulatively, there would be no increase in impacts involving the accidental upset or release of hazardous materials. The land exchange would not include the use of hazardous materials; therefore, the cumulative impacts associated with the land exchange would be less than significant.

Land Exchange between the SBCFCD and Robertson's

Land exchanged as part of the SBCFCD and Robertson's land exchange will be used for habitat conservation and mining activities. The land acquired by Robertson's through the exchange will be used for aggregate mining activities and will have similar impacts to the aggregate mining activities discussed above. The habitat area managed by the SBCFCD will not require the use of hazardous materials and therefore the chance of an accidental release of a hazardous material is remote. A less than significant impact will occur. No mitigation is necessary.

Cumulative. Cumulatively, there would be no increase in impacts involving the accidental upset or release of hazardous materials. Cumulative projects such as the construction of the bridge and roadways would be conditioned to fully mitigate project-specific hazardous material impacts and comply with local, state, and Federal laws pertaining to the use and transport of hazardous materials, thereby reducing the potential for cumulative impacts further. In addition, accidental spills and leaks are unplanned occurrences. It is impossible to predict the occurrences of such events and the likelihood of such events occurring in close proximity to each other at the same time is very small; therefore, such events cannot be considered cumulatively significant.

4.7.4.3 Safety Hazard near Existing or Proposed School

Threshold	Would the proposed project emit hazardous emissions or handle acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?
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Beattie Middle School and Highland Grove Elementary School are located in the City of Highland within approximately 0.25 mile of the Planning Area's northern boundary. The next nearest school is Arroyo Verde Elementary School also north of the project boundary in the City of Highland, approximately 0.4 mile away.

Water Conservation Operations/Maintenance Activities of the District

The District's maintenance and operational activities that would take place within the Wash are located toward the interior and toward the eastern end of the Planning Area. These activities would remain unchanged by the project. The handling of acutely hazardous materials is not necessary for the operation and maintenance of the District's facilities. Maintenance and operation activities of the District do not create hazardous emissions. There would be a less than significant impact in relation to this issue and no mitigation is necessary.

Cumulative. Cumulatively, the activities of the District will not create or contribute to new or increased impacts in combination with other projects in regard to hazardous emissions near a school over and above the impacts discussed in this section.

Flood Control Operations/Maintenance Activities of the SBCFCD

The SBCFCD's maintenance and operational activities that would take place within the Wash are located toward the interior and toward the eastern and southern end of the Planning Area. The handling of acutely hazardous materials is not necessary for the operation and maintenance of the SBCFCD facilities. Maintenance and operation activities do not create hazardous emissions.

Therefore, there would be a less than significant impact in relation to this issue and no mitigation would be necessary.

Cumulative. Cumulatively, the activities of the SBCFCD will not create or contribute to new or increased impacts in combination with other projects in regard to hazardous emissions near a school, over and above the impacts discussed in this section.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

There is no change associated with water production operations/maintenance of the EVWD and RMUD. The water production facilities of the EVWD and the RMUD are not located within 0.25 mile of an existing or proposed school and the operation and maintenance of these facilities is not anticipated to create acutely hazardous emissions. Therefore, the operation and maintenance of these facilities would not have an impact in relation to this issue and no mitigation would be necessary.

Cumulative. The water production operations and maintenance activities of the EVWD and the RMUD would have no impact related to this issue. Therefore, the proposed project would not contribute cumulatively to any additional impacts.

Aggregate Mining

The continuation and expansion of the mining activities proposed by the project will not take place within 0.25 mile of an existing or proposed school. Currently, the closest mining activities to the existing schools are located to the southwest of the existing schools. Mining activities may require the use of hazardous materials. Any hazardous materials in the Planning Area will continue to be handled in accordance with all applicable State and Federal laws, including laws for containment, reporting, and remediation requirements in the event of a spill or accidental release. Hazardous materials and hazardous waste are required to be handled in accordance with all applicable State and Federal laws, which will ensure that impacts remain less than significant. No mitigation is necessary.

Cumulative. Cumulatively, the aggregate mining activities in combination with other projects in the area would not create or contribute to new or increased impacts related hazardous emissions over and above the impacts discussed in this section. The aggregate mining activities would not have a significant individual impact; therefore, in combination with other projects in the area, it is anticipated that there would be no significant cumulative impact. Cumulative projects within the area would be conditioned to fully mitigate project-specific hazardous material impacts and comply with local, State, and Federal laws pertaining to the use and transport of hazardous materials, thereby reducing the potential for cumulative impact further.

Adoption of General Plan Amendments

The adoption of General Plan Amendments by the City of Highland and the City of Redlands would allow the activities of the proposed project to occur within 0.25 mile of the existing schools previously mentioned. Each of the components that could be allowed by the General Plan Amendments within 0.25 mile of a proposed school is analyzed within this section. Any hazardous materials in the Planning Area will continue to be handled in accordance with all applicable State and Federal laws, including laws for containment, reporting, and remediation requirements in the event of a spill or accidental release. Hazardous materials and hazardous waste are required to be handled in accordance with all applicable State and Federal laws, which will ensure that impacts remain less than significant. No mitigation is necessary.

Cumulative. Cumulatively, the adoption of General Plan Amendments in combination with other projects in the area would not create or contribute to new or increased impacts related to hazardous

emissions over and above the impacts discussed in this section. The General Plan Amendments would not have a significant individual impact; therefore, in combination with other projects in the area, it is anticipated that there would be no significant cumulative impact.

Roadway/Bridge Rights-of-Way

The proposed project includes the setting aside of rights-of-way for subsequent improvements to Greenspot Road and the Greenspot Road Bridge, Alabama Street, and Orange Street-Boulder Avenue. The construction of these roadways is not included as part of the proposed project. Subsequent project-specific impact analysis and design-level construction drawings for these roadways will be prepared at a later date.

The rights-of-way for Greenspot Road and the Greenspot Road Bridge are not located within 0.25 mile of an existing or proposed school. The designated rights-of-way are located in the eastern end of the Planning Area, more than one mile away from the schools mentioned above.

Alabama Street is located on the western boundary of the Planning Area more than one mile away from the nearest existing or proposed school. The designation of rights-of-way and potential future improvements would not take place within 0.25 mile of an existing or proposed school and therefore would have a less than significant impact in relation to this issue. No mitigation is necessary.

The ~~dedication~~ designation of right-of-way would allow the widening of Boulder Avenue in the City of Highland and Orange Street in the City of Redlands. The Boulder Avenue portion of this roadway is within 0.25 mile of the existing schools mentioned previously. The operation of this existing roadway creates the exhaust emissions that are typical of all of the surrounding roadways. However, it would not create emissions that would be considered acutely hazardous. A less than significant impact would result. No mitigation is necessary.

Cumulative. Cumulatively, the construction Greenspot Road, Alabama Street and Orange Street-Boulder Avenue are considered in combination with the designation of rights-of-way. The designation of the rights-of-way will not create hazardous emissions; however, the construction of the future road and bridge improvements may contribute to a cumulative impact. Any construction within the Planning Area would be required to comply with applicable regulations in order to reduce impacts to a level that is less than significant.

Recreational Trail Rights-of-Way

The trails within the project, particularly those on the northern side of the project will be within 0.25 mile of an existing school. The trails will require no construction and trail use is intended to be primarily for pedestrians. Although the trails will be near schools, their ~~dedication~~ designation or use will not create hazardous emissions. No impact would result and no mitigation is necessary.

Cumulative. Cumulatively, the designation of recreational trails rights-of-way will not have impacts related to this issue in combination with other area projects to create an impact beyond what has been analyzed in this section.

Land Exchange between the District and the BLM

Both properties to be exchanged are more than 0.25 mile away from an existing or proposed school. The land to be exchanged by the District will remain habitat and water conservation; these activities do not create hazardous emissions and are not located within 0.25 mile of an existing or proposed school. The land exchanged to the District will allow mining to take place in the western portion of the Planning Area, which is more than 0.25 mile from an existing or proposed school. No impact would result. No mitigation is necessary.

Cumulative. The land exchange will not have impacts related to this issue and will not contribute to cumulative impacts in combination with other area projects to create an impact beyond what has been analyzed in this section.

Land Exchange between the SBCFCD and Robertson's

The land exchange will allow mining to take place in an area located in the southwest portion of the Planning Area that is currently designated as habitat conservation. The property that could be mined after this exchange is located over one mile away from the nearest school. Property that would become habitat conservation land after the exchange would not require the use of hazardous substances on site or create hazardous emissions. Due to the distance of the mining area from schools and the lack of hazardous emissions from the habitat conservation area, this component of the proposed project would not have an impact in relation to this issue. No mitigation is necessary.

Cumulative. The land exchange will not have impacts related to this issue and will not contribute to cumulative impacts in combination with other area projects to create an impact beyond what has been analyzed in this section.

4.7.4.4 Within Two Miles of a Public or Private Airport

Threshold	For a project located within an airport land use plan, or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, or within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the Planning Area?
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Portions of the Planning Area are located near the San Bernardino International Airport (SBD) to the west and the Redlands Municipal Airport to the south. The SBD does not currently have an approved airport land use compatibility plan (ALUCP). The City of Highland is currently preparing for adoption, an ALUCP for land uses within its jurisdiction. In the absence of an adopted ALUCP, the *California Airport Land Use Planning Handbook*¹ (Handbook) lists basic compatibility criteria for compatibility zones designated in an ALUCP.

A portion of the Planning Area is located within the SBD Airport Influence Area (AIA), as defined by in the Handbook. The AIA is the space surrounding an airport that can be affected by airport operations. It is established based on aircraft noise contours, air traffic patterns, and airspace safety factors (critical zones) that may affect land use. The Planning Area may be located within one or more of the zones depicted in the Highland ALUCP. Those zones include the *Traffic Pattern Zone*, the *Inner Turning Zone*, the *Inner Safety Zone*, and the *Outer Safety Zone*.

The *Traffic Pattern Zone* has a generally low likelihood of accident occurrence, and residential uses and most nonresidential uses are allowed within the *Traffic Pattern Zone*. The Handbook recommends avoiding the placement of schools, large daycare centers, hospitals, and nursing homes in the *Traffic Pattern Zone*.

The *Inner Turning Zone* is the area where aircraft are typically turning and descending for landing, or turning and climbing for departure. The Handbook recommends limiting residential uses in the *Inner Turning Zone* to very low densities, and avoiding nonresidential uses having moderate or high intensities, as well as avoidance of hazardous uses. Schools, large daycare centers, hospitals, and nursing homes are prohibited in the *Inner Turning Zone*.

¹ *California Airport Land Use Planning Handbook*, State of California, Department of Transportation, Division of Aeronautics, January 2002.

The Inner Safety Zone or the *Inner Approach/Departure Zone* as it is classified in the Handbook, prohibits residential uses, except on large agricultural parcels, and prohibits schools, daycare centers, hospitals, nursing homes, and hazardous uses. Limited nonresidential uses that attract few people are considered compatible within the *Inner Safety Zone*.

The *Outer Safety Zone* is the area where approaching aircraft are usually at a lower altitude than normal traffic patterns. Children's schools, large daycare centers, hospitals, and nursing homes are prohibited in the *Outer Safety Zone*.

As discussed earlier and shown in the previously referenced Figure 4.7.1, the western portion of the Planning Area is located in the *SBD Traffic Pattern Zone*, which includes all portions of the designated traffic pattern and pattern entry routes. Small portions of the Planning Area are located in the *Inner Turning Zone*, the *Inner Safety Zone*, and the *Outer Safety Zone*.

As for the Redlands Municipal Airport, a portion of the Planning Area in the south is located within the Redlands Municipal Airport Compatibility Zones A, B1, B2, and C.

Zone A includes the airport runway and immediately adjacent areas where uses are restricted to aeronautical functions. The west end of Compatibility Zone A of the Redlands Municipal Airport is located at the southern edge of the Planning Area. All structures except those with locations set by aeronautical function are restricted within Compatibility Zone A. Additional restricted uses within Compatibility Zone A include the following:

- Aboveground bulk storage of hazardous materials;
- Hazards to flight;¹
- Assemblages of people; and
- Objects exceeding Federal Aviation Regulations Part 77 height limits.

The approach/departure zone is designated as Zone B1, and Zone B2 is the extended approach/departure zone. Prohibited uses in Zones B1 and B2 include:

- Schools, daycare centers, libraries, hospitals, and nursing homes;
- Highly noise-sensitive uses;
- Aboveground bulk storage of hazardous materials; and
- Hazards to flight.

A large portion of the Planning Area is located within Zone C of the Redlands Municipal Airport. Areas covered by Zone C are areas commonly overflown by aircraft at an altitude of 1,000 feet or less above ground level. Prohibited uses for Zone C include schools, hospitals, nursing homes, and hazards to flight.

An area of Special Compatibility Concern is located to the north of the Redlands AIA and identifies locations routinely overflown by aircraft approaching and/or departing the Redlands Municipal Airport, but at some distance from the airport. It also identifies an area that has existing and planned land uses that are compatible with airport activity. According to the *Redlands Municipal Airport Land Use Compatibility Plan*, the notation of an area of Special Compatibility Concern is intended to serve as a reminder that airport impacts should be carefully considered in any decision to change the current land use designation. Table 4.7.B depicts the airport compatibility zones and the proposed land uses within each zone.

¹ Hazards to flight include physical, visual, and electronic forms of interference with the safety of aircraft operations. Source: *Redlands Municipal Airport Land Use Compatibility Plan*, Shutt Moen Associates, adopted by Redlands City Council February 18, 1997, revised May 6, 2003; page 2-11.

Table 4.7.B – Airport Compatibility Zones and Proposed Land Uses

Airport Land Use Plan Designation	Proposed Land Use
<i>San Bernardino International Airport</i>	
Airport Traffic Pattern Zone	Aggregate mining, habitat conservation.
Inner Safety Zone	Aggregate mining.
Inner Turning Zone	Aggregate mining, habitat conservation.
Outer Safety Zone	Aggregate mining.
<i>Redlands Municipal Airport</i>	
A	Flood control.
B1	Aggregate mining, flood control, habitat conservation.
B2	Flood control, habitat conservation.
C	Aggregate mining, flood control, habitat conservation, percolation basin, water conservation.
Area of Special Compatibility Concern	Aggregate mining, flood control, habitat conservation.

Water Conservation Operations/Maintenance Activities of the District

The District will continue to operate, maintain, and repair its water conservation facilities (access roads, canals, culverts, dikes, basins, and diversion structures) within the Planning Area in the same manner as existing conditions. As described in Section 3.6.1, while there is the potential for future water conservation facilities to be built within the Planning Area, at this point in time, the specific location, size, and type of facilities are unknown. Aside from this EIR's programmatic evaluation of impacts to biological resources associated with any potential future water conservation facilities, these facilities will be required to undergo project-specific environmental analysis prior to their construction and implementation. No residences or permanent workplaces are present within the properties utilized by the District within the Planning Area. The uses by the District are not prohibited in any of the zones for either airport. In addition, all projects within the Planning Area would be required to comply with FAR part 77 and all proposed construction will receive FAA concurrence via form 7460 as required. Therefore, the impacts associated with this issue are less than significant and no mitigation would be necessary.

Cumulative. Cumulatively, the activities of the District will not create or contribute to new or increased impacts in combination with other projects in regard to airport hazards over and above the impacts discussed in this section. Cumulative projects will be required to comply with the applicable regulations to reduce impacts to a level that is less than significant.

Flood Control Operations/Maintenance Activities of the SBCFCD

The operation and maintenance activities that currently occur within the Planning Area would not increase as a part of the proposed project. No residences or permanent workplaces are present within areas of the flood control operations and their maintenance. The SBCFCD facility operations and maintenance are not prohibited in any of the zones for either airport. In addition, all projects within the Plan Area would be required to comply with FAR part 77 and all proposed construction will receive FAA concurrence via form 7460 as required. Therefore, the impacts associated with this issue are less than significant and no mitigation would be necessary.

Cumulative. Cumulatively, the activities of the SBCFCD will not create or contribute to new or increased impacts in combination with other projects in regard to airport hazards over and above the impacts discussed in this section. Projects within and adjacent to the Planning Area will be required to comply with the applicable regulations to reduce impacts to a level that is less than significant.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Operation and maintenance activities of the EVWD and RMUD would not change as a result of the proposed project. No residences or permanent workplaces currently exist as part of the facilities operated and maintained by the EVWD and the RMUD. The operation and maintenance of water production facilities is not a prohibited use within any of the zones for either airport. As land uses associated with the proposed project are compatible with the nearby airports, implementation of the proposed project would not create a significant aviation safety hazard for people working in the Planning Area. In addition, all projects within the Planning Area would be required to comply with FAR part 77 and all proposed construction will receive FAA concurrence via form 7460 as required. Therefore, the impacts associated with this issue are less than significant. No mitigation is necessary.

Cumulative. Cumulatively, the water production operations and maintenance activities of the EVWD and RMUD will not create or contribute to new or increased impacts in combination with other projects in regard to airport hazards over and above the impacts discussed in this section. Projects within and adjacent to the Planning Area will be required to comply with the applicable regulations to reduce impacts to a level that is less than significant.

Aggregate Mining

No residential uses are present within the aggregate mining areas. The aggregate mining facilities employ workers who are routinely present within the airport hazard areas previously mentioned. The proposed project does not propose any prohibited uses in any of the zones for either airport. As land uses associated with the proposed project are compatible with the nearby airports, implementation of the proposed project would not create a significant aviation safety hazard for people working in the Planning Area. In addition, all projects within the Planning Area would be required to comply with FAR part 77 and all proposed construction will receive FAA concurrence via form 7460 as required. Therefore, the impacts associated with this issue are less than significant. No mitigation is necessary.

Cumulative. Cumulatively, the aggregate mining will not create or contribute to new or increased impacts in combination with other projects in regard to airport hazards over and above the impacts discussed in this section. Projects within and adjacent to the Planning Area will be required to comply with the applicable regulations to reduce impacts to a level that is less than significant.

Adoption of General Plan Amendments

The adoption of the General Plan Amendments required to implement the proposed project will not change land use designations to allow residential uses. The land uses proposed for the other components discussed in this section may require the regular presence of people working. The land uses proposed by the General Plan Amendments that will be required are compatible with the nearby airports; implementation of the proposed project would not create a significant aviation safety hazard for people working in the Planning Area. In addition, all projects within the Planning Area would be required to comply with FAR part 77 and all proposed construction will receive FAA concurrence via form 7460 as required. Therefore, the impacts associated with this issue are less than significant and no mitigation would be necessary.

Cumulative. Cumulatively, the General Plan Amendments will not create or contribute to new or increased impacts in combination with other projects in regard to airport hazards over and above the impacts discussed in this section. Projects within and adjacent to the Planning Area will be required to comply with the applicable regulations to reduce impacts to a level that is less than significant.

Roadway/Bridge Rights-of-Way

The proposed project includes the setting aside of rights-of-way for subsequent improvements to Greenspot Road and the Greenspot Road Bridge, Alabama Street, and Orange Street-Boulder Avenue. No residential uses or permanent workspaces are proposed as part of the roadway and bridge rights-of-way. The road and bridge rights-of-way are not prohibited uses within any of the zones for either airport. As land uses associated with the proposed project are compatible with the nearby airports, implementation of the proposed project would not create a significant aviation safety hazard for people working in the Planning Area. In addition, all projects within the Plan Area would be required to comply with FAR part 77 and all proposed construction will receive FAA concurrence via form 7460 as required. Therefore, the impacts associated with this issue are less than significant. No mitigation is necessary.

Cumulative. Cumulatively, the designation of the bridge and roadway rights-of-way will not create or contribute to new or increased impacts in combination with other projects in regard to airport hazards over and above the impacts discussed in this section. Projects within and adjacent to the Planning Area will be required to comply with the applicable regulations to reduce impacts to a level that is less than significant.

Recreational Trail Rights-of-Way

The trail rights-of-way are not prohibited uses within any of the zones for either airport. As land uses associated with the proposed project are compatible with the nearby airports, implementation of the Planning Area would not create a significant aviation safety hazard for people working in the Planning Area. In addition, all projects within the Planning Area would be required to comply with FAR part 77 and all proposed construction will receive FAA concurrence via form 7460 as required. Therefore, the impacts associated with this issue are less than significant and no mitigation would be necessary.

Cumulative. Cumulatively, the designation of the recreational trail rights-of-way will not create or contribute to new or increased impacts in combination with other projects in regard to airport hazards over and above the impacts discussed in this section. Projects within and adjacent to the Planning Area will be required to comply with the applicable regulations to reduce impacts to a level that is less than significant.

Land Exchange between the District and the BLM

The land exchange occurring between the District and the BLM is illustrated in Figure 3.16. The land exchange between the District and BLM would result in habitat conservation areas and mining activity uses within the Planning Area. Neither of these uses is prohibited within any zone for either airport, and neither project component proposes any prohibited use. As land uses associated with the proposed project are compatible with the nearby airports; implementation of the proposed project would not create a significant aviation safety hazard for people working in the Planning Area. In addition, all projects within the Plan Area would be required to comply with FAR part 77 and all proposed construction will receive FAA concurrence via form 7460, as required. Therefore, the impacts associated with this issue are less than significant and no mitigation would be necessary.

Cumulative. Cumulatively, the land exchange between the District and the BLM will not create or contribute to new or increased impacts in combination with other projects in regard to airport hazards over and above the impacts discussed in this section. All of the cumulative projects listed in Table 2.A are required to comply with the applicable regulations, thereby reducing cumulative impacts to a less than significant level.

Land Exchange between the SBCFCD and Robertson's

The land exchange occurring between the SBCFCD and Robertson's is illustrated in Figure 3.16. The Land exchange between Robertson's and the SBCFCD would result in habitat conservation areas and mining activity uses within the proposed project. Neither of these uses is prohibited within any zone for either airport. The proposed project components do not propose any prohibited uses in any of the zones for either airport. As the land uses associated with the land exchange are compatible with the nearby airports, their implementation would not create a significant aviation safety hazard for people working in the Planning Area. In addition, all projects within the Planning Area would be required to comply with FAR part 77 and all proposed construction will receive FAA concurrence via form 7460 as required. Therefore, the impacts associated with this issue are less than significant. No mitigation is necessary.

Cumulative. Cumulatively, the land exchange between the SBCFCD and Robertson's will not create or contribute to new or increased impacts in combination with other projects in regard to airport hazards over and above the impacts discussed in this section. All of the cumulative projects listed in Table 2.A are required to comply with the applicable regulations, thereby reducing cumulative impacts to a less than significant level.

4.7.4.5 Emergency Response Plan

Threshold	Would the proposed project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?
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The City of Highland has adopted an Emergency Plan to protect the health, safety, and welfare of the general public during emergencies including flooding, fires, high winds, earthquakes and other geologic hazards, and hazardous material accidents.

The City of Redlands Emergency Disaster Plan, which is updated every two years, identifies emergency situations to which the City will respond.¹ Emergency situations discussed in the Emergency Plan include:

- Earthquake
- Flood
- Dam failure
- Fire
- War
- Terrorist acts
- Transportation accidents
- Industrial accidents
- Civil disturbance
- Storms
- Pollution
- Epidemics
- Drought
- Extreme heat
- Hazardous spills

The City of Redlands Emergency Disaster Plan also identifies evacuation routes within the City that would be used in an emergency. Interstates 10, 15, and 215, along with State Routes 30, 38, 60, 66, and 71 are identified as major evacuation routes out of the area in the San Bernardino County General Plan.² These routes are also identified in the *City of Redlands 1995 General Plan* and the *City of Highland General Plan Update* as major evacuation routes out of the area.

The project proponents would be required to design, construct, and maintain structures, roadways, and facilities in compliance with applicable local, regional, State and/or Federal requirements related to emergency access and evacuation plans.

¹ *City of Redlands General Plan*, adopted October 17, 1995, Section 8.0, page 28.

² *San Bernardino County General Plan*, Economic Development and Public Services Group, Land Use Services Department, adopted July 1, 1989, revised August 26, 1999; page II-D2-15.

Water Conservation Operations/Maintenance Activities of the District

The District will continue to operate, maintain, and repair its water conservation facilities (access roads, canals, culverts, dikes, basins, and diversion structures) within the Planning Area in the same manner as existing conditions. As described in Section 3.6.1, while there is the potential for future water conservation facilities to be built within the Planning Area, at this point in time, the specific location, size, and type of facilities are unknown. Aside from this EIR's programmatic evaluation of impacts to biological resources associated with any potential future water conservation facilities, these facilities will be required to undergo project-specific environmental analysis prior to their construction and implementation. The activities of the District take place outside of areas that would be accessed or used by the public during an emergency and propose no new construction that could interfere with evacuation routes. In addition, the District's facilities would be required to comply with applicable local, regional, State and/or Federal requirements related to emergency access and evacuation plans. No impact would result and no mitigation would be necessary.

Cumulative. Cumulatively, the District's activities do not create or contribute to new or increased impacts in combination with other projects in regard to emergency response plans over and above the impacts discussed in this section. The activities of the District will not create an impact and therefore they do not contribute to cumulative impacts.

Flood Control Operations/Maintenance Activities of the SBCFCD

As part of the proposed project the SBCFCD will continue to operate and maintain its facilities within the Planning Area. The activities will continue as they do currently and will not impair the ability of an emergency response plan to be implemented. SBCFCD operational and maintenance activities take place outside of areas that would be accessed or used by the public during an emergency and propose no new construction that could interfere with evacuation routes. In addition, facilities would be required to comply with applicable local, regional, State, and Federal requirements related to emergency access and evacuation plans. No impact would result and no mitigation would be necessary.

Cumulative. Cumulatively, the SBCFCD's activities do not create or contribute to new or increased impacts in combination with other projects in regard to emergency response plans over and above the impacts discussed in this section. The activities of the SBCFCD will not create an impact and therefore they do not contribute to cumulative impacts.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

As part of the proposed project, the water production activities of the EVWD and the RMUD will continue to operate and be maintained within the Planning Area. EVWD and RMUD activities will not be changed as part of the proposed project and will not impair the ability of an emergency response plan to be implemented. The operation and maintenance activities of the EVWD and the RMUD take place outside of areas that would be accessed or used by the public during an emergency and propose no new construction that could interfere with evacuation routes. In addition, facilities would be required to comply with applicable local, regional, State, and Federal requirements related to emergency access and evacuation plans. No impact would result and no mitigation would be necessary.

Cumulative. Cumulatively, the EVWD and the RMUD's water production activities do not create or contribute to new or increased impacts in combination with other projects in regard to emergency response plans over and above the impacts discussed in this section. The activities of the EVWD and the RMUD will not create an impact and therefore they do not contribute to cumulative impacts.

Aggregate Mining

As part of the proposed project, access and haul roads will be constructed for mining vehicles. These access roads will not be part of the public circulation system and would be located on private land. These roads would tie in to the public circulation system in various points to allow mining vehicles to enter and exit the mining areas. Construction of access and haul roads would take place outside of public rights-of-way and would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. In addition, facilities would be required to comply with applicable local, regional, State, and Federal requirements related to emergency access and evacuation plans. No impact would result and no mitigation would be necessary.

Aggregate mining activities that would take place as a part of the proposed project will not require construction activities in areas that could interfere with an evacuation plan. In addition, any facilities to be used or constructed would be required to comply with applicable local, regional, State, and Federal requirements related to emergency access and evacuation plans. No impact would result and no mitigation would be necessary.

Cumulative. Cumulatively, the aggregate mining activities would not create or contribute to new or increased impacts in combination with other projects in regard to emergency response plans over and above the impacts discussed in this section. The aggregate mining activities will have no impact in relation to this issue; therefore, aggregate mining activities would not contribute to cumulative impacts associated with this issue.

Adoption of General Plan Amendments

The General Plan Amendments that will be required for the implementation of the proposed project will allow the uses and activities discussed in this section to occur. The Cities of Redlands and Highland would not be amending their General Plans to make changes to their emergency response plans as part of this project. Each of the project components that would be allowed by General Plan Amendment is analyzed in relation to emergency response and evacuation plans. No impact will result from the adoption of General Plan Amendments and no mitigation is required.

Cumulative. Cumulatively, the adoption of General Plan Amendments would not create or contribute to new or increased impacts in combination with other projects in regard to emergency response plans over and above the impacts discussed in this section. The General Plan Amendments will have no impact in relation to this issue and therefore would not contribute to cumulative impacts associated with this issue.

Roadway/Bridge Rights-of-Way

The proposed project includes the reservation of rights-of-way for subsequent improvements to Greenspot Road and the Greenspot Road Bridge, Alabama Street, and Orange Street-Boulder Avenue. The ~~dedication~~ designation of additional rights-of-way for the roadway widening, realignment, and bridge construction will assist with the implementation of local emergency response and evacuation plans, allowing traffic to flow with fewer restrictions and roadway hazards by removing sharp curves and narrow bridges. No impact will result from the ~~dedication~~ designation of bridge and roadway rights-of-way. No mitigation is necessary.

Cumulative. Cumulatively, the ~~dedication~~ designation of roadway and bridge rights-of-way could create or contribute to new or increased impacts in combination with other projects in regard to emergency response plans over and above the impacts discussed in this section. While the completed Greenspot Road Bridge and completed roadway widening projects would be a beneficial impact, construction activities required to complete these projects could temporarily restrict vehicular traffic and would be required to implement adequate and appropriate measures to facilitate the passage of persons and vehicles through/around any required road closures. Adherence to these

measures would reduce potential cumulative impacts related to this issue to a less than significant level.

Recreational Trail Rights-of-Way

All trails would be located on existing streets, service roads, and an old railroad bed. No new construction is proposed as part of the trail rights-of-way designations or future implementation of the trail system. Recreational trails would not be used for evacuation and would not physically interfere with an evacuation or emergency plan. No impact is anticipated in relation to this issue and no mitigation would be necessary.

Cumulative. Cumulatively, the ~~dedication~~ designation of the recreational trail rights of way would not create or contribute to new or increased impacts in combination with other projects in regard to emergency response plans over and above the impacts discussed in this section. The rights-of-way for the recreational trails will have no impact in relation to this issue and therefore would not contribute to cumulative impacts associated with this issue.

Land Exchange between the District and the BLM

The land exchange occurring between the District and BLM is illustrated in Figure 3.16. This land exchange will allow future mining activities on land that is currently disturbed habitat and habitat conservation to occur on land that is presently habitat and water conservation. The land exchange between the District and the BLM would not facilitate any new construction and would not interfere with an emergency response plan. Water and habitat conservation activities would not obstruct evacuation routes or take place within areas accessible to the public. Mining activities would have similar impacts to those discussed above in the *Aggregate Mining* section. No impact is anticipated and no mitigation would be necessary.

Cumulative. Cumulatively, the land exchange between the District and the BLM would not create or contribute to new or increased impacts in combination with other projects in regard to emergency response plans over and above the impacts discussed in this section. The land exchange will have no impact in relation to this issue and therefore would not contribute to cumulative impacts associated with this issue.

Land Exchange between the SBCFCD and Robertson's

As part of the proposed project, the SBCFCD and Robertson's would exchange land in order to allow future mining activities on land that is currently disturbed habitat land and habitat conservation to occur on land that is presently designated for mining but is intact habitat. The habitat conservation land will remain in its natural condition and would not require construction of maintenance activities that could interfere with an emergency response plan. The mining portion of the land exchange would have similar impacts to those that are discussed in the *Aggregate Mining* portion of this section. No mitigation is necessary.

Cumulative. Cumulatively, the land exchange between the SBCFCD and Robertson's would not create or contribute to new or increased impacts in combination with other projects in regard to emergency response plans over and above the impacts discussed in this section. The land exchange will have no impact in relation to this issue and therefore would not contribute to cumulative impacts associated with this issue.

4.7.4.6 Open Pit Hazards to Trail Users

Threshold	Would the proposed project result in hazards associated with open mining pits to recreational trail users?
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Water Conservation Operations/Maintenance Activities of the District

The water conservation activities of the District do not currently utilize open pits. No activities as part of the proposed project are planned within the mining pits within the Planning Area. There would be no impact in relation to this issue and no mitigation would be necessary.

Cumulative. Cumulatively, the water conservation activities of the District would not create or contribute to new or increased impacts in combination with other projects in regard to open pit hazards to trail users over and above the impacts discussed in this section. The District's activities will have no impact in relation to this issue and therefore would not contribute to cumulative impacts associated with this issue.

Flood Control Operations/Maintenance Activities of the SBCFCD

SBCFCD activities within the proposed project would not include the construction of open mining pits and SBCFCD operations currently do not utilize mining pits. There would be no impact in relation to this issue and no mitigation would be necessary.

Cumulative. Cumulatively, the flood control activities of the SBCFCD would not create or contribute to new or increased impacts in combination with other projects in regard to open pit hazards to trail users over and above the impacts discussed in this section. The SBCFCD's activities will have no impact in relation to this issue and therefore would not contribute to cumulative impacts associated with this issue.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

No trails or open pits are planned or proposed by the EVWD or the RMUD as part of the proposed project. There would be no impact in relation to this issue and no mitigation would be necessary.

Cumulative. Cumulatively, the EVWD and RMUD activities would not create or contribute to new or increased impacts in combination with other projects in regard to open pit hazards to trail users over and above the impacts discussed in this section. The water production activities will have no impact in relation to this issue and therefore would not contribute to cumulative impacts associated with this issue.

Aggregate Mining

The proposed project includes a suggested plan of integrated trails, which would form an interconnecting network between the Cities of Highland and Redlands. Trails associated with the proposed project are discussed at length in Section 4.14. The proposed project allows mining activities that would create large open pits. With the addition of trails to the Planning Area, recreational users on the trails would be exposed to fall hazards associated with open mining pits. However, physical barriers would be installed along trails within the Planning Area, both to prevent incursions from the trails into sensitive planning areas and to prevent access to areas where mining activities will occur. Pit areas adjacent to trails will be fenced, with warning signs, have 2:1 slopes which are easily walked or driven down and pit rims will have a rock berm and signs. For this reason, impacts associated with open pit hazards to trail users are considered less than significant and no mitigation is necessary.

Cumulative. Cumulatively, the aggregate mining activities would not create or contribute to new or increased impacts in combination with other projects in regard to open pit hazards to trail users over and above the impacts discussed in this section. The aggregate mining activities will have a less than significant impact in relation to this issue and none of the other cumulative projects include open pits and therefore would not contribute to cumulative impacts associated with this issue.

Adoption of General Plan Amendments

The adoption of General Plan Amendments would allow the ~~dedication~~ designation of trails and mining operation to continue to occur within the Planning Area. A discussion of the hazards that could be present in relation to public trails and open mining pits is discussed above in the *Aggregate Mining* section and below under *Recreational Trail Rights-of-Way*. The impacts related to the General Plan Amendments would be less than significant and no mitigation would be necessary.

Cumulative. Cumulatively, the General Plan Amendments could create or contribute to new or increased impacts in combination with other projects in regard to open pit hazards to trail users over and above the impacts discussed in this section. The General Plan Amendments will allow trails to eventually be allowed within the Wash Plan near the open mine pits. By fencing open pits and including barriers near trails, cumulative impacts in relation to this issue would be less than significant.

Roadway/Bridge Rights-of-Way

The roadway and bridge portions of the project do not propose any open pits or recreational trails that would result in hazard to trail users. The bridge and roadways do include sidewalks that may be used by pedestrians; however, the roadway projects would not be located adjacent to or near enough to an open pit to create a significant hazard. No impact in relation to this issue would result and no mitigation would be necessary.

Cumulative. Cumulatively, the designation of bridge and roadway rights-of-way would not create or contribute to new or increased impacts in combination with other projects in regard to open pit hazards to trail users over and above the impacts discussed in this section. The rights-of-way will have no impact in relation to this issue and therefore would not contribute to cumulative impacts associated with this issue.

Recreational Trail Rights-of-Way

The proposed project includes a suggested plan of integrated trails for the project. Trails associated with the proposed project are discussed at length in Section 4.14. The proposed project would create large open pits associated with mining activities. With the addition of trails to the Planning Area, recreational users on the trails would be exposed to fall hazards associated with open mining pits. However, physical barriers would be installed along trails within the Planning Area, both to prevent incursions from the trails into sensitive planning areas and to prevent access to areas where mining activities will occur. Off-trail use would be discouraged by (1) signage; (2) baseline-consistent barriers placed in or near areas of sensitive habitat; (3) maintenance of existing grades, which would provide separation from adjacent areas; and (4) maintenance of surrounding area in natural conditions because boulders, topography, and soils are unsuitable for bicycle and off-road use. For this reason, impacts associated with open pit hazards to trail users are considered less than significant and no mitigation is necessary.

Cumulative. Cumulatively, the ~~dedication~~ designation of recreational trail rights-of-way would not create or contribute to new or increased impacts in combination with other projects in regard to open pit hazards to trail users over and above the impacts discussed in this section. None of the other cumulative projects listed in Table 2.A would include open mine pits or trails near mine pits. No cumulative projects will have an impact in relation to this issue and therefore would not contribute to cumulative impacts associated with this issue.

Land Exchange between the District and the BLM

Through the land exchange, property will be acquired by the BLM for habitat conservation, and by the District for mining operations. This land exchange will include mining areas and recreational trails that could contribute to a hazard to recreational trail users. The impacts associated with mining and recreational trails are discussed in the *Aggregate Mining* and *Recreational Trails* sections above. No impact will result from the land exchange and no mitigation is necessary.

Cumulative. Cumulatively, the land exchange between the District and the BLM would not create or contribute to new or increased impacts in combination with other projects in regard to open pit hazards to trail users over and above the impacts discussed in this section. The land exchange will have no impact in relation to this issue and therefore would not contribute to cumulative impacts associated with this issue.

Land Exchange between the SBCFCD and Robertson's

Through the land exchange, property will be acquired by the SBCFCD for habitat conservation and by Robertson's for mining operations. The habitat conservation portion of this exchange does not propose any recreational trails or open mining pits. The portion of the property to be used for mining purposes may eventually be used for open pit mining and would have a similar impact to those discussed above in the *Aggregate Mining* section. Such impacts would be less than significant and no mitigation is necessary.

Cumulative. Cumulatively, the land exchange between the SBCFCD in Robertson's would not create or contribute to new or increased impacts in combination with other projects in regard to open pit hazards to trail users over and above the impacts discussed in this section. The land exchange will have no impact in relation to this issue and therefore would not contribute to cumulative impacts associated with this issue.

Impact 4.7.4.7 Wildland Fires

Threshold:	Would the proposed 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 wildland?
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Water Conservation Operations/Maintenance Activities of the District

The District will continue to operate, maintain, and repair its water conservation facilities (access roads, canals, culverts, dikes, basins, and diversion structures) within the Planning Area in the same manner as existing conditions. As described in Section 3.6.1, while there is the potential for future water conservation facilities to be built within the Planning Area, at this point in time, the specific location, size, and type of facilities are unknown. Aside from this EIR's programmatic evaluation of impacts to biological resources associated with any potential future water conservation facilities, these facilities will be required to undergo project-specific environmental analysis prior to their construction and implementation. Maintenance operations occur only occasionally within the Planning Area and the present number of workers required to maintain and operate the District's facilities would not be increased in relation to what currently exists as a result of the proposed project. There is no new risk of exposure of people to wildland fire danger as a result of the District's activities. No impact would result and no mitigation is necessary.

Cumulative. Cumulatively, District water conservation operations and maintenance would not create or contribute to new or increased impacts in combination with other projects in regard to wildland fire hazards over and above the impacts discussed in this section. The District's activities will have no impact in relation to this issue and therefore would not contribute to cumulative impacts associated with this issue.

Flood Control Operations/Maintenance Activities of the SBCFCD

As described in Section 3.6.2, there is only a ~~6-acre~~ 8-acre change to the amount of land used for flood control or the operations and maintenance of those lands with the proposed project. Similar to the discussion for water conservation, because activities associated with flood control would remain as they are now with the implementation of the proposed project and would not create an additional risk to people or structures as a result of a wildland fire. No Impact is anticipated and no mitigation is necessary.

Cumulative. Cumulatively, SBCFCD flood control operations and maintenance would not create or contribute to new or increased impacts in combination with other projects in regard to wildland fire hazards over and above the impacts discussed in this section. The SBCFCD's activities will have no impact in relation to this issue and therefore would not contribute to cumulative impacts associated with this issue.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Similar to the discussion of flood control activities, there is no change associated with water production operations/maintenance of the EVWD and RMUD. The project proposes no increase in the operation and maintenance of EVWD and RMUD facilities. The activities of the EVWD and RMUD would remain as they are now with the implementation of the proposed project and would not create an additional risk to people or structures as a result of a wildland fire. No impact is anticipated and no mitigation is necessary.

Cumulative. Cumulatively, the water production operations and maintenance activities of the EVWD and RMUD would not create or contribute to new or increased impacts in combination with other projects in regard to wildland fire hazards over and above the impacts discussed in this section. The water production activities will have no impact in relation to this issue and therefore would not contribute to cumulative impacts associated with this issue.

Aggregate Mining

Vegetated natural hillsides susceptible to wildland fires are adjacent to a portion of the Planning Area. These natural hillsides are not directly adjacent to areas used for aggregate mining activities. The proposed project does not include development of structures or residences. Persons working within expanded mining operations would not be exposed to risks associated with wildland fires. In areas where mining activities occur, vegetation surrounding mining equipment is cleared to maintain adequate fire protection. Fire prevention and suppression equipment is maintained at the mining sites in accordance with State and local fire codes and all other applicable laws. Due to the fact that mining activities are conducted in accordance with State and local fire codes, the potential for significant impacts associated with wildland fires is less than significant. Impacts related to this issue would be less than significant and no mitigation is necessary.

Cumulative. Cumulatively, aggregate mining could create or contribute to new or increased impacts in combination with other projects in regard to wildland fire hazards over and above the impacts discussed in this section. The potential exists for more than one project within the Wash Plan to occur at the same time. If the cumulative projects identified Table 2.A were to occur at the same time as the aggregate mining, the potential to place workers in areas where they could be exposed to wildland fire hazards increases. However the numbers of workers would not be significant and these projects are temporary in nature. Therefore, while there is the potential for an impact to occur, it is anticipated that any impacts would be less than significant.

Adoption of General Plan Amendments

The General Plan Amendments will allow the uses proposed by the Wash Plan to take place. Each of the components of the Wash Plan is analyzed within this section under a separate heading. Each of these components will have a less than significant impact in relation to this issue and no mitigation is proposed for any of these components. Therefore, the adoption of General Plan Amendments will have a less than significant impact in relation to this issue and no mitigation is necessary.

Roadway/Bridge Rights-of-Way

The proposed project includes the setting aside of rights-of-way for subsequent improvements to Greenspot Road and the Greenspot Road Bridge, Alabama Street, and Orange Street-Boulder Avenue. The designation of rights-of-way for roadway widening, realignment, and future bridge construction would not create risks of wildland fire greater than those that are currently present within the Planning Area. The roads to be widened, with the exception of Greenspot Road on the eastern end of the Planning Area, are currently in place and will retain their same basic alignment. Greenspot Road will be realigned to pass approximately 250 feet east of the existing Greenspot Road Bridge. The remaining portions of the road will generally follow their existing alignments. To accommodate the new bridge, portions of the roadway would be moved toward the interior of the project farther away from the existing naturally vegetated slopes, thereby decreasing risks of wildland fire hazards. Subsequent project-specific impact analysis and design-level construction drawings for these roadways will be prepared at a later date. No impact would result and no mitigation is necessary.

Cumulative. Cumulatively, the designation of bridge and roadway rights-of-way would not create or contribute to new or increased impacts in combination with other projects in regard to wildland fire hazards over and above the impacts discussed in this section. The rights-of-way will have no impact in relation to this issue and therefore would not contribute to cumulative impacts associated with this issue.

Recreational Trail Rights-of-Way

The majority of the trail rights-of-way are located outside of the Fire Severity Zones. The trail rights-of-way do not propose any structures within these zones. Vegetated natural hillsides susceptible to wildland fires are adjacent to some trail areas. Though the plan does not include development of structures or residences, persons using the trails could be exposed to risks of wildland fires. However, a large number of people would not be present on the trail at any given time and a less than significant impact would result and no mitigation would be necessary.

Cumulative. Cumulatively, recreational trail rights-of-way would not create or contribute to new or increased impacts in combination with other projects in regard to wildland fire hazards over and above the impacts discussed in this section. The trail rights-of-way will not have a significant impact in relation to this issue and the cumulative projects listed in Table 2.A would not contribute a significant number of people to the trails to increase any impacts and therefore would not contribute to cumulative impacts associated with this issue.

Land Exchange between the District and the BLM

The land exchange will allow mining activities to occur on land that is currently disturbed habitat and habitat conservation to occur on land that is designated for mining but is suitable for habitat conservation. The habitat conservation area would continue to be used jointly for water conservation. People and structures would not be permitted in the habitat conservation area. The mining activities that could result from this land exchange will have similar impacts to those previously discussed in the *Aggregate Mining* portion of this section. No structures are proposed within this portion of the proposed project. No risks associated with exposing people or structures to wildland fires would result from the land exchange and no mitigation would be required.

Cumulative. Cumulatively, the District's land exchange with the BLM would not create or contribute to new or increased impacts in combination with other projects in regard to wildland fire hazards over and above the impacts discussed in this section. The land exchange will have no impact in relation to this issue and therefore would not contribute to cumulative impacts associated with this issue.

Land Exchange between the SBCFCD and Robertson's

The land exchange will allow mining activities to occur on land that is currently disturbed habitat and habitat conservation to occur on land that is designated for mining but is suitable for habitat conservation. The habitat area would remain undisturbed. People and structures would not be permitted in the habitat conservation area. The mining activities that could result from this land exchange will have similar impacts to those previously discussed in the *Aggregate Mining* portion of this section. Therefore, a less than significant impact is anticipated and no mitigation is necessary.

Cumulative. Cumulatively, land exchange between the SBCFCD and the District could create or contribute to new or increased impacts in combination with other projects in regard to wildland fire hazards over and above the impacts discussed in this section. The land exchange would allow mining activities to occur that would have cumulative impacts similar to those listed under Aggregate Mining and it is anticipated that these impacts would be less than significant.

Impact 4.7.4.8 Hazardous Material Sites

Threshold:	Would the proposed project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?
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Water Conservation Operations/Maintenance Activities of the District

Contamination has not been identified on the properties operated by the District. The areas utilized by the District are currently vacant. Maintenance activities associated with the proposed project have the remote potential to uncover previously undiscovered contamination. The potential for the discovery of unknown contamination related to an unrecorded well or hazardous materials is a less than significant impact. However, in the event that hazardous materials and/or contaminants are discovered in the Planning Area, the implementation of **Mitigation Measures HAZ-1** through **HAZ-4** would reduce impacts to a less than significant level.

Mitigation Measures. In the event that hazardous materials and/or contaminants are discovered in the Planning Area, the following mitigation measures shall be implemented.

- HAZ-1** The Department of Toxic Substances Control (DTSC) shall be immediately notified in the event malodorous or discolored soils, liquids, containers, or other materials known or suspected to contain hazardous materials and/or contaminants are encountered during activities associated with the proposed project. Earthmoving activities in the vicinity of said material shall be halted until the extent and nature of the suspect material is determined by qualified personnel (as determined by the DTSC). The removal and/or disposal of any such contaminants shall be in accordance with all applicable local, State, and Federal standards.
- HAZ-2** The Department of Conservation, Division of Oil, Gas, & Geothermal Resources shall be immediately notified in the event that a previously unrecorded well is discovered during the course of activities associated with the proposed project. Earthmoving activities in the vicinity of said material shall be halted until the extent and nature of the suspect material is determined by qualified personnel (as determined by the Department of Conservation,

Division of Oil, Gas, & Geothermal Resources) and any necessary remedial action is completed. The removal and/or disposal of any such contaminants shall be in accordance with all applicable local, State, and Federal standards.

HAZ-3 Prior to the issuance of any permit required for project-related ground-disturbing activities a site-specific Phase I Environmental Site Assessment in accordance with DTSC standards shall be completed and submitted to the appropriate jurisdiction for review. In the event that hazardous materials are discovered, the project applicant shall provide evidence to the appropriate agency (agencies) that remediation and/or mitigation of said site has been completed to the satisfaction of the appropriate local, regional, State, and/or Federal entity, prior to any ground-disturbing activities within 100 feet of any hazardous material site identified during a project-specific Phase I.

HAZ-4 In the event of any identification of or spill of hazardous materials and/or contaminants in the Planning Area, the party whose activity resulted in the spill or release shall notify the District of the location, extent, and nature of the spill or release. The District shall thereupon assess the depth to groundwater in the area of the release, and if it appears that groundwater tables are high enough to create a potential for exposure of the groundwater table to the spill or release, will modify its recharge operations as much as feasible to prevent groundwater table intersection with the identified spill or release.

Level of Significance after Mitigation. Adherence to applicable local, State, and Federal standards along with **Mitigation Measures HAZ-1, HAZ-2, HAZ-3, and HAZ-4** will reduce the potential impacts associated with the discovery of hazardous materials and/or contaminants to a less than significant level.

Cumulative. Cumulatively, the water conservation activities of the District could create or contribute to new or increased impacts in combination with other projects in regard to potentially being located on a hazardous materials site over and above the impacts discussed in this section. Since the cumulative projects listed in Table 2.A include ground-disturbing activities, the potential for impacts in relation to this issue is increased. All cumulative projects would be required to adhere to the same mitigation measures listed in this section, which would reduce impacts to a level that is less than significant.

Flood Control Operations/Maintenance Activities of the SBCFCD

No known contamination has been identified on the properties operated by the SBCFCD. The areas operated and maintained by the SBCFCD are currently vacant. Maintenance activities associated with the proposed project have the remote potential to uncover previously undiscovered contamination. The potential for the discovery of unknown contamination related to an unrecorded well or hazardous materials is a less than significant impact. However, in the event that hazardous materials and/or contaminants are discovered in the Planning Area, the implementation of **Mitigation Measures HAZ-1, HAZ-2, HAZ-3, and HAZ-4** would reduce impacts to a less than significant level.

Cumulative. Cumulatively, the flood control activities of the SBCFCD could create or contribute to new or increased impacts in combination with other projects in regard to potentially being located on a hazardous materials site over and above the impacts discussed in this section. Since the cumulative projects listed in Table 2.A include ground-disturbing activities, the potential for impacts in relation to this issue is increased. All cumulative projects would be required to adhere to applicable regulatory requirements regarding the use, handling, and transport of hazardous materials and contaminants. Any hazardous materials sites located within the boundaries of any of the cumulative projects' planning areas would be addressed in their specific, project-level environmental review, and can reasonably be presumed to require mitigation of any impacts to a level of non-significance. As such, cumulative impacts would be reduced to a level that is less than significant.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Contamination has not been known to occur on the properties operated by the EVWD and RMUD. The facilities operated and maintained by the EVWD and RMUD are currently in place and will require no new construction. Maintenance activities associated with the proposed project have the remote potential to uncover previously undiscovered contamination. The potential for the discovery of unknown contamination related to an unrecorded well or hazardous materials is a less than significant impact. However, in the event that hazardous materials and/or contaminants are discovered in the Planning Area, the implementation of **Mitigation Measures HAZ-1, HAZ-2, HAZ-3, and HAZ-4** would reduce impacts to a less than significant level.

Cumulative. Cumulatively, the operation and maintenance activities of the EVWD and RMUD could create or contribute to new or increased impacts in combination with other projects in regard to potentially being located on a hazardous materials site over and above the impacts discussed in this section. Since the cumulative projects listed in Table 2.A include ground-disturbing activities, the potential for impacts in relation to this issue is increased. All cumulative projects would be required to adhere to applicable regulatory requirements regarding the use, handling, and transport of hazardous materials and contaminants. Any hazardous materials sites located within the boundaries of any of the cumulative projects' planning areas would be addressed in their specific, project-level environmental review, and can reasonably be presumed to require mitigation of any impacts to a level of non-significance. As such, cumulative impacts would be reduced to a level that is less than significant.

Aggregate Mining

The Planning Area is not listed on the Hazardous Waste and Substance Site List (Cortese List) of the Department of Toxic Substance Control; however, the San Bernardino International Airport located to the west of the Planning Area and previously the home of Norton Air Force Base is included on the Cortese List. The California Department of Toxic Substance Control identifies Norton Air Force Base as a site where surface and/or subsurface contamination occurred because of the release of hazardous materials or wastes.

Contamination has not been known to occur within the mining expansion areas proposed by the project, which are currently vacant. Activities associated with the Planning Area, such as ground disturbance associated with mining activities, have the remote potential to uncover previously undiscovered contamination. The proposed project is not located within the administrative boundaries of any oil or gas field.¹ However, in the event that hazardous materials and/or contaminants are discovered in the Planning Area, the implementation of **Mitigation Measures HAZ-1, HAZ-2, HAZ-3, and HAZ-4** would reduce impacts to a less than significant level.

Cumulative. Cumulatively, the aggregate mining activities could create or contribute to new or increased impacts in combination with other projects in regard to potentially being located on a hazardous materials site over and above the impacts discussed in this section. Since the cumulative projects listed in Table 2.A include ground-disturbing activities, the potential for impacts in relation to this issue is increased. All cumulative projects would be required to adhere to applicable regulatory requirements regarding the use, handling, and transport of hazardous materials and contaminants. Any hazardous materials sites located within the boundaries of any of the cumulative projects' planning areas would be addressed in their specific, project-level environmental review, and can reasonably be presumed to require mitigation of any impacts to a level of non-significance. As such, cumulative impacts would be reduced to a level that is less than significant..

¹ Paul Frost, Department of Conservation, Division of Oil, Gas, & Geothermal Resources, letter dated June 2, 2004.

Adoption of General Plan Amendments

The General Plan Amendments will allow the uses discussed in this section to take place. Each of the components that would be allowed as part of the General Plan Amendments is discussed in the appropriate section. Contamination is not known to occur within the project boundaries. The potential for the discovery of unknown contamination related to an unrecorded well or hazardous materials is a less than significant impact. However, in the event that hazardous materials and/or contaminants are discovered in the Planning Area, the implementation of **Mitigation Measures HAZ-1, HAZ-2, HAZ-3, and HAZ-4** would reduce impacts to a less than significant level.

Cumulative. Cumulatively, the General Plan Amendments could create or contribute to new or increased impacts in combination with other projects in regard to potentially being located on a hazardous materials site over and above the impacts discussed in this section. Since the cumulative projects listed in Table 2.A include ground-disturbing activities, the potential for impacts in relation to this issue is increased. All cumulative projects would be required to adhere to applicable regulatory requirements regarding the use, handling, and transport of hazardous materials and contaminants. Any hazardous materials sites located within the boundaries of any of the cumulative projects' planning areas would be addressed in their specific, project-level environmental review, and can reasonably be presumed to require mitigation of any impacts to a level of non-significance. As such, cumulative impacts would be reduced to a level that is less than significant.

Roadway/Bridge Rights-of-Way

Contamination has not been known to occur within the areas proposed for future roadway rights-of-way ~~dedications~~ designations. The remote potential to uncover previously undiscovered contamination exists within these areas. The potential for the discovery of unknown contamination related to an unrecorded well or hazardous materials is a less than significant impact. However, in the event that hazardous materials and/or contaminants are discovered in the Planning Area, the implementation of **Mitigation Measures HAZ-1, HAZ-2, HAZ-3, and HAZ-4** would ensure that impacts are reduced to a less than significant level.

Cumulative. Cumulatively, the designation of bridge and roadway rights-of-way could create or contribute to new or increased impacts in combination with other projects in regard to potentially being located on a hazardous materials site over and above the impacts discussed in this section. Since the cumulative projects listed in Table 2.A include ground-disturbing activities, the potential for impacts in relation to this issue is increased. All cumulative projects would be required to adhere to applicable regulatory requirements regarding the use, handling, and transport of hazardous materials and contaminants. Any hazardous materials sites located within the boundaries of any of the cumulative projects' planning areas would be addressed in their specific, project-level environmental review, and can reasonably be presumed to require mitigation of any impacts to a level of non-significance. As such, cumulative impacts would be reduced to a level that is less than significant.

Recreational Trail Rights-of-Way

The designation of rights-of-way for recreational trails as part of the proposed project will not require construction and no ground disturbing activities are proposed. The recreational trails will be located in areas that were formerly access road and railroad rights-of-way and possibility of discovery of hazardous materials within these rights-of-way is remote. However, in the event that hazardous materials and/or contaminants are discovered on the Planning Area, the implementation of **Mitigation Measures HAZ-1, HAZ-2, HAZ-3, and HAZ-4** would ensure that impacts are reduced to a less than significant level.

Cumulative. Cumulatively, the designation of recreational trail rights-of-way could create or contribute to new or increased impacts in combination with other projects in regard to potentially being located on a hazardous materials site over and above the impacts discussed in this section.

Since the cumulative projects listed in Table 2.A include ground-disturbing activities, the potential for impacts in relation to this issue is increased. All cumulative projects would be required to adhere to applicable regulatory requirements regarding the use, handling, and transport of hazardous materials and contaminants. Any hazardous materials sites located within the boundaries of any of the cumulative projects' planning areas would be addressed in their specific, project-level environmental review, and can reasonably be presumed to require mitigation of any impacts to a level of non-significance. As such, cumulative impacts would be reduced to a level that is less than significant.

Land Exchange between the District and the BLM

Contamination has not been known to occur on the properties operated by the District or the BLM. The areas utilized by the District are currently vacant and will be used for habitat conservation, aggregate mining and potential future water conservation facilities after the completion of the land exchange. Water conservation activities will continue on the District's land. Maintenance activities associated with water conservation activities have the remote potential to uncover previously undiscovered contamination. Land owned by the BLM to be exchanged to the District is currently disturbed and will be available for mining use. The potential discovery of unknown contamination related to an unrecorded well or hazardous materials is a less than significant impact. However, in the event that hazardous materials and/or contaminants are discovered in the Planning Area, the implementation of **Mitigation Measures HAZ-1, HAZ-2, HAZ-3, and HAZ-4** would ensure that impacts are reduced to a less than significant level.

Cumulative. Cumulatively, the land exchange between the District and the BLM could create or contribute to new or increased impacts in combination with other projects in regard to potentially being located on a hazardous materials site over and above the impacts discussed in this section. Since the cumulative projects listed in Table 2.A include ground-disturbing activities, the potential for impacts in relation to this issue is increased. All cumulative projects would be required to adhere to applicable regulatory requirements regarding the use, handling, and transport of hazardous materials and contaminants. Any hazardous materials sites located within the boundaries of any of the cumulative projects' planning areas would be addressed in their specific, project-level environmental review, and can reasonably be presumed to require mitigation of any impacts to a level of non-significance. As such, cumulative impacts would be reduced to a level that is less than significant.

Land Exchange between the SBCFCD and Robertson's

Contamination has not been known to occur on the properties operated by the SBCFCD or Robertson's. The areas utilized by the Robertson's are currently vacant and will be used for habitat conservation after the completion of the land exchange. Through the land exchange, land that is currently disturbed habitat will be available for mining uses. The potential for the discovery of unknown contamination related to an unrecorded well or hazardous materials is a less than significant impact. However, in the event that hazardous materials and/or contaminants are discovered in the Planning Area, the implementation of **Mitigation Measures HAZ-1, HAZ-2, HAZ-3, and HAZ-4** would ensure that impacts are reduced to a less than significant level.

Cumulative. Cumulatively, the land exchange between the SBCFCD and Robertson's could create or contribute to new or increased impacts in combination with other projects in regard to potentially being located on a hazardous materials site over and above the impacts discussed in this section. Since the cumulative projects listed in Table 2.A include ground-disturbing activities, the potential for impacts in relation to this issue is increased. All cumulative projects would be required to adhere to applicable regulatory requirements regarding the use, handling, and transport of hazardous materials and contaminants. Any hazardous materials sites located within the boundaries of any of the cumulative projects' planning areas would be addressed in their specific, project-level environmental review, and can reasonably be presumed to require mitigation of any impacts to a level of non-significance. As such, cumulative impacts would be reduced to a level that is less than significant.

Impact 4.7.4.9 Material and Debris from Trucks

Threshold:	Would the proposed project result in a safety hazard for motorists due to falling debris from trucks?
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Water Conservation Operations/Maintenance Activities of the District

Operation and maintenance activities of the District would not change as a result of the proposed project. Occasional maintenance activities could require the transport of materials by truck on public roadways and could have a potentially significant impact. Compliance with applicable laws related to transporting materials in these trucks and the implementation of **Mitigation Measure HAZ-5** will ensure that impacts associated with this issue are reduced to a less than significant level.

Mitigation Measures. The following mitigation measure is prescribed to reduce the impact of potential road hazards from falling materials from trucks to a less than significant level.

HAZ-5 All loads in open street legal trucks shall be no higher than 6.0 inches below the top of the truck wall or covered and shall be subject to spot inspection pursuant to the Community Development Directors of the Cities of Highland and Redlands.

Level of Significance after Mitigation. With the proposed mitigation measure and compliance with all applicable local, State, and Federal requirements, potential impacts associated with hazards to motorist from debris and materials falling from mining delivery trucks associated with the proposed project are less than significant.

Cumulative. Cumulatively, the water conservation activities of the District have the potential to create impacts in addition to those that have been previously discussed in this section. Cumulative projects in the area during their construction would likely include the use of equipment and open street legal trucks to import or export materials. While there is the potential for there to be a cumulative impact related to falling material from trucks, it is reasonable to assume that similar mitigation measures would be imposed upon all projects in this area with this potential. By adhering to the mitigation measures listed in this section, cumulative impacts would be less than significant.

Flood Control Operations/Maintenance Activities of the SBCFCD

Operations and facilities maintenance that would be conducted by the SBCFCD would continue as part of the proposed project. These activities do not regularly require the transport of materials in trucks that could fall and become a hazard to motorists. Occasional maintenance activities could require the transport of materials by truck on public roadways. The transport of material required for maintenance could have a potentially significant impact. Compliance with applicable laws related to transporting materials in these trucks and the implementation of **Mitigation Measure HAZ-5** will ensure that impacts associated with this issue are reduced to a less than significant level.

Cumulative. Cumulatively, flood control operations and maintenance activities of the SBCFCD have the potential to create impacts in addition to those that have been previously discussed in this section. Cumulative projects in the area during their construction would likely include the use of equipment and open street legal trucks to import or export materials. While there is the potential for there to be a cumulative impact related to falling material from trucks, it is reasonable to assume that similar mitigation measures would be imposed upon all projects in this area with this potential. By adhering to the mitigation measures listed in this section, cumulative impacts would be less than significant.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Operations and facilities maintenance that would be conducted by the EVWD and the RMUD would continue as part of the proposed project. These activities do not regularly require the transport of materials in trucks that could fall and become a hazard to motorists. Occasional maintenance activities could require the transport of materials by truck on public roadways. The transport of material required for maintenance could have a potentially significant impact. Compliance with applicable laws related to transporting materials in these trucks and the implementation of **Mitigation Measure HAZ-5** will ensure that impacts associated with this issue are reduced to a less than significant level.

Cumulative. Cumulatively, water production operations and maintenance activities of the EVWD and the RMUD have the potential to create impacts in addition to those that have been previously discussed in this section. Cumulative projects in the area during their construction would likely include the use of equipment and open street legal trucks to import or export materials. While there is the potential for there to be a cumulative impact related to falling material from trucks, it is reasonable to assume that similar mitigation measures would be imposed upon all projects in this area with this potential. By adhering to the mitigation measures listed in this section, cumulative impacts would be less than significant.

Aggregate Mining

Cemex and Robertson's have private haul roads that cover an area of approximately 19 acres within the Planning Area. These private haul roads are used internally by mining trucks and do not have public access; therefore, no motorists would cross paths with mining trucks in the Planning Area. The Cemex haul road connects the Alabama Street operations with the Orange Street Plant via a signalized intersection on Orange Street-Boulder Avenue. Robertson's trucks use a tunnel crossing under Orange Street-Boulder Avenue to provide a haul route from the Old Webster Quarry to the Plunge Creek East Basin processing plant. Cemex has signed an agreement with Robertson's to use the tunnel crossing under Orange Street-Boulder Avenue for truck travel between the Orange Street Plant and Alabama Street and West Quarries.

Although Cemex and Robertson's have private delivery roads for traversing the Planning Area, to leave the Planning Area and get onto freeways, commercial delivery trucks use public roadways. Cemex and Robertson's use three different types of trucks:

- Ready mix drum trucks;
- Sand and gravel transfer trucks; and
- Sand and gravel bottom dump trucks.

While most of these vehicles are covered or enclosed, they present a low risk of falling debris. Materials and debris could fall from the bottom-dumping trucks or transfer trucks while traveling on public roadways, presenting a potentially hazardous condition for other motorists.

Cemex commercial vehicles currently exit private haul roads onto Orange Street-Boulder Avenue, and proceed west along Fifth Street for access onto State Route 30. These trucks traverse approximately 1.4 miles along these local public roadways before accessing the freeway. Robertson's trucks currently exit the private haul roads at Alabama Street to Fifth Street to access State Route 30. Robertson's trucks travel approximately 1.0 mile along these local public roadways before getting on the freeway.

With the proposed project, a new Fifth Street access road would be constructed, greatly reducing distances and time traveled on local, public roadways. In addition, prior to entering State Route 30, ready mix drum trucks, sand and gravel transfer trucks, and sand and gravel bottom dump trucks would cross paths less frequently with public vehicles. Because the proposed project includes the

construction of a new access road to Fifth Street, safety hazards to vehicles on public roadways would be decreased as a result when compared to the baseline condition. This is considered a beneficial impact.

As is currently the practice, all trucks will meet California Vehicle Code weight limitations. All open loads will be no higher than 6.0 inches below the top of the truck walls. With the loads lower than the walls of the trucks, materials are less likely to fall out of the back of bottom-dumping and transfer trucks and cause hazards to motorists. The current practices in place to prevent falling materials from trucks will continue to be implemented. During the future project mining operations more vehicles will be using roads within and adjacent to the Planning Area. However, the vehicles used in conjunction with materials hauling will travel less on public streets as the access and haul roads are built. Compliance with applicable laws related to transporting materials in these trucks and the implementation of **Mitigation Measure HAZ-5** will ensure that impacts associated with this issue are reduced to a less than significant level.

Cumulative. Cumulatively, aggregate mining activities have the potential to create impacts in addition to those that have been previously discussed in this section. Cumulative projects in the area during their construction would likely include the use of equipment and open street legal trucks to import or export materials. While there is the potential for there to be a cumulative impact related to falling material from trucks, it is reasonable to assume that similar mitigation measures would be imposed upon all projects in this area with this potential. By adhering to the mitigation measures listed in this section, cumulative impacts would be less than significant.

Adoption of General Plan Amendments

The General Plan Amendments that would be required for the implementation of the proposed project would allow uses that could utilize trucks hauling materials. Hauling materials in trucks presents the danger of falling debris, resulting in a potentially significant impact. Compliance with applicable laws related to transporting materials in these trucks and the implementation of **Mitigation Measure HAZ-5** will ensure that impacts associated with this issue are reduced to a less than significant level.

Cumulative. Cumulatively, the activities that will take place upon the adoption of the General Plan Amendments have the potential to create impacts in addition to those that have been previously discussed in this section. Cumulative projects in the area during their construction would likely include the use of equipment and open street legal trucks to import or export materials. While there is the potential for there to be a cumulative impact related to falling material from trucks, it is reasonable to assume that similar mitigation measures would be imposed upon all projects in this area with this potential. By adhering to the mitigation measures listed in this section, cumulative impacts would be less than significant.

Roadway/Bridge Rights-of-Way

Right of way ~~dedication~~ designation for road widening and bridge construction may result in the future need to haul construction materials to and from the project sites. During the construction phase of these improvements the possibility of hazards to motorists from falling debris from trucks exists, resulting in a potentially significant impact. Compliance with applicable laws related to transporting materials in these trucks and the implementation of **Mitigation Measure HAZ-5** will ensure that impacts associated with this issue are reduced to a less than significant level.

Cumulative. Cumulatively, designation of bridge and roadway rights-of-way has the potential to create impacts in addition to those that have been previously discussed in this section. Cumulative projects in the area during their construction would likely include the use of equipment and open street legal trucks to import or export materials. While there is the potential for there to be a cumulative impact related to falling material from trucks, it is reasonable to assume that similar

mitigation measures would be imposed upon all projects in this area with this potential. By adhering to the mitigation measures listed in this section, cumulative impacts would be less than significant.

Recreational Trail Rights-of-Way

The designation of rights-of-way for trails would not require the hauling of materials by truck. The trails would require no new construction and their use would be primarily pedestrian in nature. No impact would result.

Cumulative. Cumulatively, the ~~dedication~~ designation of recreational trail rights-of-way would not create additional impacts. This activity has no impact in relation to this issue and therefore it does not contribute to any cumulative impact.

Land Exchange between the District and the BLM

This land exchange will allow mining activities to expand and would allow habitat areas to be conserved. Water conservation activities will continue to occur on the land to become BLM land. The mining activities that could occur as a result of this land exchange, as well as maintenance activities in the areas for water conservation facilities could result in the potential for the hauling of materials by trucks. Falling debris from trucks could cause a hazard to motorists and would result in a potentially significant impact. Compliance with applicable laws related to transporting materials in these trucks and the implementation of **Mitigation Measure HAZ-5** will ensure that impacts associated with this issue are reduced to a less than significant level.

Cumulative. Cumulatively, the land exchange between the District and the BLM has the potential to create impacts in addition to those that have been previously discussed in this section. Cumulative projects in the area during their construction would likely include the use of equipment and open street legal trucks to import or export materials. While there is the potential for there to be a cumulative impact related to falling material from trucks, it is reasonable to assume that similar mitigation measures would be imposed upon all projects in this area with this potential. By adhering to the mitigation measures listed in this section, cumulative impacts would be less than significant.

Land Exchange between the SBCFCD and Robertson's

The land exchange will allow mining activities to expand and would allow habitat areas to be conserved. The habitat conservation area to be managed by the SBCFCD will not require the transport of materials that could fall from trucks. The mining activities that could occur as a result of this land exchange will likely require the transport of materials that could fall from a truck causing a hazard to motorist. The mining activities proposed by Robertson's that may occur will have the same impacts as those discussed in the *Aggregate Mining* portion of this section. A potentially significant impact would result. Compliance with applicable laws related to transporting materials in these trucks and the implementation of **Mitigation Measure HAZ-5** will ensure that impacts associated with this issue are reduced to a less than significant level.

Cumulative. Cumulatively, the land exchange between the SBCFCD and Robertson's has the potential to create impacts in addition to those that have been previously discussed in this section. Cumulative projects in the area during their construction would likely include the use of equipment and open street legal trucks to import or export materials. While there is the potential for there to be a cumulative impact related to falling material from trucks, it is reasonable to assume that similar mitigation measures would be imposed upon all projects in this area with this potential. By adhering to the mitigation measures listed in this section, cumulative impacts would be less than significant.

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4.8 HYDROLOGY AND WATER QUALITY

This section describes the hydrologic conditions on and adjacent to the Planning Area and evaluates potential impacts to surface and groundwater resources associated with the proposed project. This section is based in part on the following documents:

- *Mine and Reclamation Plans for the Upper Santa Ana River Wash Aggregate Lands to be Operated by Cemex Construction Material L.P.*, prepared by Lilburn Corporation, March 2006; Appendix G;
- *Mine and Reclamation Plans for the Upper Santa Ana River Wash Aggregate Lands to be Operated by Robertson's Ready Mix.*, prepared by Lilburn Corporation, March 2006; Appendix H; and
- *Water Quality Control Plan for the Santa Ana River Basin* (Region 8 Santa Ana Regional Water Quality Control Board, 1995), which is hereby incorporated by reference.
- *Final Environmental Impact Report—San Bernardino Valley Water Conservation District, Santa Ana River and Mill Creek Rights Application and Groundwater Management Plan* (SCH No. 2003071003).

4.8.1 Existing Setting

The following paragraphs describe the hydrologic conditions that currently exist within the Planning Area. The hydrologic conditions include five main categories:

- Drainage patterns;
- Flood conditions;
- Groundwater quality;
- Surface water quality; and
- Stormwater quality.

Existing Drainage Patterns

The Santa Ana River enters the Planning Area from the northeast and continues along the southern boundary of the Planning Area, flowing southwest until it reaches the Pacific Ocean. There are three additional water features that are present within or border the Planning Area:

- Plunge Creek on the north;
- City Creek to the northwest; and
- Mill Creek to the southeast.

Plunge Creek enters into the Planning Area along the northern boundary and City Creek skims the northwest boundary of the Planning Area. Mill Creek joins the Santa Ana River near the southeast corner of the Planning Area.

Surface water flows are generally present only after storm events, floods, or during the rainy season (typically beginning in November and ending in April) making the creeks within the Planning Area ephemeral. Groundwater underlying the Planning Area is considered to be part of Bunker Hill II sub-basin (discussed later in this section). In the Bunker Hill II sub-basin, water flows westerly toward the Pressure Zone¹ with an average hydraulic gradient² of approximately 0.031 or 161 feet per minute.³

¹ The Pressure Zone refers to an area in the Bunker Hill Basin in which high groundwater levels occur.

² A hydraulic gradient is a measurement used in groundwater science to calculate directions and rates of groundwater flow and is the slope of the water table in unconfined aquifers or the pressure surface in confined aquifers. The hydraulic gradient is a ratio of the vertical difference between two places on the water table and their horizontal distance apart.

³ 2005-2006 Engineering Investigation for Bunker Hill Basin, *Groundwater Conditions in the San Bernardino Valley Water Conservation District*, San Bernardino Valley Water Conservation District, 2006.

Existing Flood Conditions

As illustrated in Figure 4.8.1, the majority of the Planning Area is susceptible to flood inundation associated with dam failure of one reservoir facility: Seven Oaks Dam. The Seven Oaks Dam is located approximately 1.0 mile northeast from the Planning Area. The reservoir formed by this dam has a capacity of 145,600 acre-feet¹ and drains an area consisting of approximately 177 square miles of terrain.² During the early part of each flood season, runoff is stored behind the Seven Oaks Dam to build a debris pool³ to protect and maintain flows coming from the dam outlet works. The minimum downstream flow requirement, 3.0 cubic feet per second (cfs), is made on a continual basis to maintain downstream water supply and for operational uses.

During a flood event, Seven Oaks Dam stores water destined for Prado Dam, approximately 40.3 miles downstream, as long as the reservoir pool⁴ at Prado Dam is rising. Once a flood threat at Prado Dam is over, Seven Oaks Dam begins to release its stored water at a rate that does not exceed the downstream channel capacity. At the end of each flood season,⁵ the reservoir at Seven Oaks is gradually drained, and the Santa Ana River flows through unhindered. The maximum flood that could occur at the Seven Oaks Dam would have a total volume of 356,000 acre-feet and a peak inflow of 180,000 cfs; however, a majority of flows from heavy storms (10-year⁶ or greater storm event) would be contained by the Seven Oaks Dam.

Table 4.8.A details anticipated 100-year flows normally present in the Planning Area for three river segments: Seven Oaks Dam to Mill Creek, Mill Creek to Orange Street-Boulder Avenue, and Orange Street-Boulder Avenue to Alabama Street.

Table 4.8.A – Planning Area 100-Year Flows

River Segment	100-Year Flows (cubic feet per second)
Seven Oaks Dam to Mill Creek	5,500
Mill Creek to Orange Street-Boulder Avenue	25,000
Orange Street-Boulder Avenue to Alabama Street	28,000

Source: *Technical Memorandum, Hydrology/Flooding for Upper Santa Ana River Wash Land Management Plan and Habitat Conservation Plan EIR/EIS*, prepared by Brown and Caldwell, June 2005.

Aside from the unlikely event of a dam inundation, the Planning Area could be subject to uncontrolled flows from Mill Creek, which contributes the majority of the flows in the Planning Area during storm events. During a 100-year event,⁷ it is anticipated that there would be two areas in the Planning Area where storm flows would overflow or break out of their normal channel courses. The first breakout area is located between State Route 30 (SR-30) and the Orange Street-Boulder Avenue Bridge. These flows may overtop the banks just west of Orange Street-Boulder Avenue and may inundate the mining operations in the immediate area. The second breakout area is near Church Street, where flows may spill over the banks onto adjacent areas. Figure 4.8.2 illustrates the 100-year floodplain within the Planning Area.

¹ An acre-foot is the amount of water required to cover one acre to a depth of one foot and equals 326,000 gallons.

² Chapter 4 Watershed Characteristics, *Water Control Manual for Seven Oaks Dam & Reservoir Santa Ana River, San Bernardino County, California*, September 2003.

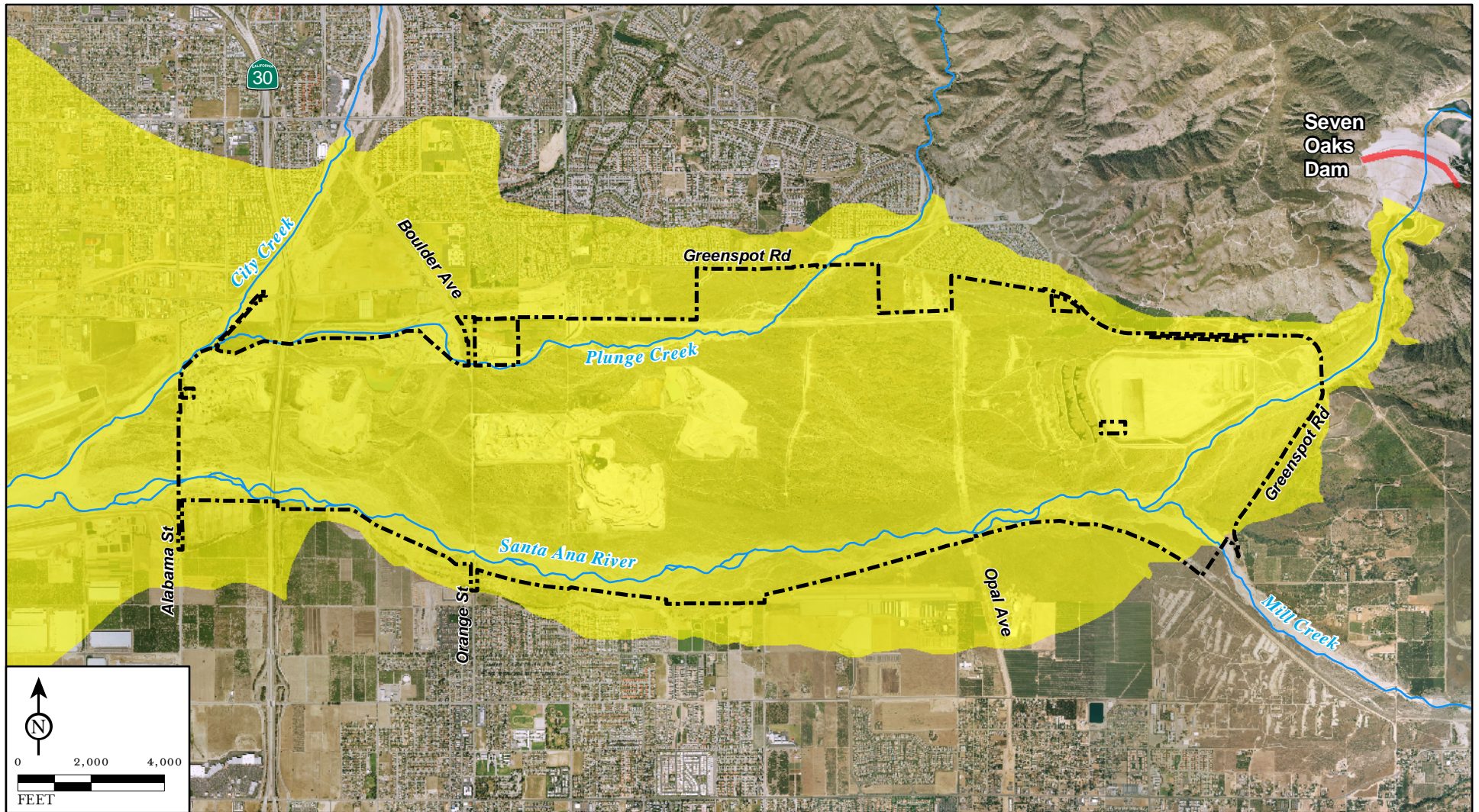
³ A pool that is formed to capture debris coming from upstream flows before such debris can enter into outlet structures and cause disturbance to the regulated flow.

⁴ A pool that is used to store water for various uses, including domestic use, agricultural use, and flood control use.

⁵ The flood season usually coincides with the rainy season. The rainy season generally begins in November and ends in April.

⁶ The term "10-year" is a measure of the size of the storm, not how often it occurs. The "10-year storm event" is a storm event that has a 10 percent chance of occurring in any given year.

⁷ Similar to the 10-year storm event, the term "100-year" is a measure of the size of the flood, not how often it occurs. The "100-year flood" is a flooding event that has a 1.0 percent chance of occurring in any given year.



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FIGURE 4.8.1

-  PLAN BOUNDARY
-  LIMITS OF FLOODED AREA WITH DAM FAILURE/500-YEAR FLOOD BOUNDARY
-  SEVEN OAKS DAM

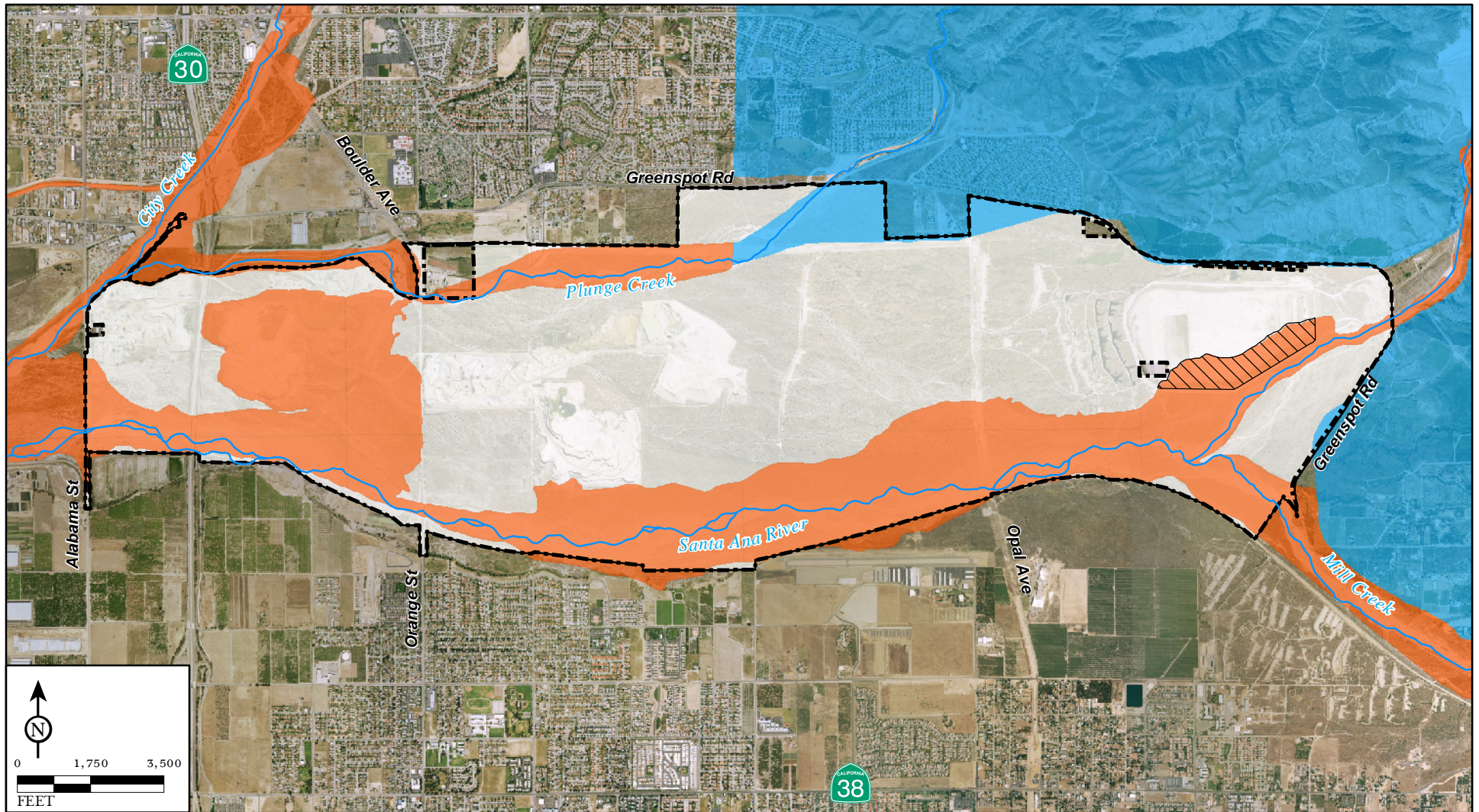
*Upper Santa Ana River Wash
Land Management Plan
Environmental Impact Report*

SOURCE: San Bernardino Valley Water Conservation District; City of Highland General Plan; AirPhotoUSA, 2007.

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Seven Oaks Dam Inundation Areas

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FIGURE 4.8.2

PLAN BOUNDARY

AREA UNLIKELY TO BE INUNDATED**

FEMA* FLOOD INSURANCE RATE MAP FLOOD ZONES

INUNDATED BY 100-YEAR FLOODING

UNDETERMINED BUT POSSIBLE FLOOD HAZARDS

* FEDERAL EMERGENCY MANAGEMENT AGENCY

SOURCE: San Bernardino Valley Water Conservation District;
Thomas Bros, 2006; FEMA Flood Insurance Rate Maps, 2005; AirPhotoUSA, 2007.

**Per SBVWCD, due to height of levee along south side of borrow pit

Flood Zone data digitized from FEMA* Flood Insurance Rate Map Panels:
06071C8702F, 06071C8704F, 06071C8706F, 06071C8707F,
06071C8708F, 06071C8709F, and 06071C8730F
Maps revised 2/23/05 to update LOMR (Letter of Map Revision)

Upper Santa Ana River Wash
Land Management Plan
Environmental Impact Report

Federal Emergency
Management Agency Flood Zones

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An existing system of levees and other flood control facilities has been created to manage the flows experienced during flood events, some of which are the following:

- Levee on the south bank of the Santa Ana River;
- Mill Creek levees;
- Plunge Creek levees; and
- City Creek levees.

The SBCFCD maintains the south bank of the Santa Ana River from where Mill Creek converges to the Alabama Street crossing. The south side Mill Creek levee is an earth-filled embankment that was built in 1960 and contains two stone masonry flood walls on the south side of the creek. It follows Mill Creek until its confluence with the Santa Ana River. The levee on the north side of Mill Creek follows the same path. Additional levees are maintained upstream and downstream of the Greenspot Road crossing on Plunge Creek. Levees are also present at the Orange Street-Boulder Avenue crossing over Plunge Creek. In addition to this flood control infrastructure system, another set of levees is located on the upstream and downstream ends of the Alabama Street crossing over City Creek. The channel at the confluence of City Creek and Plunge Creek also requires maintenance to prevent bed erosion during flood events. In addition to levees along these identified waterways, the existing mining sites and water percolation basins have levees, berms, and dikes constructed around them to protect against flooding or to direct flood flows.

Existing Groundwater Quality

Groundwater is stored in soil pores, or spaces, in the alluvium¹ that typically constitutes a valley floor. As illustrated in Figure 4.8.3, the Planning Area lies within the Bunker Hill Basin of the Upper Santa Ana Valley Groundwater Basin. The Bunker Hill Basin covers 89,600 acres (120 square miles), has an estimated storage capacity of 5,976,000 acre-feet, and has a current anticipated storage of 5,890,300 acre-feet.² The Bunker Hill Basin is identified as a groundwater recharge zone and is bounded on the north by the bedrock of the San Bernardino Mountains (north of the San Andreas Fault), on the southeast by the Crafton fault, and on the west by the San Jacinto Fault. These geologic faults act as barriers to groundwater movement.

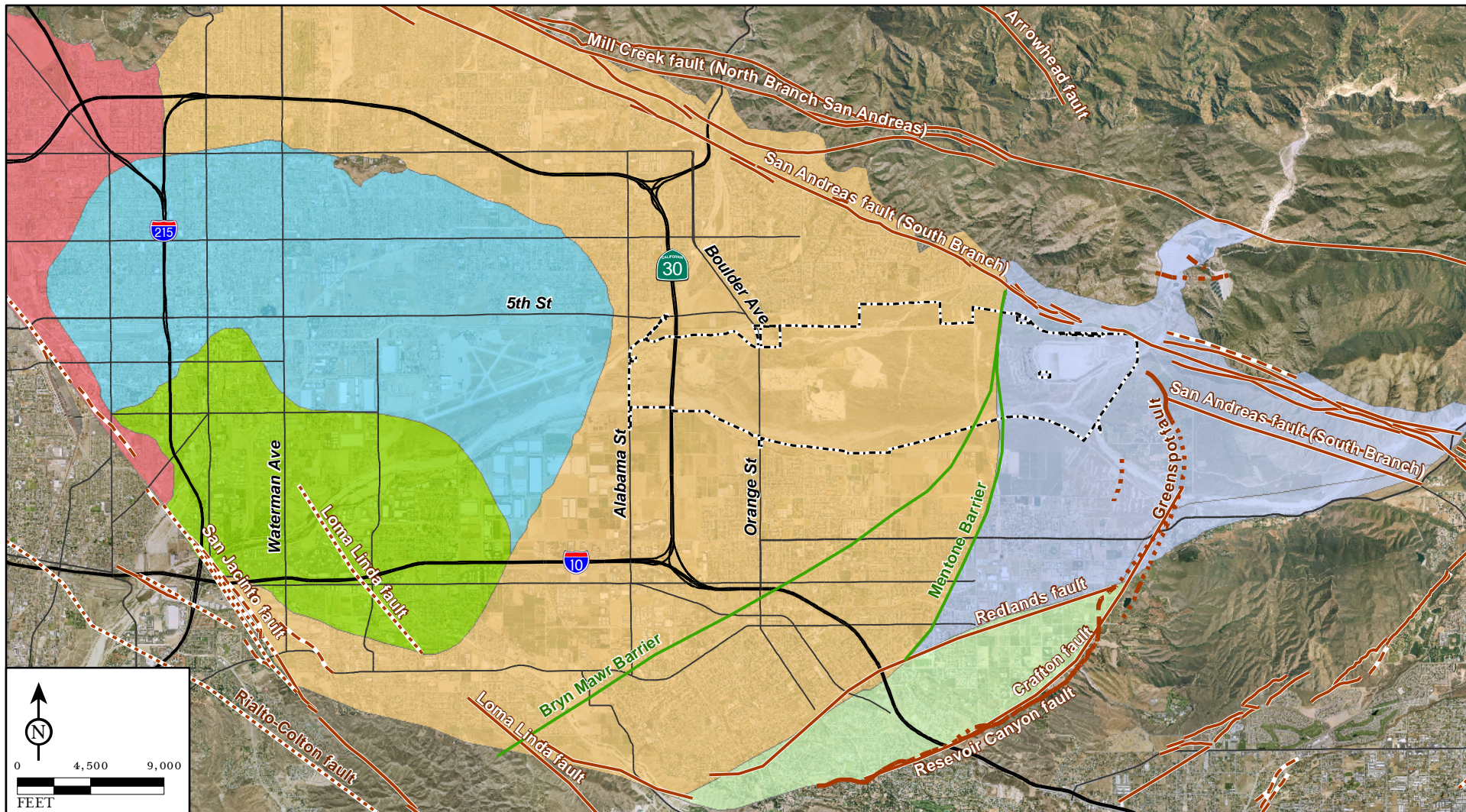
Groundwater Quality Factors. Several factors influence and contribute to groundwater quality in the Planning Area, including the following:

- Natural and artificial recharge;
- Imported waters from the State Water Project;
- Evapotranspiration rates;
- Local and regional geology (including the influence of faults);
- Historical land uses; and
- Contaminants introduced through human activities.

¹ Alluvium is sedimentary material deposited by flowing water, typically by streams.

² *Upper Santa Ana Valley Groundwater Basin, Bunker Hill Subbasin*, Hydrologic Region South Coast, Bulletin 118, Department of Water Resources, February 2004.

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PLAN BOUNDARY

GROUNDWATER BARRIER

CALIFORNIA GEOLOGIC SURVEY FAULTS

WELL LOCATED

APPROXIMATE OR INFERRED

CONCEALED

BUNKER HILL BASIN SUB-AREAS

BUNKER HILL II WEST OF MENTONE FAULT

BUNKER HILL NORTHEAST OF INTERSTATE 215

BUNKER HILL SOUTHWEST OF INTERSTATE 215

PRESSURE ZONE NORTH OF SANTA ANA WASH

PRESSURE ZONE SANTA ANA WASH

BUNKER HILL II EAST OF MENTONE FAULT - NORTH OF REDLANDS FAULT

BUNKER HILL II EAST OF MENTONE FAULT - SOUTH OF REDLANDS FAULT

FIGURE 4.8.3

Upper Santa Ana River Wash
Land Management Plan
Environmental Impact Report

Sub-Areas of the Bunker Hill Groundwater Basin

SOURCE: San Bernardino Valley Water Conservation District; California Geologic Survey; AirPhotoUSA, 2007.

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The District operates the Santa Ana River Spreading Grounds,¹ which consists of 16 percolation basins with a wetted area² of approximately 64 acres. These 16 percolation basins use low flows from the Santa Ana River (approximately 288 cfs). The Bunker Hill sub-basin is naturally and artificially recharged. Rainfall and stream flow are examples of natural recharge. The District recharges primarily during the rainy season³ when the Santa Ana River and Mill Creek are flowing. Additionally, imported State Water Project water is used for recharge by other entities, using the facilities of District. Water purveyors in the vicinity of the Planning Area include the City of Redlands (to the south), the East Valley Water District (to the north), and the City of San Bernardino (to the west of SR-30).

Evapotranspiration rates also influence and contribute to groundwater quality. Evapotranspiration is the total amount of water that is transferred from the earth's surface to the atmosphere. It is made up of the evaporation of liquid or solid water plus the transpiration from plants. Local and regional geology, including the influence of faults, is discussed in Section 4.6, Geology and Soils.

Five contaminant plumes, which would not affect the Planning Area, are located west of the Planning Area in the vicinity of the City of San Bernardino and Interstate 215. A sixth contaminant plume, identified as the Redlands plume, lies in the northern part of Redlands near the southwest border of the Planning Area. The primary contaminants of the Redlands plume are dibromochloropropane (DBCP) and trichloroethylene (TCE). In January 1994, the Santa Ana RWQCB named Lockheed Propulsion Company as the responsible party to investigate and clean up the TCE.

TCE was the primary contaminant of concern until 1997, when the rocket-fuel constituent, perchlorate, was detected in groundwater beneath the Lockheed site in Crafton/Redlands within a plume that was approximately 7 square miles. A total of 47 drinking water wells have shown at least trace concentrations of perchlorate. Five wells have been shut down and four have been replaced with water supplied by the City of San Bernardino distribution system. Perchlorate concentrations found in these wells range up to 70 parts per billion (ppb). Effective October 18, 2007, the new standard for perchlorate is a maximum contaminant level (MCL) of 6 micrograms per liter (µg/L).⁴

Since the discovery of perchlorate in Redlands wells, the City of Redlands has implemented a variety of programs aimed at removing perchlorate from drinking water. These programs include the following:⁵

- Shutting down highly contaminated wells;
- Blending less contaminated wells with uncontaminated sources to reduce perchlorate to below detectable levels;
- Drilling two new high-volume, perchlorate-free water wells to replace water supply capacity lost due to perchlorate contamination; and
- Installing an ion exchange water purification system to remove perchlorate from a City well.

Groundwater and Drinking Water Quality. Groundwater quality plays a central role in the water supply for communities within the Upper Santa Ana Valley Groundwater Basin. Although most water requires some treatment before use, protecting this source of water is an important part of providing safe drinking water to the public. The National Primary Drinking Water Regulations, generally referred

¹ The Santa Ana River Spreading Grounds are existing recharge basins located at a borrow pit where approximately 16 million cubic yards of material was removed for the construction of the Seven Oaks Dam located 1.0 mile northwest of the Planning Area. The borrow pit is located in the Planning Area.

² Wetted areas refer to the surface area of the basin actually covered by water.

³ Rainy season in southern California typically begins in November and ends in April.

⁴ This is also known as parts per billion. Parts per billion is the measurement used to describe a very small amount of contaminant in the environment, the abbreviation for parts per billion is usually ppb or µg/L.

⁵ *Questions and Answers about Perchlorate*, City of Redlands Municipal Utilities Department, http://www.ci.redlands.ca.us/utilities/water_perchlorate.htm, website accessed August 24, 2007.

to as Primary Standards, are used for the purpose of maintaining acceptable water quality. These Primary Standards are expressed as MCLs. An MCL is the maximum permissible level of a contaminant in drinking water, which is delivered to any user of a public water system. The National Secondary Drinking Water Regulations (generally referred to as Secondary standards) are non-enforceable guidelines also set by the EPA, regulating contaminants that may cause cosmetic effects (such as skin or tooth discoloration) from drinking water or aesthetic effects (such as taste, odor, or color) in drinking water.

The Primary and Secondary standards for the Upper Santa Ana Valley Groundwater Basin are provided in Table 4.8.B for constituents of concern, which are substances in water that pose a potential threat to the environment or human health. The constituents of concern for the Upper Santa Ana Valley Groundwater Basin are total dissolved solids (TDS), nitrates, perchlorate, radon, arsenic, and volatile organic compounds.

Table 4.8.B – Constituents of Concern in the Upper Santa Ana Valley Groundwater Basin

Constituent of Concern	Primary Standard ¹	Secondary Standard	Source
Total Dissolved Solids (TDS)	NA	500 mg/L	Recharge of saline water from storm flows, urban runoff, and imported water. Past agricultural land uses.
Nitrates	10 mg/L (reported as nitrogen)	NA	Similar to TDS, areas with significant irrigated land use or dairy waste disposal histories typically overlie groundwater with elevated nitrate concentrations.
Perchlorate	6 parts per billion ²	6 parts per billion ²	Associated with industrial applications, but primarily with the manufacture of rocket fuel and other explosives. Mobile in soil and groundwater environments and can persist for many decades under typical conditions, because of its resistance to reaction with other available constituents.
Arsenic	0.05 mg/L ³	NA	Erosion of natural deposits, runoff from orchards, and runoff from glass and electronics production wastes.
Radon	300 pCi/L ⁴	NA	Erosion of natural deposits
Volatile Organic Compounds⁵			
Methyl tertiary butyl ether (MTBE)	13 µg/L	NA	Gasoline additive used to improve air quality by reducing emissions and increasing octane ratings.
Benzene, trichloroethylene (TCE)	5 µg/L	NA	Was commonly used for metal degreasing and was also used as a food extractant.
Tetrachloroethylene (PCE)	5 µg/L	NA	Commonly used in the dry-cleaning industry

Notes: mg/L = milligram per liter; pCi/L = picoCurie per liter; µg/L = microgram per liter, NA = not applicable.

¹ The Primary standard is expressed in Maximum Contaminant Level (MCL), which is the highest level of a contaminant that is allowed in drinking water by Federal and State governments.

² Both the Federal and State governments require monitoring for perchlorate and the Office of Environmental Health Hazard Assessment released a final Public Health Goal for perchlorate of 6 parts per billion (ppb) (*Perchlorate in California Drinking Water: Update and Overview*, California Department of Health Services website, <http://www.cdph.ca.gov/certlic/drinkingwater/Pages/Perchlorate.aspx>, last updated August 7, 2007).

³ The current drinking water MCL for arsenic is 0.05 mg/L, but this standard would be lowered in 2006 to 0.001 mg/L.

⁴ Proposed.

⁵ Volatile organic compounds (VOCs) are a broad category of synthetic chemicals such as degreasing agents, glues, dyes, paint thinners, and some pesticides that readily vaporize at room temperature.

Source: Table 3.2-1 *Primary Constituents of Concern in Groundwater Basins in the Upper SAR Basin, Santa Ana River Water Right Applications for Supplemental Water Supply Draft EIR*, San Bernardino Valley Municipal Water District and Western Municipal Water District, October 2004.

Bunker Hill II Groundwater Quality. As stated before, the Bunker Hill Basin covers 89,600 acres (120 square miles), has an estimated storage capacity of 5,976,000 acre-feet, and has a current

anticipated storage of 5,890,300 acre-feet. As illustrated in previously referenced Figure 4.8.3, the Bunker Hill Basin is further divided into seven sub-areas:

- Bunker Hill northeast of Interstate 215.
- Bunker Hill II west of Mentone Fault.
- Bunker Hill II east of Mentone Fault, north of Redland Fault.
- Pressure Zone north of Santa Ana Wash.
- Bunker Hill southwest of Interstate 215.
- Bunker Hill II west of Mentone Fault, south of Redland Fault.
- Pressure Zone, Santa Ana River Wash.

The Planning Area is located within the Bunker Hill II sub-area (specifically, Bunker Hill II west of the Mentone Barrier, and Bunker Hill II east of the Mentone Barrier). Water quality objectives for the Bunker Hill II sub-area are defined in the *Water Quality Control Plan*.¹ In the past, high concentrations of nitrates found in groundwater, aside from natural conditions, were generally the result of fertilizers used in agricultural operations. Although agricultural operations have decreased due to land development, high concentrations of nitrates still occur as a result of the fertilization of parks, lawns, and other landscaped areas. Water applied to crops and landscaped areas readily infiltrates to the water table, carrying nitrates with it.

Existing Surface Water Quality

Surface waters entering the Bunker Hill Basin are of excellent quality and can be attributed to a variety of factors. The San Bernardino Mountains watershed is largely made up of San Bernardino National Forest lands, and there are relatively few sources of contamination discharged to the Santa Ana River from upstream sources. Limited urban runoff generated in the City of Big Bear (a mountain resort and recreation urban area) is routed to Big Bear Lake, and sewage generated from the City of Big Bear is sent to Lucerne Valley. Mill Creek receives water for urban runoff coming from two relatively undeveloped and unincorporated mountain resort communities to the east (Forest Falls and Forest Home). Sewage generated from the City of Running Springs, which is also located to the east, is treated and incorporated into Plunge Creek flows. From Running Springs, water in Plunge Creek flows through the City of Highland and its urbanized areas before converging with the Santa Ana River.

Existing Stormwater Quality

There are no long-term data on the quality of stormwater runoff² within the Planning Area. In the absence of site-specific data, expected stormwater quality can be discussed qualitatively by relating typical pollutants to specific land uses. The existing major land uses of the Planning Area consist of water conservation, flood control, habitat conservation, and aggregate mining uses, and, pertinent to the discussion of stormwater quality, the Planning Area also contains existing dirt roads and a 6-acre agriculture use. Pollutants in existing stormwater runoff from the area are expected to include sediment, pathogens, pesticides, and salts. However, the type of pollutants produced by the area is highly variable, and ultimately depends upon the land use, rainfall intensity, and number of dry days prior to a rainfall event (i.e., fewer pollutants are washed away if the rainfall intensity is low). Stormwater runoff leaving the Planning Area is anticipated to be of better quality than surrounding developed areas, because there is a relatively low amount of urban development within the area. In addition, current stormwater runoff is low within the area due to the high permeability of existing soils and streambeds.

¹ *Water Quality Control Plan, Santa Ana River Basin (8)*, prepared by California Regional Water Quality Control Board, Santa Ana Region, approved by Office of Administrative Law, January 24, 1995.

² Stormwater runoff is water that is prevented from naturally soaking into the ground due to impervious surfaces (e.g., driveways, sidewalks, and streets) after a storm event. The resulting water that runs off can pick up debris, chemicals, dirt, and other pollutants and flow into a storm sewer that could directly connect to a lake, stream, river, wetland, or coastal water.

4.8.2 Policies and Regulations

In the past, the effort to control the discharge of storm water focused on quantity (i.e., flood control) and to a limited extent, on quality of storm water. In recent years, awareness of the need to improve water quality has increased. With this awareness, local, State, and Federal programs have been established to pursue the ultimate goal of reducing pollutants contained in storm water discharges to California's waterways. The emphasis of these programs is to promote the concept and the practice of preventing pollution at the source, before it can cause environmental harm.

Local Policies and Regulations

Local policies and regulations are those goals and policies that are contained in the following General Plans:

- *City of Highland General Plan*;¹ and
- *City of Redlands 1995 General Plan*;²

The following paragraphs list the applicable goals and policies and address how the goals and objectives of the proposed project are in line with these goals and policies. Many entities are interested in hydrology and water quality at the Planning Area and are directly involved with the proposed project. These include the City of Highland and City of Redlands, along with others:

- San Bernardino Valley Water Conservation District
- U.S. Department of Interior, Bureau of Land Management
- Cemex Construction Materials, L.P.
- San Bernardino County Flood Control District
- East Valley Water District
- City of Redlands Utilities Department
- Robertson's Ready Mix, Ltd.
- County of San Bernardino

In addition, three of the goals and objectives of the proposed project deal directly with water quality, water supply, and flooding:

- *Ensure the continued ability of the San Bernardino Valley Water Conservation District (District) to replenish the Bunker Hill Groundwater Basin with native Santa Ana River water using existing and future water recharge facilities in the Planning Area; and*
- *Ensure the continued ability of the San Bernardino County Flood Control District (County Flood Control District) to protect land and property by managing the floodwaters of the Santa Ana River and its local tributaries (Mill Creek, Plunge Creek, and City Creek);*

City of Highland General Plan. The following goals and policies contained within the Public Services and Facilities Element, Conservation Element, and the Public Safety and Health Element apply to water quality and the protection of water resources. Their main intentions follow the goals and objectives of the proposed project

Public Services and Facilities Element: Goal 4.4 as delineated below of the Public Services and Facilities Element applies to the proposed project.

Goal 4.4 Maintain an effective drainage system that protects people and property from overflows and flood disasters.

Policy 1 Continue to improve any deficiencies in the City's drainage system and address the long-term needs associated with future development to minimize flood damage and adequately direct rainfall and subsequent runoff.

¹ *City of Highland General Plan Update*, City of Highland, updated March 14, 2006.

² *City of Redlands 1995 General Plan*, City of Redlands, as amended on December 12, 1997.

- Policy 2** Minimize the impact of development on the City's drainage system by reducing the amount of impervious surface associated with new development and encouraging site design features or landscaping that capture runoff. Encourage on-site retention of stormwater and compliance with requirements of the National Pollutant Discharge Elimination System.

Conservation Element: Goals 5.3, 5.4, 5.5, 5.6, and 5.9 and their related policies also apply to the proposed project with respect to hydrology and water quality.

- Goal 5.3** Continue to work with the East Valley Water District to meet the current and future water needs of its residents.

- Policy 1** To the extent possible, preserve floodplain and aquifer recharge areas in their natural condition.

- Policy 2** Continue to coordinate water resource policy with the East Valley Water District and other relevant agencies.

- Goal 5.4** Continue to preserve and enhance the water quality and natural habitat of its waterways.

- Policy 1** In coordination with the East Valley Water District and the County of San Bernardino, continue to maintain and improve the hydrology and natural quality of the watersheds of Bledsoe Creek, Plunge Creek, Elder Gulch, City Creek, Sand Creek, Warm Creek, *Old City Creek Overflow Channel*, Bald Ridge Creek, Santa Ana Canyon and the Santa Ana River [**underline added for emphasis**].

- Policy 3** Cooperate with other agencies and participate in multi-jurisdictional efforts to improve watershed management practices.

- Policy 4** Re-evaluate the effect of engineering practices and specification relative to storm channel design to avoid their appearance as "concrete ditches."

- Goal 5.5** Continue to reduce urban runoff.

- Policy 1** Use water quality best management practices (BMPs) in land planning, project-level site planning and procedural requirements as part of the Storm Water Quality Management Plan.

- Policy 3** Require site design practices that capture and channel specified percentages of rainfall and other runoff to permeable surfaces.

- Policy 5** Develop an informational brochure for residents and developers summarizing best management practices for reducing urban runoff.

- Goal 5.6** Monitor and strengthen Highland's water conservation practices.

- Policy 1** Continue to inspect, maintain and enhance City facilities for water conservation purposes.

- Policy 2** Continue interdepartmental coordination of water use and conservation policies to improve City-facility water use.

- Goal 5.9** Manage mineral resources and extraction policies for short and long term safety, economic and land use compatibility considerations.

- Policy 3** Develop criteria for location and operation of mineral processing to minimize adverse impacts to the environment, watersheds, wildlife, aesthetic resources, public health and safety, and adjacent land uses [**underline added for emphasis**].

- Policy 5** Require that mining plans include, but not be limited to, the following:

- Effects on terrain, natural and man-made slopes, permeability of soil, groundwater quality; and

- Protection of water quality through erosion, runoff, and sedimentation control [underline added for emphasis].

Public Health and Safety Element: Goal 6.3 and its pertinent policies apply to the proposed project with respect to flooding.

Goal 6.3 Reduce the risk to life and minimize physical injury, property damage, and public health hazards from the effects of a 100-year storm or 500-year storm and associated flooding.

Policy 6 Continue to work with the San Bernardino County Flood Control District and the United States Army Corps of Engineers to receive and implement updated flood control measures and information.

Policy 7 Utilize flood control methods that are consistent with Regional Water Quality Control Board policies and best management practices.

City of Redlands General Plan. The following policies within the Conservation Element of the *City of Redlands 1995 General Plan* apply to water supply, water quality, and water conservation.

7.22a Minimize dependence on imported water by increasing entitlement in local surface sources, using wise groundwater management practices, conservation measures, and the use of reclaimed wastewater and non-potable water for irrigation of landscaping and agriculture, where feasible.

7.22b The City of Redlands overlies a portion of the Bunker Hill Groundwater Basin. This Basin contains in excess of 3 million acre feet of water. This local supply source must be cleaned up, used to its full potential, and protected from outside interests. This requires the cooperation of all agencies within the Basin.

7.22c The City of Redlands recognizes that the water sources that constitute the water supply of the City of Redlands are a limited and renewable resource subject to increasing demands; that the conservation and efficient use of urban water supplies are of statewide concern; but that planning for that use and the implementation of those plans can best be accomplished at the local level.

Regional Policies and Regulations

The Santa Ana RWQCB is responsible for regulating the watershed in the Santa Ana River watersheds and watercourses along with the administration and oversight of National Pollutant Discharge Elimination System (NPDES) permits and compliance. The Santa Ana RWQCB regulates surface and groundwater quality through adoption of water quality plans and standards, and issuance of water quality permits and waivers. A requirement of the State General Construction Activity NPDES permit is the preparation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP must identify and implement BMPs to reduce impacts to surface water from contaminated stormwater discharges during the construction of the project. Required elements of a SWPPP include the following:

- Site description addressing the elements and characteristics specific to the site;
- Descriptions of BMPs for erosion and sediment controls;
- BMPs for waste handling and disposal;
- Implementation of approved local plans;
- Proposed post-construction control requirements; and
- Non-stormwater management.

Stormwater control measures during soil disturbances would be outlined in the NPDES permit and SWPPP prepared for the proposed project. Examples of BMP control measures include detention basins for containment, use of silt fencing, and identification of emergency procedures in case of hazardous materials spills. The mining proponent or any other proponent would be required to submit a Notice of Intent to comply with the State NPDES permit prior to any site disturbance.

Additionally, water quality objectives and standards depend on the designated beneficial use of a body of water. Table 4.8.C lists the beneficial uses for the Planning Area's receiving waters as designated by the Santa Ana RWQCB. Beneficial uses, as set forth in the *Water Quality Control Plan*,¹ include agricultural water supply, groundwater recharge, non-contact and contact water recreation, municipal and domestic water supply, rare threatened or endangered species waters, spawning reproduction and development waters, warm and cold freshwater ecosystem habitat, and wildlife habitat.

Table 4.8.C – Designated Beneficial Uses of Project Receiving Waters

Beneficial Use	Santa Ana River (Reach 5)	Mill Creek (Reach 1)	Plunge Creek	City Creek
Agricultural Supply (AGR): Waters used for farming, horticulture, or ranching, including, but not limited to, irrigation, stock watering, and support of vegetation for range grazing.	X	X	X	X
Cold Freshwater Habitat (COLD): Waters that support cold water ecosystems including, but not limited to, preservation and enhancement of aquatic habitats, vegetation, fish, and wildlife, including invertebrates.	NA	X	X	X
Groundwater Recharge (GWR): Waters used for natural or artificial recharge of groundwater for purposes that may include, but are not limited to, future extraction, maintaining water quality, or halting of saltwater intrusion into freshwater aquifers.	X	X	X	X
Non-contact Water Recreation (REC-2): Waters used for recreational activities involving proximity to water, but not normally involving body contact with water where ingestion of water is reasonably possible. Uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, hunting, sightseeing, and aesthetic enjoyment in conjunction with the above activities.	X	X	X	X
Municipal and Domestic Supply (MUN): Waters used for community, military, or individual water supply systems including, but not limited to, drinking water supply.	X*	X	X	X
Rare, Threatened or Endangered Species (RARE): Waters that support habitats necessary for the survival and successful maintenance of plant or animal species designated under State or Federal law as rare, threatened or endangered.	X	X	X	X
Spawning, Reproduction, and Development (SPWN): Waters that support high quality aquatic habitats necessary for reproduction and early development of fish and wildlife.	NA	NA	NA	X

¹ *Water Quality Control Plan, Santa Ana River Basin (8)*, prepared by California Regional Water Quality Control Board, Santa Ana Region, approved by Office of Administrative Law, January 24, 1995.

Table 4.8.C – Designated Beneficial Uses of Project Receiving Waters

Beneficial Use	Santa Ana River (Reach 5)	Mill Creek (Reach 1)	Plunge Creek	City Creek
Warm Freshwater Habitat (WARM): Waters that support warm water ecosystems including, but not limited to, preservation and enhancement of aquatic habitats, vegetation, fish, and wildlife, including invertebrates.	X	NA	NA	NA
Water Contact Recreation (REC-1): Waters used for recreational activities involving body contact with water where ingestion of water is reasonably possible. Uses include, but are not limited to, swimming, water-skiing, skin and scuba diving, surfing, white water activities, fishing, and use of natural hot springs.	I	I	I	I
Wildlife Habitat (WILD): Water that supports wildlife habitats including, but not limited to, the preservation and enhancement of vegetation and prey species used by waterfowl and other wildlife.	X	I	X	X

Notes: NA = Beneficial Use Designation is Not Applied to Receiving Waters, X = Present or Potential Beneficial Use, I = Intermittent Beneficial Use, * = MUN applies upstream of Orange Avenue (Redlands); downstream of Orange Avenue, water is excluded from MUN use.

Source: *Water Quality Control Plan, Santa Ana River Basin (8)*, prepared by California Regional Water Quality Control Board, Santa Ana Region, approved by Office of Administrative Law, January 24, 1995.

California State Policies and Regulations

The following State regulations apply to water quality and the protection of water resources and are discussed below:

- California Water Code;
- California Code of Regulations;
- Cobey-Alquist Flood Plain Management Act;
- California Toxics Rule; and
- Surface Mining and Reclamation Act (SMARA) of 1975.

California Water Code. The California Water Code is the principal State law regulating water quality in California. Other California Codes contain water quality provisions requiring compliance as they relate to specific activities.

The California Water Code regulates water and its uses. Division 7 of the California Water Code, also known as the Porter-Cologne Act, establishes a program to protect water quality and beneficial uses of the State water resources and includes both ground and surface waters. The State Water Resources Control Board (SWRCB) and the RWQCB are the principal State agencies responsible for control of water quality. The SWRCB and the RWQCB establish waste discharge requirements, water quality control planning and monitoring, enforcement of discharge permits, and ground and surface water quality objectives. They also prevent waste and unreasonable use of water and adjudicate water rights.

California Code of Regulations. The California Code of Regulations contains administrative procedures for the State and RWQCBs in Title 23 and for water quality for domestic uses, wastewater reclamation, and hazardous waste management in Title 22. The California Department of Fish and Game (CDFG), through provisions of the California Fish and Game Code (Sections 1601 through 1603), is empowered to issue agreements for any alteration of a river, stream, or lake where fish or

wildlife resources may be adversely affected. The presence of a channel bed and banks, and at least an intermittent flow of water, define streams (and rivers). The CDFG regulates wetland areas only to the extent that those wetlands are part of a river, stream, or lake as defined by the CDFG.

Cobey-Alquist Flood Plain Management Act. The Cobey-Alquist Flood Plain Management Act states that a large portion of land resources of the State of California is subject to recurrent flooding. The public interest necessitates sound development of land use, as land is a limited, valuable, and irreplaceable resource, and the floodplains of the State are a land resource to be developed in a manner that, in conjunction with economically justified structural measures for flood control, will result in prevention of loss of life and of economic loss caused by excessive flooding. The primary responsibility for planning, adoption, and enforcement of land use regulations to accomplish floodplain management rests with local government. It is policy of the State of California to encourage local government to plan land use regulations to accomplish floodplain management and to provide State assistance and guidance.

California Toxics Rule. A Federal regulation, the California Toxics Rule was issued by the U.S. Environmental Protection Agency and provides water quality criteria for potentially toxic constituents in waters with human health or aquatic life designated uses in the State of California. California Toxics Rule criteria are applicable to the receiving water body and, therefore, must be calculated based upon the probable hardness values for the receiving waters for evaluation of acute (and chronic) toxicity criteria. At higher hardness values for the receiving water, copper, lead, and zinc are more likely to be bound with components in the water column. This in turn reduces the bioavailability (ability for organisms to absorb the metals) and resulting potential toxicity of these metals.

The California Toxics Rule establishes acute and chronic surface water quality standards for certain water bodies as discussed above. Acute criteria represent the highest concentration of a pollutant to which aquatic life can be exposed for a short period of time without deleterious effects; chronic criteria equal the highest concentration to which aquatic life can be exposed for an extended period of time (4 days) without deleterious effects. Due to the intermittent nature of stormwater runoff, the acute criteria are considered to be more applicable to stormwater conditions than chronic criteria and, therefore, are used in assessing project impacts.

Surface Mining and Reclamation Act (SMARA) of 1975. The California Department of Conservation, Division of Mines and Geology, is in charge of mandating the regulations pursuant to SMARA. Provisions include specific performance standards for protection of surface water and groundwater. General provisions include the following:

- Mining activities shall be conducted with respect to protection of surface and groundwater from siltation and pollutants, which may diminish water quality and downstream beneficial uses of the water in accordance with the Porter-Cologne Water Quality Control Act;
- The quality of water, recharge potential, and storage capacity of groundwater aquifers which are the source of water for domestic, agricultural, or other uses dependent on the water, shall not be diminished, except as allowed in the approved reclamation plan; and/or
- Extraction of sand and gravel from river channels shall be regulated in order to prevent lowering of groundwater levels.

Federal Regulations

The following four Federal regulations and policies apply to water quality and the protection of water resources and are further described below:

- Clean Water Act;
- National Flood Insurance Program Reform Act of 1994; and
- Executive Order 11988, Flood Plain Management.

Clean Water Act. The Clean Water Act is the principal Federal law that addresses water quality. The primary objectives of the Clean Water Act are to “restore and maintain the chemical, physical, and biological integrity of the Nation’s waters,” and to make all surface waters “fishable” and “swimmable.”

The implementation plan for these objectives includes the regulation of pollutant discharges to surface water, financial assistance for public wastewater treatment systems, technology development, and non-point source pollution prevention programs. The Clean Water Act also establishes that states adopt water quality standards to protect public health or welfare and enhance the quality of water. The use and value of state waters for public water supplies, propagation of fish and wildlife, recreation, agriculture, industrial purposes, and navigation must also be considered by the states.

Section 402 of the Clean Water Act requires persons who discharge into waters of the United States to meet stringent standards under the NPDES. The NPDES program is administered by the EPA and by states with delegated programs. The NPDES program applies to point source discharges, as well as to non-point sources such as surface runoff from a site during or following a storm. However, the NPDES program in Section 402 applies only to discharges into waters of the United States.

Surface water quality is the responsibility of the SWRCB through its nine RWQCBs, water supply and wastewater treatment agencies, and city and county governments. The principal means of enforcement by the RWQCB is through the development, adoption, and issuance of water discharge permits. Pursuant to requirements of the SWRCB, NPDES General Permit No. CAS5000002 applies to statewide construction activities including clearing, grading, or excavation that results in the disturbance of at least one acre of total land area, or activity which is part of a larger common plan of development of one acre or greater. In most cases, the NPDES permit program is administered by authorized states. In California, these programs are administered by the SWRCB and by nine RWQCBs that issue NPDES permits ~~and enforce regulations within their respective regions.~~ The County of San Bernardino and the cities within San Bernardino County are the primary enforcers of the NPDES regulations within their respective jurisdictions. Permits are issued to owners and operators of the following:

- Municipal separate storm sewer systems (MS4s);
- Some 11 specific categories of industrial activity; and
- Construction activities 1.0 acre or greater.

Additionally, Section 303 of the Clean Water Act requires that the State adopt water quality standards for surface waters. The previously referenced *Water Quality Control Plan* contains water quality objectives considered necessary to protect the specific beneficial uses it identifies. Section 303(d) specifically requires the State to develop a list of impaired water bodies and subsequent numeric total maximum daily loads (TMDLs) for whichever constituents impair a particular water body. These constituents include inorganic and organic chemical compounds, metals, sediment, and biological agents. The EPA approved a revised list of impaired waters pursuant to Section 303(d) in July 2003. There are currently no water bodies within the Planning Area that are listed as impaired. Specifically, the proposed project must comply with three non-point source pollution prevention programs:

- NPDES permitting program for stormwater discharges associated with construction activities;
- Municipal stormwater NPDES permitting program; and
- TMDLs for 303(d) listed impaired water bodies.

National Flood Insurance Program. The National Flood Insurance Program (NFIP) is a relatively recent Federal program. The Federal Government has been actively involved in flood control since 1927, following the occurrence of major floods on the Mississippi River. Beginning with the Flood Control Act of 1936, Congress assigned the U.S. Army Corps of Engineers (ACOE) the responsibility for flood control engineering works and later for floodplain information services. Flood control was provided through the construction of dams and reservoirs. Despite these programs and rapidly rising Federal expenditures for flood control, flood losses continued to rise. In 1968, Congress passed the National Flood Insurance Act, which created the NFIP. The Flood Disaster Protection Act of 1973, which amended the 1968 Act, required the purchase of flood insurance by property owners who were located in special flood hazard areas and were being assisted by Federal programs, or by federally supervised, regulated, or insured agencies or institutions.

Executive Order 11988, Flood Plain Management. Executive Order 11988 requires the ACOE to provide leadership and to take action to:

- Reduce the hazards and risk associated with floods;
- Minimize the impact of floods on human health, safety, and welfare; and
- Restore and preserve the natural and beneficial values of the current floodplain.

To comply with Executive Order 11988, the policy of the ACOE is to develop projects that, to the extent possible, avoid or minimize adverse effects associated with use of the floodplain and that avoid development (or the inducement of development) in an existing floodplain unless there is no practicable alternative.

4.8.3 Thresholds of Significance

The following thresholds of significance regarding impacts to hydrology and water quality are based on the recommended questions contained in *Guidelines for California Environmental Quality Act* (as amended December 1, 2006). A project would have a significant impact on surface hydrology, water quality, and/or groundwater if it resulted in 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;
- 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 the 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 the site;
- Create or contribute runoff water, which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;
- Otherwise substantially degrade water quality;
- Place housing within a 100-year flood hazard quality;
- 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; and/or
- Expose people or structures to a significant risk of loss, injury, or death involving inundation by seiche, tsunami, or mudflow.

For the purpose of this EIR, significant and unavoidable hydrological and/or water quality impacts would occur if the aforementioned conditions cannot be overcome by reasonable design, construction, and maintenance practices.

As identified in Section 15130(b) of the CEQA Guidelines, “the discussion of cumulative impacts shall ... focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact.” For example, if another project contributes only to a cumulative impact upon natural resources, its impacts on public services need not be discussed as part of the cumulative impact analysis. A cumulative discussion has been provided for each component under each threshold of significance analysis.

4.8.4 Impact Analysis

4.8.4.1 Violate Water Quality or Waste Discharge Requirements

Threshold	Would the proposed project violate any water quality standards or waste discharge requirements?
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Water Conservation Operations/Maintenance Activities of the District

With implementation of the proposed project, the amount of land devoted to Water Conservation activities would be decreased from what currently exists; however, these lands would be designated for habitat conservation. Because water from water conservation activities would continue to flow as it currently exists, no changes to water conservation activities would occur. Water conservation activities typically do not produce additional waste that would result in a violation of water quality standards or waste discharge requirements; therefore, impacts related to this issue are less than significant and no mitigation is required.

Cumulative. Cumulatively, the operations and maintenance activities of the District in combination with other projects in the area would not create or contribute to new or increased impacts related to water quality and waste discharge over and above the impacts discussed in this section. The project does not contemplate substantial differences in these activities from existing baseline activities and operations, and therefore no cumulative impacts resulting from the continuation of these activities is expected to occur. Increases in long-term development in the City of Highland, City of Redlands, and surrounding areas may result in expansion of impermeable surfaces, which would increase the potential for pollutants in runoff, posing potential impacts to water quality. However, adherence to NPDES, SWPPP, and WQMP requirements will reduce such cumulative water quality impact to less than significant levels.

Flood Control Operations/Maintenance Activities of the SBCFCD

The *Water Quality Control Plan*¹ does not contain water quality standards designed specifically for flood control infrastructure. However, the *Water Quality Control Plan* does state that inland surface water communities and populations shall not be degraded as a result of the discharge of waste. With the implementation of the proposed project, no changes to flood control activities are anticipated to occur. In addition, because the flood control infrastructure is not anticipated to produce additional

¹ *Water Quality Control Plan Santa Ana River Basin (8)*, Santa Ana Region California Regional Water Quality Control Board, 1995.

waste that would result in a violation of water quality standards or waste discharge requirements, impacts related to this issue are less than significant and no mitigation is required.

Cumulative. Cumulatively, the operations and maintenance activities of the SBCFCD in combination with other projects in the area would not create or contribute to new or increased impacts related to water quality and waste discharge over and above the impacts discussed in this section. The project does not contemplate substantial differences in these activities from existing baseline activities and operations, and therefore no cumulative impacts resulting from the continuation of these activities is expected to occur. Increases in long-term development in the City of Highland, City of Redlands, and surrounding areas may result in expansion of impermeable surfaces, which would increase the potential for pollutants in runoff, posing potential impacts to water quality. However, adherence to NPDES, SWPPP, and WQMP requirements will reduce such cumulative water quality impact to less than significant levels.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Since water production activities would occur as they currently exist, it is anticipated that existing water quality objectives associated with water production activities would be maintained. Since existing water quality objectives are not being exceeded as a result of these water production activities, impacts related to this issue are considered to be less than significant and no mitigation would be required.

Cumulative. Cumulatively, the operations and maintenance activities of the EVWD and the RMUD in combination with other projects in the area would not create or contribute to new or increased impacts related to water quality and waste discharge over and above the impacts discussed in this section. The project does not contemplate substantial differences in these activities from existing baseline activities and operations, and therefore no cumulative impacts resulting from the continuation of these activities is expected to occur. Increases in long-term development in the City of Highland, City of Redlands, and surrounding areas may result in expansion of impermeable surfaces, which would increase the potential for pollutants in runoff, posing potential impacts to water quality. However, adherence to NPDES, SWPPP, and WQMP requirements will reduce such cumulative water quality impact to less than significant levels.

Aggregate Mining

With the implementation of the proposed project, mining uses within the Planning Area would be increased by 363 acres. These lands are divided between two mining operations: Cemex and Robertson's. Both mining companies are processors of aggregate products, such as sand and gravel, which are used to make ready-mixed concrete. The processing of aggregate products can produce pollutants that would affect nearby waterways if not properly controlled. The current and planned acreage for each of these operations is identified in Table 4.8.D.

Table 4.8.D – Current and Planned Mining Area Acreage

Mining Operation	Existing Disturbed Area (Acres)	Additional Proposed Area (Acres)	Total with Proposed Project
Cemex	540	138	678
Robertson's	288	225	513
Other ¹	4	0	4
Total	832	363	1,195

Note: Acreages may not add up due to rounding.

¹ Includes areas disturbed previously by mining companies other than Robertson's or Cemex.

Source: Lilburn Corporation, Cemex, Robertson's, San Bernardino Valley Water Conservation District, January 2005.

The mining activities within the Planning Area would include two phases: the operation of mining activities and the reclamation of the mine sites after mine operations have ceased. Both of these phases are discussed in the following paragraphs with respect to water quality standards and waste discharge requirements.

Operational Phase. During the operational phase of the mining activities, loaders, dozers, excavators, conveyors, and trucks would be used to mine, process, and haul aggregate. Much of the equipment used would receive routine and major maintenance and repairs within existing mining facilities. Maintenance and repairs of such equipment would typically involve the transport, storage, and use of petroleum products such as diesel fuel, lubricants, and cleaning compounds. Spills or leaks of these petroleum products could affect surface water quality or could percolate into groundwater if not handled, stored, and disposed of properly.

Within mining sites, diesel fuel is typically stored in aboveground tanks with a secondary containment structure. Delivery and dispensing of lubricants (oils and grease) is usually done on a concrete pad with a collection area that is periodically cleaned. Vehicle maintenance is also performed on a concrete pad to prevent contaminants from reaching the soil surface. Spills are typically contained by use of absorbent materials and then loaded into waste drums for off-site disposal. The specific handling procedures vary with the type of material handled (e.g., flammable and combustible liquids versus non-flammable petroleum hydrocarbons). Although groundwater and surface water monitoring currently show no contamination from existing operations, the expanded mining operations could increase the potential for contamination of surface water and groundwater sources as the active mining area would be greater than what currently exists.

In addition to potential contamination from mining equipment, quarry excavation and interception of the regional groundwater table would increase the potential for contamination of surface water and groundwater sources. Interception of the regional groundwater table could create conditions in which surface water flows come into direct contact with groundwater, thereby creating a pathway for surface contaminants to enter groundwater.

SWRCB Resolution 68-16 requires that existing water quality be maintained and that further degradation of water quality be prevented. This resolution is often referred to as the “non-degradation policy” and prohibits the degradation of surface water or groundwater quality. Although Resolution 68-16 addresses surface and groundwater pollution, it does not provide specific design standards for the highest risk activities, which would be those activities located in the fuel storage and maintenance areas.

Discharges from mine sites are generally addressed by two principal regulatory programs: the NPDES permit program (for process water and stormwater point source¹ discharges) and the non-point source² program. All point source discharges to water of the U.S. must be addressed by NPDES permits. Two water discharge permits generally apply to mining activities.

An NPDES General Permit for Storm Water Discharges Associated with Construction Activities (SWRCB Order No. 99-28-DWQ) is required when a project involves clearing, grading, and disturbance (which includes stockpiling and excavation) of 1.0 acre or greater. In addition to an NPDES General Construction Permit, mining activities may also be required to obtain an Industrial NPDES Storm Water Permit (SWRCB Order No. 97-03-DWQ) to comply with regulations for stormwater discharges associated with industrial sites. One of the requirements of the NPDES permit is to maintain and update an SWPPP. Both Cemex and Robertson’s currently operate in accordance with SWPPPs that can be reviewed by the jurisdiction in which the mining

¹ A point-source is defined as “any discernible, confined, and discrete conveyance, included but not limited to, any pipe, ditch, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft from which pollutants are or may be discharged.”

² Non-point source is defined as a source from which runoff is caused from diffuse sources, and is generally caused by rainfall or snow melt.

takes place as well as the Santa Ana RWQCB for inspection purposes. Each SWPPP regulates on-site activities that may release contaminant discharges to surface and groundwater. With the implementation of the proposed project, Cemex and Robertson's would be required to incorporate the new mining areas into an SWPPP.

The mining component of the proposed project currently routes all water used for processing to a silt basin. The additional excavation and resulting processing water generated is anticipated to be routed to the existing silt basin and the Silt Pond Quarry (when excavation of the Silt Pond Quarry is completed). Because the mining component would be required to adhere to applicable NPDES requirements, including a revised SWPPP to incorporate the proposed new mining areas, and because all process water generated on site would not be discharged to a nearby waterway, impacts are anticipated to be less than significant and no mitigation is required.

As part of the mining component, one access road to 5th Street would be constructed and one haul road would be paved beginning at Orange Street-Boulder Avenue and ending at Alabama Street. All required water quality standards and waste discharge requirements would be followed during construction and operations of the new access road and new paved haul road. Therefore, impacts are anticipated to be less than significant and no mitigation is required.

Reclamation Phase. Once mining operations have ceased in the Planning Area, the process of reclamation of the mine sites would commence. Reclamation of these mine sites would entail the grading of the side slopes from the existing depths of 60 to 80 feet down to a maximum of 150 feet. The slopes would be contoured to a maximum slope of 2:1 and are anticipated to have a slope stability factor that would minimize slope failure and erosion. In addition, the reclaimed areas would be revegetated with vegetation consistent with that which currently exists on undisturbed areas within the Planning Area. It is not anticipated that any top-soil or other low-permeability material, such as quarry fines, would be placed over the slopes prior to revegetation. The activities associated with the reclamation phase of the project would be limited to final contouring and revegetation of the site with native plants. These activities typically would not result in water quality standard violations. Because it is not anticipated that these reclamation activities would result in a violation of water quality standards, impacts associated with this issue are considered to be less than significant and no mitigation is required.

Cumulative. Cumulatively, the proposed aggregate mining in combination with other projects in the area could create or contribute to new or increased impacts related to water quality and waste discharge over and above the impacts discussed in this section. Increases in long-term development in the City of Highland, City of Redlands, and surrounding areas may result in expansion of impermeable surfaces, which would increase the potential for pollutants in runoff, posing potential impacts to water quality. However, adherence to NPDES, SWPPP, and WQMP requirements will reduce such cumulative water quality impact to less than significant levels.

Adoption of General Plan Amendments

The adoption of the General Plan Amendments would assist the City of Highland and the City of Redlands in implementing the Wash Plan through the adoption of various components that have been analyzed in this section. Since the various components have been found to have less than significant impacts, it is anticipated that the adoption of the General Plan Amendments would also have a less than significant impact. Therefore, no mitigation would be required.

Cumulative. Cumulatively, the adoption of General Plan Amendments in combination with other projects in the area would not create or contribute to new or increased impacts related to water quality and waste discharge over and above the impacts discussed in this section. Increases in long-term development in the City of Highland, City of Redlands, and surrounding areas may result in expansion of impermeable surfaces, which would increase the potential for pollutants in runoff, posing

potential impacts to water quality. However, adherence to NPDES, SWPPP, and WQMP requirements will reduce such cumulative water quality impact to less than significant levels.

Roadway/Bridge Rights-of-Way

With the implementation of the proposed project, the ~~dedication~~ designation of additional rights-of-way for three streets, Alabama Street, Orange Street-Boulder Avenue, and Greenspot Road, would occur. The setting aside of rights-of-way of the three streets would have a less than significant impact on water quality standards or waste discharge requirements and no mitigation is required.

Cumulative. Cumulatively, the ~~dedication~~ designation of roadway and bridge rights-of-way in combination with other projects in the area would not create or contribute to new or increased impacts related to water quality and waste discharge over and above the impacts discussed in this section. Increases in long-term development in the City of Highland, City of Redlands, and surrounding areas may result in expansion of impermeable surfaces, which would increase the potential for pollutants in runoff, posing potential impacts to water quality. However, adherence to NPDES, SWPPP, and WQMP requirements will reduce such cumulative water quality impact to less than significant levels.

Recreational Trail Rights-of-Way

Trails in the Planning Area would be limited to passive recreational uses, which include the following activities: bird watching, hiking, photography, and scientific research. Although there are some existing trails that allow for equestrian uses (e.g., along existing public streets surrounding and crossing the Planning Area), the proposed project would prohibit equestrian and off-highway vehicle use (including motorized bikes) on the trails that would be dedicated within the area due to sensitive habitat conservation and water quality concerns. Therefore, pollutants coming from these two prohibited uses (equestrian and off-highway vehicle use) are not discussed here and would not apply within this section. Passive recreational trail uses typically usually generate three types of pollutants:

- Sediment (from poor management of trails and associated erosion);
- Trash and debris (from users of the trails); and
- Pathogens (from the deposit of fecal material on the trail).

Other pollutants such as nutrients, heavy metals, organic compounds, oil, and grease, would occur but are intermittently deposited in small quantities most often due to natural processes (i.e., rainfall and decaying vegetation).

The most common water quality concern for passive recreational use trails is erosion, which leads to sedimentation.¹ Depending on the type of trail (i.e., paved or unpaved), the extent to which erosion can occur varies significantly. Poor location and maintenance of trails can cause significant erosion and sedimentation. Because the trails would be situated on existing service and maintenance roads, erosion-related impacts associated with this component of the proposed project would be less than significant.

The second most common water quality concern for passive recreational use trails is the generation of trash and debris, commonly known as “litter.”² There are currently no statistics or data on litter that would quantitatively identify impacts to water quality within the Planning Area. However, litter in general has been identified as having a detrimental effect on the recreational value of water bodies and surrounding habitat. With no mechanism in place, litter can interfere with aquatic life respiration

¹ Sedimentation is the end-product of erosion and refers to the settling out of soil particles which have been detached and transported, usually by water, in the process of erosion.

² Litter is solid waste discarded in an inappropriate place made up of more than 150 different items from seven basic sources: (1) household garbage cans, (2) commercial trash containers, (3) loading and unloading operations, (4) construction sites, (5) uncovered trash hauling trucks, (6) motorists, and (7) pedestrians.

and can be harmful or hazardous to animals that mistakenly ingest debris. Based on a nationwide survey,¹ there are three reasons littering occurs:

- Litter already exists in an area and invites additional littering;
- There is no sense of ownership by trail users; and
- There is an assumption that someone else will clean up.

By implementing effective outreach programs and maintenance systems that address these litter sources, the amount of litter generated on the trails that could end up in the various waterways within the Planning Area would be significantly reduced. **Mitigation Measures REC-1** and **REC-2** identified in Section 4.14 (Recreation and Parks) would reduce the litter that would be generated on the trails.

The last pollutant that would be of concern on the trails would be pathogens (i.e., bacteria). Bacteria such as coliform, enterococcus, and *Escherichia coli* (*E. coli*) normally occur at low levels in the environment as a result of natural processes (e.g., soils and decaying vegetation). However, high levels of these bacteria resulting from an increase of fecal material from a variety of wildlife and domestic pets could occur in the event that such material is deposited into nearby waterways.

With the physical attributes of the trails, it can be assumed that pet-related pathogens or nutrients would not have a direct pathway from the trails to the waterways, as vegetated or boulder buffers are anticipated to be provided between the trail and any sensitive waterways. Vegetation buffers reduce contaminants carried in runoff by providing time for sunlight to break down chemicals, absorb nutrients, and protect water quality in receiving waters from runoff-related contaminations while boulders would act as barriers.

Equestrian uses may occur and be allowed on existing trails that skirt the boundaries of the Planning Area. However, no additional equestrian use associated with trail ~~dedication~~ designation is proposed with this project. Because there are no additional planned equestrian uses for the Planning Area, there would not be an increase in wastes generated by equestrian use over existing baseline conditions and are, therefore, not analyzed here. As part of the trail component for the proposed project, owners of pets (e.g., dogs) would be required to keep pets leashed at all times while on the trails. Therefore, the possibility of off-leash pets depositing fecal material directly into the water bodies is reduced. However, there is still the potential for these contaminants to enter the water bodies indirectly. Even though there would be a buffer between the trails and the water bodies, there could be an increase in pathogens in the area due to increased pet use on the trails.

Generally, it is less expensive to prevent contaminants from entering water bodies than to treat contaminated water. Many contaminants can be prevented from getting into water bodies through good management practices such as encouraging proper disposal of pet wastes. **Mitigation Measures REC-1** through **REC-3** have been identified (Section 4.14) to reduce water quality impacts with respect to fecal material.

Level of Significance after Mitigation. Through the implementation of these identified mitigation measures, water quality impacts of the proposed project would be reduced to less than significant.

Cumulative. Cumulatively, the adoption of ~~dedication~~ designation of recreational trail rights-of-way in combination with other projects in the area would not create or contribute to new or increased impacts related to water quality and waste discharge over and above the impacts discussed in this section. Increases in long-term development in the City of Highland, City of Redlands, and surrounding areas may result in expansion of impermeable surfaces, which would increase the potential for pollutants in runoff, posing potential impacts to water quality. However, adherence to the recommended mitigation

¹ Litter Education, Keep Athens-Limestone Beautiful, <http://www.keepathenslimestonebeautiful.com/littereducation.html>, website accessed August 24, 2007.

measures, as well as the NPDES, SWPPP, and WQMP requirements will reduce such cumulative water quality impact to less than significant levels.

Land Exchange between the District and the BLM

The District land exchange with BLM will allow mining activities to take place on property currently owned by BLM and habitat conservation to occur on land that is currently owned by the District. The ultimate result of the land exchange would have habitat conservation (with water conservation) and aggregate mining activities take place. Future water conservation facilities, if they are to be proposed, will be analyzed on a project-specific level and cannot yet be addressed. Water quality requirement impacts associated with aggregate mining activities have been previously identified in this section and found to be less than significant. Similarly, because habitat conservation would not physically change the existing nature of the land, the existing water quality within these areas would be maintained; therefore, no impacts would occur. No mitigation would be required as impacts associated with the land exchange between the District and BLM would be less than significant.

The regulations implementing the Clean Water Act require that each state develop and adopt a statewide anti-degradation policy. In California, this requirement is satisfied by SWRCB Resolution No. 68-16, the *Statement of Policy with Respect to Maintaining High Quality Waters of California*.¹ Actions that may adversely affect surface water quality must satisfy both Resolution No. 68-16 and the Federal non-degradation policy. The requirements of these two policies are similar: Existing in-stream uses and the level of water quality necessary to protect them must be maintained and protected. In addition, a reduction in water quality can be allowed only if there is a demonstration that such a reduction is necessary to accommodate important economic or social development.

Implementation of the proposed project would increase the amount of land set aside for habitat conservation. Because this component would not physically change the existing characteristics of the land and would not result in development, the existing quality of water within these areas would be maintained as well as protected. The waters present within the habitat conservation portion of the proposed project would not be further degraded. Therefore, no impacts with respect to this issue are anticipated to occur and no mitigation is required.

Cumulative. Cumulatively, the land exchange between the District and the BLM in combination with other projects in the area would not create or contribute to new or increased impacts related to water quality and waste discharge over and above the impacts discussed in this section. This component of the proposed project will have no impact in relation to this issue and therefore it does not contribute to any cumulative impacts.

Land Exchange between the SBCFCD and Robertson's

The SBCFCD land exchange with Robertson's will allow mining activities to take place on property currently owned by the SBCFCD and habitat preservation to occur on land that is currently owned by Robertson's. The ultimate result of the land exchange would have habitat conservation and aggregate mining activities take place. Water quality requirement impacts associated with aggregate mining activities have been previously identified in this section and found to be less than significant. Similarly, because habitat conservation would not physically change the existing nature of the land, the existing water quality within these areas would be maintained, therefore, no impacts would occur. No mitigation would be required as impacts associated with the land exchange between the SBCFCD and Robertson's would be less than significant.

¹ The SWRCB policy requires the continued maintenance of existing high quality waters unless there is a demonstration that: (1) allowing some degradation is consistent with the maximum benefit to the people of the state; and (2) that such degradation would not unreasonably affect existing or potential beneficial use.

Cumulative. Cumulatively, the land exchange between the SBCFCD and Robertson's in combination with other projects in the area would not create or contribute to new or increased impacts related to water quality and waste discharge over and above the impacts discussed in this section. This component of the proposed project will have no impact in relation to this issue and therefore it does not contribute to any cumulative impacts.

4.8.4.2 Deplete or Interfere with Groundwater Supplies or Recharge

Threshold	Would the proposed 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?
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Water Conservation Operations/Maintenance Activities of the District

Within the eastern portion of the Planning Area, the District currently operates 14 percolation basins with a wetted area of 64 acres and a maximum recharge capacity of 22,800 acre-feet per month. Because current conditions with water conservation infrastructure would not be affected with the implementation of the proposed project, impacts related to the depletion of water supplies or impairment of recharge capabilities of the surrounding area would not occur and no mitigation is required.

Cumulative. While the potential future expansion of impermeable surfaces may incrementally decrease natural recharge for the groundwater basin, regional groundwater management practices, included in the Seven Oaks Accord and the Integrated Regional Water Management Plan, provide a flexible management system for accommodating such changing conditions, and adjusting the amount and location of groundwater recharge to keep groundwater levels at an appropriate level. The project proposes continuation of the historical practices of the District for groundwater recharge. The project does not contemplate substantial differences in these activities from existing baseline activities and operations, and therefore no cumulative impacts resulting from the continuation of these activities is expected to occur.

Flood Control Operations/Maintenance Activities of the SBCFCD

Implementation of the proposed project would not change existing flood control features or the land that is currently devoted to flood control. Because no additional flood control features are planned for the Planning Area, impacts associated with the depletion or interference with groundwater recharge would not occur and no mitigation is required.

Cumulative. While the potential future expansion of impermeable surfaces may incrementally decrease natural recharge for the groundwater basin, regional groundwater management practices, included in the Seven Oaks Accord and the Integrated Regional Water Management Plan, provide a flexible management system for accommodating such changing conditions, and adjusting the amount and location of groundwater recharge to keep groundwater levels at an appropriate level. The project proposes continuation of the historical practices of the SBCFCD for flood control. The project does not contemplate substantial differences in these activities from existing baseline activities and operations, and therefore no cumulative impacts resulting from the continuation of these activities is expected to occur.

Water Production Operations/Maintenance Activities of EVWD and RMUD

Implementation of the proposed project would not change existing water production or extraction activities. Because no additional water production infrastructure is planned for the Planning Area and because water production activities would remain the same as currently exists, impacts associated

with the depletion or interference with groundwater recharge would not occur and no mitigation is required.

Cumulative. Cumulatively, the operations and maintenance activities of the EVWD and the RMUD in combination with other projects in the area would not create or contribute to new or increased impacts related to groundwater supply and recharge over and above the impacts discussed in this section. The activities will have no impact in relation to this issue and therefore they do not contribute to any cumulative impacts.

Aggregate Mining

The two phases of Aggregate Mining (operation of mining activities and the reclamation of the mine sites after mine operations have ceased) are discussed below with respect to groundwater supplies and groundwater recharge. Mining activities within the Planning Area would need groundwater for the processing of aggregate materials. Additional analysis of groundwater usage is discussed in Section 4.16, Utilities and Service Systems.

Operational Phase. The mining component of the proposed project would increase the area to be mined by 363 acres and would increase aggregate production by 1.5 million tons per year. Table 4.8.E identifies the amount of water that each mining operator would need.

Table 4.8.E – Water Usage for Mining Expansion

Mining Operator	Water Usage Factor (gallons/ton)	Additional Aggregate Production (million tons/yr)	Total Additional Water Needed (million gallons/yr)
Cemex	52	0.50	26.0
Robertson's	52	1.00	52.0
Total	52	1.50	78.0

Based on a water usage rate of 52 gallons of groundwater per ton of material mined and processed, an estimated 78,000,000 gallons or 239.2 acre-feet of water per year¹ would be directly needed to mine and process the additional aggregates that would result with the implementation of the proposed project. Sixty-eight percent of this water would be used by Robertson's while 32 percent would be utilized by Cemex.

As previously stated, the implementation of the mining component of the proposed project would increase aggregate production by 1.5 million tons per year. Of the 1,500,000 additional tons of aggregate product per year, approximately 95 percent is expected to be washed gravel, concrete sand, and sand. The remaining 5 percent would be composed of unusable material consisting of large boulders and fine material.² Each ton of processed material is assumed to have a water content of approximately 10 percent by volume or 2 percent by weight. Based on a processed product amount of 1,425,000 tons, additional aggregate product water content would equal approximately 28,500 tons³ or 21.11 acre-feet⁴ of water per year. This water content is representative of the anticipated amount of water that is retained in the product after subsequent processing of the product.

¹ 78.0 millions gallons = 78,000,000 gallons/year; 1 acre-foot = 326,000 gallons; 78,000,000 gallons ÷ 326,000 gallons per year = 239.2 acre-feet per year.

² Fine material consists primarily of fine sand mixed with silt and minor amount of clay-sized material that is washed from the product during processing.

³ $0.95 \times 1,500,000$ tons per year = 1,425,000 tons of product; $1,425,000 \text{ tons} \times 0.02 = 28,500$ tons of water in product per year.

⁴ $28,500 \text{ tons} \times 2,000 \text{ pounds/ton} = 57,000,000 \text{ pounds}$; $57,000,000 \text{ pounds} \times \text{acre-foot/ } 2,700,000 \text{ pounds} = 21.11 \text{ acre-feet per year}$.

Boulders and fines are anticipated to make up 5 percent of the additional aggregate resources or 75,000 tons per year. The following calculations assume a scenario in which fines make up the entire 5 percent of unusable aggregate. The 75,000 tons of fines are assumed to be saturated and have a water content of 40 percent by volume or 8 percent by weight.¹ Using this measurement, the fine material would contain approximately 6,000 tons of water per year.² The total water retained in the fines would be approximately 4.44 acre-feet per year.³

Based on these calculations, the total additional amount of water needed to mine, process, and retain the additional aggregates, including boulders and fines, would be approximately 264.7 acre-feet per year.

Water for current and proposed Cemex operations is supplied from two wells within the Planning Area. One well is located at the Orange Street aggregate plant site and the other is at the Alabama Street ready mix plant site. The Orange Street well is currently used for aggregate processing and dust control and also supplies water to all faucets and toilets within these areas. Based on Cemex estimates,⁴ approximately 2,030 acre-feet of water is used per year from this well. The Alabama Street well is currently used for batching concrete and dust control and also supplies water to faucets and toilets at the Alabama Street ready mix plant. Approximately 190 acre-feet of water is produced on a yearly basis at this well. Total existing water use from Cemex operations is approximately 2,220 acre-feet per year.

Water for current and proposed Robertson's operations would be supplied from two existing wells within the Planning Area. The well supplying the East Basin processing plant is located just north of the plant adjacent to Plunge Creek and currently produces approximately 350 acre-feet per year for aggregate processing. The well supplying water to the batch plant uses approximately 15 acre-feet per year. Total existing water use from Robertson's is approximately 365 acre-feet per year.⁵

As summarized in Table 4.8.F, Cemex and Robertson's currently use 2,220 acre-feet and 365 acre-feet per year, respectively. With the implementation of the mining component of the proposed project, an additional 264.7 acre-feet per year would be needed for aggregate mining operations. This additional 264.7 acre-feet per year is anticipated to come from groundwater sources.

Table 4.8.F – Water Use Calculations for Cemex and Robertson's

Mining Operator	Existing Conditions (acre-feet/yr)¹	Additional Water Required (acre-feet/yr)	Total Water Required (acre-feet/yr)
Cemex*	2,220	84.7	2304.7
Robertson's	365	180.0	545.0
Total	2,585	264.7	2,849.7

Note: *Overall production for Cemex Construction would not increase – the proposed project only provides an area where Cemex can excavate material on an as-needed basis within existing conditions.

Source: Cemex email communication from Christine Jones, Environmental Manager, dated January 11, 2007; Robertson's email communication from Craig Phillips, Chief Engineer, dated January 16, 2007.

Water supply entitlements and supply reliability for Cemex and Robertson's are discussed and analyzed further in Section 4.16, Utilities and Service Systems. Under the Western judgment,

¹ Based on a solid density of 2.65 grams per cubic centimeter of material.

² $0.05 \times 1,500,000$ tons per year = 75,000 tons of fines; $75,000 \text{ tons} \times 0.08 = 6,000$ tons of water in fines per year.

³ $6,000 \text{ tons} \times 2,000 \text{ pounds/ton} = 12,000,000 \text{ pounds}$; $12,000,000 \times \text{acre-foot} / 2,700,000 \text{ pounds} = 4.44 \text{ acre-feet per year}$.

⁴ Email communication from Christine Jones, Cemex Environmental Manager, email dated January 11, 2007.

⁵ Email communication from Craig Phillips, Chief Engineer, January 16, 2007.

overall basin production is calculated and measured against the calculated safe yield¹ of the basin. The safe yield of the Bunker Hill sub-basin is estimated at 232,100 acre-feet per year.²

The additional 264.7 acre-feet per year required for the proposed project is approximately 0.11 percent of the current safe yield of the Bunker Hill sub-basin. The additional water needed for the mining component would be within the Bunker Hill sub-basin's safe yield and would not result in a lowering of the existing groundwater levels in the area. Therefore, groundwater level impacts related to the mining component of the proposed project are anticipated to be less than significant and no mitigation is required. In addition, production of the 264.7 acre-feet from groundwater, as anticipated, would subject the mining operators to payment of the District's groundwater charge. The proceeds of this charge are used to fund the District's continuing artificial recharge programs, designed to enhance the availability of local groundwater supplies.

The retention of relatively impermeable fines and silt on site is likely to reduce percolation. These additional amounts of fines and silt produced would be routed to the existing silt ponds, which are already designated for such uses, and eventually into the 90-acre Silt Pond Quarry to be excavated by Robertson's. At the completion of mining, the Silt Pond Quarry, and when each operator's existing silt ponds reach capacity, both operators will use the Silt Pond for the remaining life of the project. It is anticipated that a portion of the water discharged into the pond would percolate into the groundwater. However, this would occur at a much slower rate of 0.5 cubic feet per second (cfs) for the silt pond compared to 1.5 feet per day or 384 cfs for the Santa Ana River Spreading Grounds (approximately 448 acres). Therefore, the mining component of the proposed project would not result in the reduction of percolation, because (1) the area in which these fines and silts would be contained is in an area that is currently used for fines and silt deposits, and (2) the Silt Pond Quarry is outside the existing and planned water conservation areas.

Reclamation Phase. The reclamation of the mine site once mining operations cease would not deplete nor cause interference with groundwater recharge. Based on the reclamation plans for the area, it is anticipated that the quarry sites for Cemex³ and Robertson's⁴ mining operations would be converted to basins with revegetated side slopes suitable for use as a groundwater recharge site, groundwater storage basin, or recreational areas. Additionally, it is anticipated that the reclaimed vegetated slopes would allow for existing runoff to remain on site longer than under natural conditions or during the operational phase of this component, thereby allowing for more time for the water to percolate into the ground. Therefore, the reclamation phase of the mining component would not result in the reduction of percolation.

Cumulative. Cumulatively, the aggregate mining in combination with other projects in the area would not create or contribute to new or increased impacts related to groundwater supply and recharge over and above the impacts discussed in this section. The activities will have little to no impact in relation to this issue and therefore they do not contribute to any cumulative impacts. Additionally, the majority of the cumulative projects in Table 2.A do not include substantial amounts of impermeable surfaces and several are designed to protect groundwater resources. Cumulative impacts would be less than significant.

Adoption of General Plan Amendments

The adoption of the General Plan Amendments would assist the City of Highland and the City of Redlands in implementing the Wash Plan through the adoption of various components that have been

¹ Safe yield is defined as the annual amount of water that can be taken from a source or supply over a period of years without depleting that source beyond its ability to be replenished naturally in wet years.

² *West Valley Water District Urban Water Management Plan*, Engineering Resources, January 2006.

³ *Mine and Reclamation Plans for the Santa Ana Wash Mine to be Operated by Cemex Construction Materials L.P.*, Lilburn Corporation, March 2006.

⁴ *Mine and Reclamation Plans for the Santa Ana Wash Mine to be Operated by Robertson's*, Lilburn Corporation, March 2006.

analyzed in this section. Since the various components have been found to have less than significant impacts, it is anticipated that the adoption of the General Plan Amendments would also have a less than significant impact. Therefore, no mitigation would be required.

Cumulative. Cumulatively, the adoption of General Plan Amendments in combination with other projects in the area would not create or contribute to new or increased impacts related to groundwater supply and recharge over and above the impacts discussed in this section. The activities will have little to no impact in relation to this issue and therefore they do not contribute to any cumulative impacts. Additionally, the majority of the cumulative projects in Table 2.A do not include substantial amounts of impermeable surfaces and several are designed to protect groundwater resources. Cumulative impacts would be less than significant.

Roadway/Bridge Rights-of-Way

The permanent designation of ~~30~~ 47 acres of additional rights-of-way would have no impact on groundwater supplies or groundwater recharge. Because the designations of rights-of-way do not include construction and operation activities of the expansion of these existing roads, these activities would not affect groundwater supplies or recharge and no mitigation is required.

Cumulative. Cumulatively, the designation of bridge and roadway rights-of-way in combination with other projects in the area would not create or contribute to new or increased impacts related to groundwater supply and recharge over and above the impacts discussed in this section. The activities will have no impact in relation to this issue and therefore they do not contribute to any cumulative impacts.

Recreational Trail Rights-of-Way

A total of nine trails are proposed within the Planning Area and are identified in Table 4.8.G.

Table 4.8.G – Proposed Trails within Planning Area

Name of Trail	Class Type	Paved/Unpaved
Alabama Street Trail	Class 2 Bikeway	Paved
Orange Street-Boulder Avenue Trail	Class 2 Bikeway	Paved
Greenspot Road Trail	Class 2 Bikeway	Paved
Old Greenspot Road Trail	Class 1 Dedicated Bikeway and Multi-Use	Paved
Pole Line Road Trail	Class 3 Multi-Use	Unpaved
Old Rail Line Trail	Class 3 Multi-Use	Unpaved
Cone Camp Road Trail	Class 3 Multi-Use	Unpaved
Borrow Pit South Rim Trail	Class 3 Multi-Use	Partially paved
Santa Ana River Trail	Class 4 Multi-Use	Paved

Source: Trails Working Group, 2006.

The Alabama Street Trail, the Orange Street-Boulder Avenue Trail, and the Greenspot Road Trail are classified as paved Class 2 bikeways. These trails are proposed to be situated on existing roadways (e.g., Alabama Street, Orange Street-Boulder Avenue, and Greenspot Road) and would not result in the increase of impervious surfaces. Because these three trails would occur within the existing rights-of-way of these roads, interference with groundwater recharge and the depletion of groundwater would not occur. The Old Greenspot Road Trail is classified as a paved Class 1 Dedicated Bikeway and Multi-Use trail. This trail would use the existing Old Greenspot Road and would not result in additional impervious surface. Because this trail would also use an existing roadway, there would be no interference with groundwater recharge and no depletion of groundwater; no mitigation is required.

The remaining four trails proposed for the Planning Area are Class 3 multi-use unpaved trails. One of the trails, Pole Line Road Trail, would be situated on an unpaved maintenance road and within existing rights-of-way on Abbey Way within the City of Highland. The Old Rail Line Trail would use an existing abandoned rail line, which is a straight-line path surfaced with crushed lava, while the Cone Camp Road Trail would use existing Cone Camp Road and maintenance roads located within the Water Conservation District's property. The Borrow Pit South Rim Trail would begin at the existing Greenspot Road on the east and proceed westerly under the proposed new Greenspot Road Bridge along the partially paved road on the southern rim of the District's water spreading basins. As currently proposed, the Borrow Pit South Rim Trail would also use existing roadways for the length of the trail. All four unpaved trails would use existing infrastructure in already disturbed areas (i.e., existing rights-of-way, maintenance roads, and easements) and would not result in additional disturbance that would deplete or interfere with groundwater supplies.

Ancillary infrastructure that would be associated with the trails (i.e., trailhead areas, vantage/outlook points) could include the construction of impervious surfaces; however, these are anticipated to be minimal and would not affect groundwater supplies or recharge capabilities of the surrounding area. Based on these specifications, it is anticipated that the trail component of the proposed project would not result in significant interference with recharge activities and would not deplete groundwater supplies. Therefore, a less than significant impact with respect to this issue is anticipated to occur and no mitigation is required.

Cumulative. Cumulatively, the ~~dedication~~ designation of recreational trail rights-of-way in combination with other projects in the area would not create or contribute to new or increased impacts related to groundwater supply and recharge over and above the impacts discussed in this section. The proposed activities will have a minimal impact if any in relation to this issue and therefore they do not contribute to any cumulative impacts. Additionally, the majority of the cumulative projects in Table 2.A do not include substantial amounts of impermeable surfaces. Cumulative impacts would be less than significant.

Land Exchange between the District and the BLM

Of the land that the BLM would receive from the land exchange, 10 acres are currently devoted to groundwater recharge facilities and would continue to be used for groundwater recharge after the land exchange. Therefore, it is anticipated that there would be no loss in current recharge rates of the area. The designation of the remaining land to habitat conservation would not only conserve wildlife habitat but would also serve as a natural recharge system due to the permeability of the area. Water would be delivered to this area to maintain the integrity of animal and plant communities with an additional benefit of extending the natural recharge area to facilitate percolation of water into the underlying basin. The land exchanged by the BLM would be used for aggregate mining. For mineral aggregate activities that would occur on exchanged land, it is anticipated that the amount of water that would be utilized by mining operations would not substantially deplete groundwater supplies. Although aggregate mining activities during the operational phase would potentially result in a decrease of groundwater recharge in the immediate mining area, the area in which this extraction would occur is already highly disturbed. In addition, once mining has ceased in the area, a greater amount of groundwater recharge would occur in the reclamation process. Therefore, this component of the proposed project would not deplete groundwater supplies or interfere with groundwater recharge, but would increase the groundwater recharge area and augment groundwater supplies, which is a beneficial impact. Portions of land transferred from the BLM to the Conservation District will be used for aggregate mining and the impacts of this activity are fully discussed above. There are no additional short-term or cumulative impacts not otherwise discussed. No impacts related to this issue are anticipated to occur with implementation of the proposed project and no mitigation is required.

Cumulative. Cumulatively, the land exchange between the District and the BLM in combination with other projects in the area would not create or contribute to new or increased impacts related to groundwater supply and recharge over and above the impacts discussed in this section. The

proposed activities will have no impact in relation to this issue and therefore they do not contribute to any cumulative impacts.

Land Exchange between the SBCFCD and Robertson's

The land exchange that would occur between the SBCFCD and Robertson's would result in mining activities to take place on property currently owned by the SBCFCD and habitat preservation of land that is currently owned by Robertson's. Habitat conservation activities would not deplete groundwater supplies or interfere with groundwater recharge as such activities would maintain the existing conditions of the land set aside for such purposes. The preservation of habitat may increase groundwater recharge in the area as there would be more land preserved in its natural state. For mineral aggregate activities that would occur on exchanged land, it is anticipated that the amount of water that would be utilized by mining operations would not substantially deplete groundwater supplies. Although mineral aggregate activities during the operational phase would potentially result in a decrease of groundwater recharge in the immediate mining area, the area in which this extraction would occur is already highly disturbed. In addition, once mining has ceased in the area, a greater amount of groundwater recharge would occur through the reclamation process. Therefore, impacts are anticipated to be less than significant and no mitigation is required.

Cumulative. Cumulatively, the land exchange between the SBCFCD and Robertson's in combination with other projects in the area would not create or contribute to new or increased impacts related to groundwater supply and recharge over and above the impacts discussed in this section. The proposed activities will have no impact in relation to this issue and therefore they do not contribute to any cumulative impacts.

4.8.4.3 Increase Erosion and/or Siltation

Threshold	Would the proposed project substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on or off the site?
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Water Conservation Operations/Maintenance Activities of the District

The infrastructure associated with water conservation would continue to consist of percolation basins, canals, and diversion structures. Existing water conservation activities are not anticipated to change, as water diverted for water conservation activities would be routed to the same areas within the Planning Area. Implementation of the water conservation component of the proposed project would not alter the existing drainage pattern of the area that would result in erosion or siltation on or off the Planning Area; therefore, impacts are considered to be less than significant and no mitigation is required.

Cumulative. Cumulatively, the water conservation activities of the District in combination with other projects in the area would not create or contribute to new or increased impacts related to erosion and siltation over and above the impacts discussed in this section. The District's operations and maintenance do not include activities that would contribute to this impact and it is anticipated that all cumulative projects that may have the potential to have an impact would be required to comply with existing regulations to reduce erosion and siltation to a level that is less than significant, thus reducing any cumulative impact.

Flood Control Operations/Maintenance Activities of the SBCFCD

With the implementation of the proposed project, no changes in flood control infrastructure or flood control activities would occur. The infrastructure required for flood control activities and maintenance would continue to support the current configuration of the Santa Ana River and its tributaries and

would continue to modify drainage patterns from what would normally occur; however, these flood control activities are necessary to prevent flood induced erosion or siltation from occurring within the Planning Area. Thus, impacts with respect to this issue are less than significant and no mitigation is required.

Cumulative. Cumulatively, the activities of the SBCFCD in combination with other projects in the area would not create or contribute to new or increased impacts related to erosion and siltation over and above the impacts discussed in this section. The SBCFCD's operations and maintenance do not include activities that would contribute to this impact and it is anticipated that all cumulative projects that may have the potential to have an impact would be required to comply with existing regulations to reduce erosion and siltation to a level that is less than significant, thus reducing any cumulative impact.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

The infrastructure and activities associated with water production would continue to consist of pumping water from the ground and routing the water to distribution systems. Existing water production activities are not anticipated to change, as water pumped from the area would be routed to the same water supply systems. Implementation of the water production component of the proposed project would not alter the existing drainage pattern of the site or area that would result in erosion or siltation on or off the Planning Area; therefore, impacts are considered to be less than significant and no mitigation is required.

Cumulative. Cumulatively, the water production activities of the EVWD and the RMUD in combination with other projects in the area would not create or contribute to new or increased impacts related to erosion and siltation over and above the impacts discussed in this section. The water production activities would have little to no impact in relation to this issue and therefore they do not contribute to any cumulative impacts.

Aggregate Mining

The aggregate mining activities proposed for the Planning Area would include two phases: the operation of mining activities and the reclamation of the mine sites after mine operations have ceased. Both of these phases are discussed in the following paragraphs with respect to erosion or siltation caused by alteration of drainage patterns.

Operational Phase. The mining component of the proposed project would result in the expansion of existing quarries within the Planning Area. The expansion of mining operations would include excavation of disturbed and undisturbed land and would alter the existing surface topography and drainage pattern of the mining expansion area. The mining component includes ground disturbance, greater soil exposure, stockpiling of aggregate materials and reclaimed slopes that have the potential to increase erosion by wind or water. Uncontrolled surface runoff could increase the risk of flooding along existing waterways. However, as stated previously, potential impacts would be reduced by complying with existing regulatory requirements. The existing SWPPP for existing mining operations would need to be modified. Compliance with the modified SWPPP would include BMPs that would minimize soil erosion and siltation associated with mining activities.

Cemex operations include a drainage system for the existing processing plant, which consists of a pipeline to a series of settling or clarification ponds located in the southwest corner of the Johnson Pit North site. Robertson's operations include a similar drainage system consisting of open v-ditches and corrugated steel pipes to a series of settling or clarification ponds. With the implementation of the proposed project, it is anticipated that the expansion of mining activities would be primarily limited to excavation activities that typically do not have planned drainage

systems. However, it is anticipated that minor local sheet and surface runoff draining into the active excavation area would percolate rapidly into the porous alluvium material. In addition, locations where runoff would be entering the pit would be monitored to ensure that potential erosion conditions do not occur. Therefore, impacts associated with alterations of drainage patterns resulting in increased erosion and sedimentation are considered to be less than significant and no mitigation is required.

With the proposed project, there would be one new Fifth Street access road and one haul road that would be paved from Orange Street-Boulder Avenue to Alabama Street. Because standard construction procedures would be followed during the construction of the new access road and during the paving of the existing haul road, impacts associated with erosion or siltation would be reduced to a less than significant level and no mitigation is required.

Reclamation Phase. As previously discussed, the reclamation plans for the area contemplate that the quarry sites for Cemex and Robertson's mining operations would revegetate side slopes, which would prevent erosion from occurring, since the vegetation would allow for existing runoff to be intercepted, slowing the rate of runoff. The vegetated side slopes and overall pit configuration would also allow runoff to remain on site longer than under undisturbed conditions, or during the operational phase of mining, thereby allowing more time for water to percolate into the ground. Therefore, the reclamation phase of the mining component would not result in an increase in erosion or sedimentation, and would result in a less than significant level of impact.

Cumulative. Cumulatively, the aggregate mining in combination with other projects in the area could create or contribute to new or increased impacts related to erosion and siltation over and above the impacts discussed in this section. The aggregate mining activities and other ground-disturbing activities included in Table 2.A could contribute cumulatively to additional erosion and siltation. It is anticipated that other projects in the cumulative area would be required to comply with NPDES requirements to reduce impacts related to this issue to a level that is less than significant, thus reducing cumulative impacts.

Adoption of General Plan Amendments

The adoption of the General Plan Amendments would assist the City of Highland and the City of Redlands in implementing the Wash Plan through the adoption of various components that have been analyzed in this section. There will be no impacts related to erosion from the adoption of General Plan Amendments because there is no physical activity that would result in a change from existing conditions and this activity would not result in a significant impact. Therefore, no mitigation would be required.

Cumulative. Cumulatively, the adoption of General Plan Amendments in combination with other projects in the area would not create or contribute to new or increased impacts related to additional erosion and siltation over and above the impacts discussed in this section. The General Plan Amendments would have no impact in relation to this issue and therefore they do not contribute to any cumulative impacts.

Roadway/Bridge Rights-of-Way

With implementation of the proposed project, additional rights-of way for the following streets would be dedicated:

- Alabama Street;
- Orange Street-Boulder Avenue; and
- Greenspot Road realignment and associated bridge.

Because the designations of rights-of-way do not include construction and operation activities of the expansion of these existing roads, these activities would not result in significant erosion or sedimentation and no mitigation is required. The future construction of these roadway improvements will address potential impacts related to erosion in a subsequent environmental review.

Cumulative. Cumulatively, the designation of bridge and roadway rights-of-way in combination with other projects in the area could create or contribute to new or increased impacts related to erosion and siltation over and above the impacts discussed in this section. However, it is anticipated that projects in the area, such as the future construction of these roadway improvements, would require project-specific environmental review that would require impacts related to this issue to be mitigated to a level that is less than significant, thereby resulting in less than significant cumulative impacts.

Recreational Trail Rights-of-Way

The paved trails that are proposed for the Planning Area would occur within existing asphalt roadways. The type of trail activity would most likely be limited to biking, jogging, or walking on these trails. These types of activities typically do not cause substantial erosion or siltation on paved roadways. Therefore, impacts on the proposed paved trails with respect to erosion or siltation are anticipated to be less than significant and no mitigation is required.

The trails that are proposed to remain unpaved would also see similar types of trail activity. However, there would be a greater probability for erosion and siltation to occur due to potential compaction of soil. The most important factors that affect the potential for soil erosion include soil particle size, soil structure, soil permeability, and percentage of organic content. Vegetation, slope, and climate are also important considerations that affect the potential erodibility of soil. The trails would be situated within existing service and maintenance roads and would, therefore, not result in the alteration of existing conditions. Because these unpaved trails would not change existing conditions, such as alteration of slopes or drainage patterns, potential erosion or sedimentation, impacts related to the trail component of the proposed project are considered to be less than significant.

Cumulative. Cumulatively, the ~~dedication~~ designation of recreational trail rights-of-way in combination with other projects in the area would not create or contribute to new or increased impacts related to additional erosion and siltation over and above the impacts discussed in this section. The recreational trails would have little to no impact over the baseline conditions in relation to this issue and therefore they do not contribute to any significant cumulative impacts.

Land Exchange between the District and the BLM

The land exchange that would occur between the District and the BLM would result in mining activities on property currently owned by the BLM and habitat preservation on land that is currently owned by the District. The land that would be set aside for habitat conservation and the continuance of water conservation activities would be left in its natural state. A portion of the BLM land exchange area could potentially be used for future water conservation facilities. In the event that these potential water conservation facilities are constructed, they would only impact a maximum of 31 percent (51 acres) of the Phase 3 Area. As the majority of the land within the exchange area lies outside of the main drainage areas of the Wash and would not be disturbed, the water conservation activities would ~~and would therefore~~ not alter the existing drainage pattern of the area and would not result in substantial erosion or siltation. Therefore, a less than significant impact is anticipated to occur with this issue. For the land that would be exchanged to the District, the extraction of mineral aggregate would occur. This mining activity would change the existing drainage pattern of the area as the area is being mined. Although mining activities would change the existing drainage pattern of the area, erosion and siltation impacts associated with mining activities have already been identified and discussed in this section and found to be less than significant. Because the resulting land exchange

between the District and the BLM would result in a less than significant impact, no mitigation is required.

Cumulative. Cumulatively, the land exchange between the District and the BLM in combination with other projects in the area would not create or contribute to new or increased impacts related to additional sources erosion and siltation over and above the impacts discussed in this section. The land exchange would have no impact in relation to this issue and therefore would not contribute to any cumulative impacts.

Land Exchange between the SBCFCD and Robertson's

The land exchange that would occur between the SBCFCD and Robertson's would result in mining activities on property currently owned by the SBCFCD and habitat preservation on land that is currently owned by Robertson's. As indicated in the analysis for the land exchange between the District and BLM, the land that would be set aside for habitat conservation and the continuance of water conservation activities would be left in its natural state and would therefore not alter the existing drainage pattern of the area and would not result in substantial erosion or siltation. Therefore, a less than significant impact is anticipated to occur with this issue. For the land that would be exchanged to Robertson's, the extraction of mineral aggregate would occur. This mining activity would change the existing drainage pattern of the area as the area is being mined. Although mining activities would change the existing drainage pattern of the area, erosion and siltation impacts associated with mining activities have already been identified and discussed in this section and found to be less than significant. Because the resulting land exchange between the SBCFCD and Robertson's would result in a less than significant impact, no mitigation is required.

Cumulative. Cumulatively, the land exchange between the SBCFCD and Robertson's in combination with other projects in the area would not create or contribute to new or increased impacts related to erosion and siltation over and above the impacts discussed in this section. The land exchange would have little to no impact in relation to this issue and therefore would not contribute to any significant cumulative impacts.

4.8.4.4 Increase in Surface Water Runoff That Would Result In Flooding

Threshold	Would the proposed project substantially alter the existing drainage pattern of the site or area, including 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 the site?
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Water Conservation Operations/Maintenance Activities of the District

Although land devoted to water conservation activities would be reduced with implementation of the proposed project, water diverted for water conservation would still flow across in a pattern similar to what currently exists. It is anticipated that existing water conservation activities would not be affected by the implementation of the proposed project. Because no change would occur to water conservation activities with the implementation of the proposed project, no increase in the rate or amount of surface runoff and a less than significant impact would occur. Therefore, no mitigation is required.

Cumulative. Cumulatively, the water conservation activities of the District in combination with other projects in the area would not create or contribute to new or increased impacts related to increased water runoff over and above the impacts discussed in this section. The projects listed in Table 2.A include primarily drainage and water utility projects. These projects will direct water through underground pipelines in most cases and would have little impact related to an increase of surface runoff. A less than significant cumulative impact would result.

Flood Control Operations/Maintenance Activities of the SBCFCD

The infrastructure required for flood control activities and maintenance would continue to support the current configuration of the Santa Ana River and its tributaries and would continue to modify normal drainage patterns as necessary to prevent flooding from occurring in other downstream sections of the Santa Ana River. These flood control activities are designed to alter the flow of floods and would divert floodwater away from areas (on the site and off the site) that would be affected by the flood flows. Therefore, impacts with respect to surface runoff and flooding are reduced to a less than significant level and no mitigation is required.

Cumulative. Cumulatively, the SBCFCD flood control activities in combination with other projects in the area would not create or contribute to new or increased impacts related to increased water runoff over and above the impacts discussed in this section. The projects listed in Table 2.A include primarily drainage and water utility projects. These projects will direct water through underground pipelines in most cases and would have little impact related to an increase of surface runoff or altering drainage flows. A less than significant cumulative impact would result.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Existing water production activities are not anticipated to change, as water pumped from the area would be routed to the same areas within the Planning Area and would not result in an increase in surface runoff that would result in flooding; therefore, impacts are considered to be less than significant and no mitigation is required.

Cumulative. Cumulatively, the water production activities of the EVWD and the RMUD in combination with other projects in the area would not create or contribute to new or increased impacts related to increased water runoff over and above the impacts discussed in this section. The projects listed in Table 2.A include primarily water utility projects. These projects will direct water through underground pipelines in most cases and would have little impact related to an increase of surface runoff or altering drainage flows. A less than significant cumulative impact would result.

Aggregate Mining

The aggregate mining activities proposed would include the operation of mining activities and the reclamation of the mine sites after mine operations have ceased. Both of these phases are discussed in the following paragraphs with respect to increases in rates of runoff.

Operational Phase. The mining component of the proposed project would result in the expansion of existing quarries within the Planning Area. The expansion would alter the existing drainage pattern of the area. Any potential runoff that would occur within the mining areas of the Planning Area would primarily come from rainfall during large storm events.

Storms of small magnitude do not typically result in significant runoff, while storms of a larger magnitude would yield surface runoff. The average annual precipitation for the Planning Area is reported as 15.6 inches per year with approximately 90 percent falling from November through March.¹ With the expansion of the mining area by approximately 363 acres, the amount of rainfall that would normally be captured could result in additional runoff. However, it is anticipated that minor local sheet and surface runoff draining into the active excavation area would percolate rapidly into the porous alluvium material resulting in a less than significant impact.

¹ *Mine and Reclamation Plans for the Santa Ana Wash Mine to be Operated by Cemex Construction Materials L.P.*, Lilburn Corporation, March 2006.

Reclamation Phase. As previously discussed, the reclamation plans for the area contemplate that the quarry sites for Cemex and Robertson's mining operations would revegetate side slopes, which would prevent erosion from occurring, since the vegetation would allow for existing runoff to be intercepted, slowing the rate of runoff. The vegetated side slopes and overall pit configuration would also allow runoff to remain on site longer than under undisturbed conditions, or during the operational phase of mining, thereby allowing more time for water to percolate into the ground and would result in a less than significant level of impact.

Cumulative. Cumulatively, the proposed aggregate mining activities in combination with other projects in the area would not create or contribute to new or increased impacts related to increased water runoff over and above the impacts discussed in this section. Aggregate mining will have no impact related to this issue and therefore it does not contribute to any cumulative impacts.

Adoption of General Plan Amendments

The adoption of the General Plan Amendments would assist the City of Highland and the City of Redlands in implementing the Wash Plan through the adoption of various components that have been analyzed in this section. There will be no impacts related to an increase in surface runoff from the adoption of General Plan Amendments because there is no physical activity that would result in a change from existing conditions and this activity would result in no impact. Therefore, no mitigation would be required.

Cumulative. Cumulatively, the adoption of General Plan Amendments in combination with other projects in the area would not create or contribute to new or increased impacts related to increased water runoff over and above the impacts discussed in this section. The General Plan Amendments would have no impact related to this issue and therefore they would not contribute to any cumulative impacts.

Roadway/Bridge Rights-of-Way

With implementation of the proposed project, additional rights-of way for the following streets would be set aside:

- Alabama Street;
- Orange Street-Boulder Avenue; and
- Greenspot Road realignment and associated bridge.

Because the designations of rights-of-way do not include construction and operation activities of the expansion of these existing roads, these activities would not result in a significant increase in surface runoff and no mitigation is required. The future construction of these roadway improvements will address potential impacts related to surface runoff in a subsequent environmental review.

Cumulative. Cumulatively, the designation of bridge and roadway rights-of-way in combination with other projects in the area could create or contribute to new or increased impacts related to increased water runoff over and above the impacts discussed in this section. The future road construction would create impervious surfaces that would assist in the transport of water. However, project-specific design and environmental review will be required prior to the construction of any roadway improvements. It is anticipated that any impacts associated with additional runoff would be addressed and mitigated to a level that is less than significant during project review. A less than significant cumulative impact would result.

Recreational Trail Rights-of-Way

For the Planning Area, the proposed trails, which would be situated on existing roadways, maintenance roads, and easements, would not result in the alteration of the current drainage pattern. Because these trails would be subject to recreational activities (i.e., biking, jogging, walking), which typically do not generate surface runoff, it is anticipated that the rate or amount of surface runoff would remain similar to current conditions. Therefore, impacts concerning runoff and runoff-induced flooding with the trail component of the proposed project would be less than significant and no mitigation is required.

Cumulative. Cumulatively, the ~~dedication~~ designation of the recreational trail rights-of-way in combination with other projects in the area would not create or contribute to new or increased impacts related to increased water runoff over and above the impacts discussed in this section. The projects listed in Table 2.A include primarily drainage and water utility projects. These projects will direct water through underground pipelines in most cases and would have little impact related to an increase of surface runoff or altering drainage flows. A less than significant cumulative impact would result.

Land Exchange between the District and the BLM

The land exchange that would occur between the District and the BLM would result in mining activities on property currently owned by the BLM and habitat preservation on land that is currently owned by District. The land that would be set aside for habitat conservation and the continuance of water conservation activities would be left in its natural state and would therefore not alter the existing drainage pattern of the area and would not result in an increase in the amount or rate of surface runoff that could induce flooding. Therefore, a less than significant impact is anticipated to occur with this issue. For the land that would be exchanged to the District, the extraction of mineral aggregate would occur. This mining activity would change the existing drainage pattern of the area as the area is being mined. Although mining activities would change the existing drainage pattern of the area, the rate or amount of surface runoff that would be associated with mining activities have already been identified and discussed in this section and found to be less than significant. Because the resulting land exchange between the District and the BLM would result in a less than significant impact associated with increases in flooding potential, no mitigation is required.

Cumulative. Cumulatively, the District's land exchange with the BLM in combination with other projects in the area would not create or contribute to new or increased impacts related to increased water runoff over and above the impacts discussed in this section. The land exchange would have no impact related to this issue and therefore it would not contribute to any cumulative impact.

Land Exchange between the SBCFCD and Robertson's

The land exchange that would occur between the SBCFCD and Robertson's would result in mining activities on property currently owned by the SBCFCD and habitat preservation on land that is currently owned by Robertson's. As indicated in the analysis for the land exchange between the District and BLM, the land that would be set aside for habitat conservation and the continuance of water conservation activities would be left in its natural state and would therefore not alter the existing drainage pattern of the area and would not result in an increase in the amount or rate of surface runoff that could induce flooding. Therefore, a less than significant impact is anticipated to occur with this issue. For the land that would be exchanged to Robertson's, the extraction of mineral aggregate would occur. This mining activity would change the existing drainage pattern of the area as the area is being mined. Although mining activities would change the existing drainage pattern of the area, the rate or amount of surface runoff that would be associated with mining activities have already been identified and discussed in this section and found to be less than significant. Because the resulting land exchange between the SBCFCD and Robertson's would result in a less than significant impact associated with increases in flooding potential, no mitigation is required.

Cumulative. Cumulatively, the land exchange between the SBCFCD and Robertson's in combination with other projects in the area would not create or contribute to new or increased impacts related to increased water runoff over and above the impacts discussed in this section. As discussed under *Aggregate Mining*, no impact would result from the mining activities that would take place on Robertson's portion of the exchange; therefore, they would not contribute to any cumulative impact related to this issue.

4.8.4.5 Additional Source of Runoff

Threshold	Would the proposed project create or contribute runoff water, which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional source of polluted runoff that would affect water quality?
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Water Conservation Operations/Maintenance Activities of District

The District will continue to operate, maintain, and repair its water conservation facilities (access roads, canals, culverts, dikes, basins, and diversion structures) within the Planning Area in the same manner as existing conditions. As described in Section 3.6.1, while there is the potential for future water conservation facilities to be built within the Planning Area, at this point in time, the specific location, size, and type of facilities are unknown. Aside from this EIR's programmatic evaluation of impacts to biological resources associated with any potential future water conservation facilities, these facilities will be required to undergo project-specific environmental analysis prior to their construction and implementation. Because water conservation activities within the Planning Area typically involve the routing of water to percolation basins, additional runoff water would not occur. Because this component of the proposed project would not contribute additional runoff that may provide additional sources of polluted runoff, no impact would occur and no mitigation is required.

Cumulative. Cumulatively, the water conservation activities of the District in combination with other projects in the area would not create or contribute to new or increased impacts related to additional sources of polluted runoff over and above the impacts discussed in this section. The proposed water conservation activities will have no impact in relation to this issue and therefore they do not contribute to any cumulative impacts.

Flood Control Operations/Maintenance Activities of the SBCFCD

As part of the proposed project, continuation of the existing flood control program and related maintenance would occur. Such maintenance activities include repairs and construction for existing levee passages, which may include grading and low-flow work. Regular maintenance on these flood control infrastructures has the potential to produce stormwater discharge during construction activities (such as disturbance of surface soils and removal of vegetative cover), which could lead to a water quality violation. If not managed properly, the resulting stormwater runoff could cause erosion and increased sedimentation in local drainage ways such as the Santa Ana River and its associated tributaries. By volume, sediment is the principal component in most construction-related stormwater runoff as erosion and sedimentation are the major visible water quality impacts attributable to construction activities.

Delivery, handling, and storage of construction materials and wastes, as well as use of equipment on-site, also introduce a risk for stormwater contamination that could impact water quality. The potential for chemical releases is present at most construction sites in the form of fuels, solvents, glues, paints and other building construction materials. Once released, substances such as fuels, oils, paints, and solvents could be transported to nearby surface waterways and/or to groundwater in stormwater runoff, wash water, and dust control water, potentially reducing the quality of the receiving waters.

Although these maintenance activities include grading and the potential for removal of vegetative cover, such activities are not defined as construction activities in the General Construction NPDES

permit, as these activities are part of a routine maintenance project.¹ Although these activities are not covered in the General Construction NPDES permit, such activities would be required to adhere to standards and regulations set forth by the respective flood control district. Because these activities would follow standard maintenance procedures, future maintenance-related water quality impacts would be reduced to below a level of significance.

Cumulative. Cumulatively, the flood control activities of the SBCFCD in combination with other projects in the area could create or contribute to new or increased impacts related to additional sources of polluted runoff over and above the impacts discussed in this section. It is anticipated that any projects in the area that would be occurring during SBCFCD maintenance activities would be required to follow the requirements of the NPDES and other existing regulations to reduce sources of runoff to a level that is less than significant, thus reducing any cumulative impact.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Water production activities would remain the same with implementation of the proposed project. Because water production activities within the Planning Area typically involve the pumping and routing of water to existing infrastructure, additional runoff water would not occur. Because this component of the proposed project would not contribute additional runoff that may provide additional sources of polluted runoff, no impact would occur and no mitigation is required.

Cumulative. Cumulatively, the water production activities of the EVWD and RMUD in combination with other projects in the area would not create or contribute to new or increased impacts related to additional sources of polluted runoff over and above the impacts discussed in this section. The water production activities will have no impact in relation to this issue and therefore they do not contribute to any cumulative impacts.

Aggregate Mining

For the discussion of additional runoff that may be a result of the proposed project, aggregate mining is separated into two phases: the operation of mining activities and the reclamation of the mine sites after mine operations have ceased. Both of these phases are discussed in the following paragraphs.

Operational Phase. The addition of 363 acres for mining uses would not include any new mining infrastructure but would primarily consist of the extraction of raw materials and loading of those raw materials onto trucks and the processing of these raw materials. Mining activities associated with this component of the proposed project would produce approximately 5 percent of unusable materials (such as large boulders, silt, and fine materials (also known as “fines”).² It is anticipated that the boulders uncovered by mining process would be stockpiled and ultimately used for reclamation of the site.

Specifications for gravel used in most State and Federal projects require that the gravel be “washed” to remove excess portions of silt. This washing operation is accomplished by spraying water on the aggregate as it passes over the sorting screens. The fine silt and clay particles are removed from the aggregate as a result of this washing and become suspended in the wash water. The wash water is then collected and pumped to a settling pond. Fresh or recycled water

¹ Routine maintenance projects are projects associated with operations and maintenance activities that are conducted on existing lines and facilities and within existing right-of-way, easements, franchise agreements, or other legally binding agreements of the discharge. Routine maintenance projects includes, but are not limited to projects that are conducted to: (1) Maintain the original purpose of the facility or hydraulic capacity, (2) update existing lines and facilities to comply with applicable codes, standards, and regulations regardless if such projects result in increased capacity, and (3) repairing leaks.

² *Mine and Reclamation Plan for the Santa Ana Wash Mine To Be Operated by Cemex Construction Materials L.P.*, Lilburn Corporation, March 2006.

is continuously supplied to the spray bars so that the sand and gravel exit with most of the fines removed.

Silt and clay particles generated from Cemex mining activities are currently routed to the existing Johnson North Pit settling pond, which has a remaining capacity of 3.6 million cubic yards and Robertson's fines are directed to a pond directly south of the of the processing plant with a remaining capacity of 0.5 million cubic yards. For the silt that would be generated by future mining activities, both Cemex and Robertson's would use the Silt Pond Quarry, located to the south of the East Basin Plant for the deposition of silts. The Silt Pond Quarry is anticipated to have a capacity of approximately 13.0 million cubic yards. The existing and proposed settling ponds are anticipated to have no outlet. Therefore, once water is routed to these settling ponds, it is anticipated that water would either evaporate or percolate into the ground below. Both the existing Johnson North Pit settling pond and the proposed Silt Pond Quarry would eventually become full of silt generated from mining activities. However, the silt and clay particles generated from Cemex mining activities would not be treated with any chemical compounds nor would any contaminants be introduced to the materials during processing. Because the process for aggregate mineral excavation is similar between Cemex and Robertson's, it is anticipated that silt and clay particles generated from Robertson's would also not be treated with any chemical compounds.

The construction and operation processes of a mining operation can increase the potential for more soil exposure to natural processes (i.e., rain and wind), resulting in greater erosion and sedimentation. The impacts of erosion and sedimentation associated with the proposed mining activities are discussed and analyzed in further detail in Section 4.8.4.3, Sedimentation and Erosion. Based on the analysis contained in Section 4.8.4.3, impacts would be less than significant.

With implementation of the proposed project, a new access road to Fifth Street and the addition of pavement to an existing haul road would be constructed. Construction of the new access road would increase the amount of impervious surfaces that could carry runoff with pollutants from the road; however, standard water quality procedures are set in place to reduce the amount of runoff generated. Therefore, the new access road and the paving of an existing haul road would have a less than significant impact on surroundings and no mitigation is required.

The EPA published the final notice for Phase I of the Multi-Sector General Storm Water Permit program¹ in 1995, which included provisions for the development of an SWPPP by each industrial facility discharging stormwater, including ready-mix concrete facilities. Development, implementation, and maintenance of the SWPPP would provide Cemex and Robertson's with the tools to reduce pollutants contained in stormwater discharges and to comply with the requirements of the General Permit for Storm Water Discharges Associated with Construction Activities (SWRCB Order No. 99-28-DWQ). Without implementation of the best management practices that will be included as part of the SWPPP, impacts from stormwater runoff during the operational phase of mining could result in a significant impact to water quality within adjacent streams. The following mitigation measures were identified as reducing impacts related to the operational phase of mining activities.

HYD-1 Prior to ground disturbance activities, a Storm Water Pollution Prevention Plan (SWPPP) shall be developed or revised by mining proponents for routine mining activities associated with new excavation areas. The SWPPP shall emphasize structural and nonstructural BMPs to control sediment.

HYD-2 Prior to ground disturbance activities, a spill prevention control and countermeasures plan (SPCCP) shall be developed or revised by mining proponents for new mining area activities and shall outline the methods and locations that would be used for

¹ Federal Register Volume 60 No.189, September 20, 1995, page 50804.

disposal of debris handled or produced on site during excavation. The plan shall also include handling and clean up procedures for any accidental releases from the excavation site. Disposal of maintenance/excavation waste is subject to compliance with all applicable waste disposal regulations and requirements.

Reclamation Phase. As previously discussed, based on the reclamation plans for the area, it is anticipated that the quarry sites for Cemex¹ and Robertson's² mining operations would be converted to basins with revegetated side slopes. Additionally, it is anticipated that the reclaimed vegetated slopes would prevent erosion from occurring, as the vegetation would allow for existing runoff to be intercepted. A reclamation phase typically does not produce substantial amounts of pollutants due to the nature of reclamation activities (i.e., final contouring of slopes and revegetation). The application of fertilizers to the vegetation could produce a pollutant that would affect water quality; however, the area is planned to be vegetated with native plants and the application of fertilizers is not identified as part of the mining reclamation process. Because no fertilizer is anticipated to be used as part of the revegetation process, pollutants that would affect water quality would not be generated. Based on these set of specifications, the reclamation phase of the mining component would not result in an additional amount of polluted runoff being generated and impacts associated with this issue would be reduced to a less than significant level.

Level of Significance after Mitigation. With implementation of the erosion, sedimentation, and pollution control measures identified, operational and reclamation-related water quality impacts would be reduced to less than significant.

Cumulative. Cumulatively, the aggregate mining activities in combination with other projects in the area could create or contribute to new or increased impacts related to additional sources of polluted runoff over and above the impacts discussed in this section. However, it is anticipated that all projects within the cumulative area that could contribute additional runoff would be required to comply with mitigation like **Mitigation Measures HYD-01** and **HYD-02** to reduce impacts to a level that is less than significant. Therefore cumulative impacts would be less than significant.

Adoption of General Plan Amendments

The adoption of the General Plan Amendments would assist the City of Highland and the City of Redlands in implementing the Wash Plan through the adoption of various components that have been analyzed in this section. There will be no impacts related to additional sources of runoff from the adoption of General Plan Amendments because there is no physical activity that would result in a change from existing conditions and this activity would result in a less than significant impact. Therefore, no mitigation would be required.

Cumulative. Cumulatively, the adoption of General Plan Amendments in combination with other projects in the area would not create or contribute to new or increased impacts related to additional sources of polluted runoff over and above the impacts discussed in this section. The General Plan Amendments will have no impact in relation to this issue and therefore they do not contribute to any cumulative impacts.

¹ *Mine and Reclamation Plans for the Santa Ana Wash Mine to be Operated by Cemex Construction Materials L.P.*, Lilburn Corporation, March 2006.

² *Mine and Reclamation Plans for the Santa Ana Wash Mine to be Operated by Robertson's*, Lilburn Corporation, March 2006.

Roadways/Bridge Rights-of-Way

With implementation of the proposed project, rights-of-way for Alabama Street, Orange Street-Boulder Avenue, and Greenspot Road would be set aside. Although the rights-of-way would increase the amount of impervious surfaces that could carry runoff with pollutants from the road, standard water quality procedures are set in place to reduce the amount of runoff generated. As part of the project-specific construction-level environmental review required for these roadway projects, specific impacts related to this issue will be analyzed. Therefore, the circulation component of the proposed project would have a less than significant impact on surroundings and no mitigation is required.

Cumulative. Cumulatively, the designation of bridge and roadway rights-of-way in combination with other projects in the area could create or contribute to new or increased impacts related to additional sources of polluted runoff over and above the impacts discussed in this section. However, it is reasonable to assume that all cumulative projects in the area would be required to comply with similar project-specific environmental review that would include mitigation measures necessary to reduce impacts to a level that is less than significant. A less than significant cumulative impact would result.

Recreational Trail Rights-of-Way

As previously discussed, The *Water Quality Control Plan*¹ does not contain water quality standards designed specifically for trails; however, it states that inland surface water communities and populations shall not be degraded as a result of the discharge of waste. The proposed trails, which would be situated on existing service or maintenance roads, have the potential to generate sediment, litter, and pet waste as a result of the use of trails. Each of these potential pollutants is discussed, analyzed, and mitigated in Section 4.8.4.1. Furthermore, with implementation of **Mitigation Measures REC-3** impacts associated with this issue would be less than significant.

Cumulative. Cumulatively, the recreational trails rights-of-way in combination with other projects in the area could create or contribute to new or increased impacts related to additional sources of polluted runoff over and above the impacts discussed in this section.

Land Exchange between the District and BLM

The land exchange that would occur between the District and the BLM would result in mining activities on property currently owned by the BLM and habitat preservation on land that is currently owned by the District. The land that would be set aside for habitat conservation and the continuance of water conservation activities and would be left in its natural state and would therefore not contribute additional runoff water or provide an additional source of polluted runoff which would affect water quality. Therefore, a less than significant impact is anticipated to occur with this issue. For the land that would be exchanged to the District, the extraction of mineral aggregate would occur. This mining activity would potentially contribute runoff water within the area that is being mined. Although mining activities would potentially contribute runoff water within the area, the rate or amount of runoff that would be associated with mining activities has already been identified and discussed in this section and found to be less than significant. Because the resulting land exchange between the District and the BLM would result in a less than significant impact, no mitigation is required.

Cumulative. Cumulatively, the land exchange between the District and the BLM in combination with other projects in the area would not create or contribute to new or increased impacts related to additional sources of polluted runoff over and above the impacts discussed in this section. The land exchange will have no impact in relation to this issue and therefore would not contribute to any cumulative impacts.

¹ *Water Quality Control Plan Santa Ana River Basin (8)*, Santa Ana Region California Regional Water Quality Control Board, 1995.

Land Exchange between the SBCFCD and Robertson's

The land exchange that would occur between the SBCFCD and Robertson's would result in mining activities on property currently owned by the SBCFCD and habitat preservation on land that is currently owned by Robertson's. As indicated in the analysis for the land exchange between the District and the BLM, the land that would be set aside for habitat conservation and the continuance of water conservation activities and would be left in its natural state and would therefore not contribute additional runoff water or provide an additional source of polluted runoff which would affect water quality. Therefore, a less than significant impact is anticipated to occur with this issue. For the land that would be exchanged to Robertson's, the extraction of mineral aggregate would occur. This mining activity would potentially contribute runoff water within the area that is being mined. Although mining activities would potentially contribute runoff water within the area, the rate or amount of runoff that would be associated with mining activities has already been identified and discussed in this section and found to be less than significant. Because the resulting land exchange between the SBCFCD and Robertson's would result in a less than significant impact, no mitigation is required.

Cumulative. Cumulatively, the land exchange between the SBCFCD and Robertson's in combination with other projects in the area would not create or contribute to new or increased impacts related to additional sources of polluted runoff over and above the impacts discussed in this section. The proposed land exchange will have a less than significant impact in relation to this issue and it is assumed that all cumulative projects in the area would be required to undergo project-specific environmental review that would require impacts related to this issue to be mitigated to a less than significant level. Therefore, no significant cumulative impact would occur.

4.8.4.6 Otherwise Degrade Water Quality

Threshold	Would the proposed project otherwise substantially degrade water quality?
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Water Conservation Operations/Maintenance Activities of the District

The water conservation component of the proposed project is not anticipated to otherwise substantially degrade water quality as degradation concerns were discussed in previous sections.

The importance of groundwater recharge with native Santa Ana River water to the Bunker Hill groundwater basin has been documented and a TIN/TDS groundwater study (Wildermuth Environmental 2000) conducted on behalf of SAWPA. The study involved extensive investigation by a taskforce composed of water and wastewater agencies in the Santa Ana River watershed. The study analyzed groundwater dynamics and quality in the San Bernardino Valley and Yucaipa/Beaumont Plains Areas, resulting in the development of spatial boundaries for groundwater management zones, and compilation of point statistics at wells that represent ambient conditions for an historical period (1954–1973), and a current period (1978–1998). The TIN/TDS study found that, within the Bunker Hill – B groundwater basin, where the District's recharge facilities are located, and extending about 10 miles westward, levels of nitrate-nitrogen expressed as total inorganic nitrogen (TIN) had improved from an ambient level of 7.3 mg/L in the historical period, to a level of 5.5 mg/L in the current period. Similarly, the concentration of TDS had improved from historical levels of 332 mg/L to the current period level of 261 mg/L. It is reasonable to conclude that the noted improvements in water quality were at least partially attributable to the District's continued recharge with the higher quality need of Santa Ana River water.

Therefore, continued water conservation operations by the District would not result in substantial degradation of water quality, and actually are more likely to produce beneficial water quality impacts. Therefore, no substantial adverse impacts with respect to this issue would occur, and no mitigation is required.

Cumulatively, the water conservation activities of the District in combination with other projects in the area would not create or contribute to new or increased impacts related to the degradation of water

quality over and above the impacts discussed in this section. The water conservation activities will have no impact in relation to this issue and therefore they do not contribute to any cumulative impacts.

Flood Control Operations/Maintenance Activities of the SBCFCD

The flood control component of the proposed project is not anticipated to be affected by implementation of the proposed project. Existing flood control features and activities would not change from what currently exists. Because existing conditions would continue, impacts associated with additional degradation of water sources within the Planning Area would not occur and no mitigation is required.

Cumulative. Cumulatively, the flood control activities of the SBCFCD in combination with other projects in the area would not create or contribute to new or increased impacts related to the degradation of water quality over and above the impacts discussed in this section. The flood control activities will have no impact in relation to this issue and therefore they do not contribute to any cumulative impacts.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Water production activities would continue with implementation of the proposed project. Because water production activities would not change under the proposed project, impacts associated with additional degradation of water sources within the Planning Area would not occur and no mitigation is required.

Cumulative. Cumulatively, the water production activities of the EVWD and the RMUD in combination with other projects in the area would not create or contribute to new or increased impacts related to the degradation of water quality over and above the impacts discussed in this section. The proposed water production activities will have no impact in relation to this issue and therefore would not contribute to any cumulative impacts.

Aggregate Mining

The mining activities proposed for the Planning Area would include two phases: the operation of mining activities and the reclamation of the mine sites after mine operations have ceased. Both of these phases are discussed in the following paragraphs with respect to degradation of water quality.

Operational Phase. The mining component of the proposed project would mine in an area in which the groundwater level fluctuates from year to year. The mining component would also be within a groundwater basin in which downstream water is used for municipal uses. Because of the municipal uses downstream from the project, it is proposed that the mining operator monitor monthly groundwater level data from nearby existing wells and observe pit floor conditions in those portions of the pits where groundwater is at or within 20 feet from the pit bottom to ensure that mining activities do not impact underlying groundwater. The maintenance of a 20-foot buffer between existing groundwater and the bottom of the pit would allow time for emergency cleanup in the event that a spill occurs. In addition, this 20-foot buffer would also provide filtration for silts and fines before reaching the water table. These recommendations are incorporated as **Mitigation Measure HYD-3.**

HYD-3 During the operational phase of each respective quarry, the District shall review monthly groundwater level data from nearby wells and observe pit floor conditions to determine the depth of the existing groundwater level. If it is determined that

groundwater is present 20 feet or less from the bottom of the active quarry, active mining shall cease on that portion of the pit.

Level of Significance after Mitigation. With the implementation of the mitigation measures for the proposed project, all impacts related to water quality would be mitigated to a level that is considered less than significant.

Reclamation Phase. The reclamation phase of the mining component is not anticipated to otherwise substantially degrade water quality as degradation concerns were discussed and analyzed in previous sections. Therefore, no impacts with respect to this issue would occur.

Cumulative. Cumulatively, the proposed aggregate mining in combination with other projects in the area could create or contribute to new or increased impacts related to the degradation of water quality over and above the impacts discussed in this section. The proposed aggregate mining would be required to implement **Mitigation Measure HYD-03** and none of the other projects listed in Table 2.A present the possibility of substantial degradation of water quality, which predicted and probable requirements for compliance with NPDES, SWPPP, and hazardous substances requirements would not mitigate to a level below significance. Consequently, any cumulative impact is expected to be reduced to a level that is less than significant.

Adoption of General Plan Amendments

The adoption of the General Plan Amendments would assist the City of Highland and the City of Redlands in implementing the Wash Plan through the adoption of various components that have been analyzed in this section. Since the various components have been found to have less than significant impacts or have been mitigated to a less than significant level, it is anticipated that the adoption of the General Plan Amendments would also have a less than significant impact.

Cumulative. Cumulatively, the proposed General Plan Amendments in combination with other projects in the area would not create or contribute to new or increased impacts related to the degradation of water quality over and above the impacts discussed in this section.

Roadway/Bridge Rights-of-Way

With implementation of the proposed project, additional rights-of-way for three arterials would be set aside. The addition of these rights-of-way would not have a substantial impact on degradation of water quality because of strict construction and operations standards that would be integrated into the project. Therefore, impacts associated with the roadway/bridge rights-of-way would be less than significant and no mitigation would be required.

Cumulatively, the designation of roadway/bridge rights-of-way in combination with other projects in the area would not create or contribute to new or increased impacts related to the degradation of water quality over and above the impacts discussed in this section. The proposed rights-of-way will have no impact in relation to this issue and therefore do not contribute to any cumulative impacts.

Recreational Trail Rights-of-Way

The trails, which would be situated on existing roadways or service or maintenance roads, are not anticipated to otherwise substantially degrade water quality as degradation concerns were discussed and analyzed in previous sections. Therefore, no impacts with respect to this issue are anticipated to occur.

Cumulative. Cumulatively, the designation of recreational trail rights-of-way in combination with other projects in the area would not create or contribute to new or increased impacts related to the degradation of water quality over and above the impacts discussed in this section. The rights-of-way will have no impact in relation to this issue and therefore do not contribute to any cumulative impacts.

Land Exchange between the District and BLM

The land exchange between the District and BLM is not anticipated to otherwise substantially degrade water quality as degradation concerns were discussed in previous sections. Therefore, a less than significant impact with respect to this issue would occur and no mitigation is required.

Cumulative. Cumulatively, the land exchange between the District and the BLM in combination with other projects in the area would not create or contribute to new or increased impacts related to the degradation of water quality over and above the impacts discussed in this section.

Land Exchange between the SBCFCD and Robertson's

The land exchange between the SBCFCD and Robertson's is not anticipated to otherwise substantially degrade water quality as degradation concerns were discussed in previous sections. Therefore, a less than significant impact with respect to this issue would occur and no mitigation is required.

Cumulative. Cumulatively, the land exchange between the SBCFCD and Robertson's in combination with other projects in the area would not create or contribute to new or increased impacts related to the degradation of water quality over and above the impacts discussed in this section. The portion of the land exchanged for mining operations would have less than significant impacts similar to those discussed under *Aggregate Mining* and there would be no cumulative impact from the land exchange.

4.8.4.7 Housing Flood Hazard Impacts

Threshold	Would the proposed project place within a 100-year flood hazard area habitable structures that would impede or redirect flood flows?
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Most of the annual rainfall in the region occurs in the winter. Flooding in the Planning Area would most likely result from intense storms, resulting in rapid runoff or through the failure of dams. The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs) identify areas subject to flooding during the 100-year storm. Based on these FIRM maps and as indicated in the previously referenced Figure 4.8.2, the Planning Area is identified as being within a 100-year and 500-year flood zone.¹

Water Conservation Operations/Maintenance Activities of the District

Activities associated with water conservation do not include the development of housing. Since no housing component would be built within a 100-year or 500-year floodplain as a result of water conservation activities, no impacts related to this issue would occur and no mitigation is required.

Cumulative. Cumulatively, the water conservation activities of the District in combination with other projects in the area would not create or contribute to new or increased impacts related to housing flood hazards over and above the impacts discussed in this section. The water conservation activities will have no impact in relation to this issue and therefore do not contribute to any cumulative impacts.

¹ Federal Emergency Management Agency Q3 Flood Data, 1996.

Flood Control Operations/Maintenance Activities of the SBCFCD

Similar to the analysis for water conservation activities, flood control activities do not include the construction of housing. Since no housing component would be associated with flood control activities, no housing would be built within a 100-year or 500-year floodplain. Therefore, no impacts related to this issue would occur and no mitigation is required.

Cumulative. Cumulatively, the flood control operations and maintenance activities of the SBCFCD in combination with other projects in the area would not create or contribute to new or increased impacts related to housing flood hazards over and above the impacts discussed in this section. The flood control activities will have no impact in relation to this issue and therefore do not contribute to any cumulative impacts.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Water production activities do not include the development of habitable structures. Since there would not be habitable structures associated with water production activities, flood flows would not be impeded or redirected. Therefore, no impacts related to this issue would occur and no mitigation is required.

Cumulative. Cumulatively, the water production activities of the EVWD and the RMUD in combination with other projects in the area would not create or contribute to new or increased impacts related to housing flood hazards over and above the impacts discussed in this section. The water production activities will have no impact in relation to this issue and therefore do not contribute to any cumulative impacts.

Aggregate Mining

Activities associated with aggregate mining include the excavation of mineral resources from the land and not the construction of housing. Since no housing component would be built within a 100-year or 500-year floodplain as a result of aggregate mining activities, no impacts related to this issue would occur and no mitigation is required.

Cumulative. Cumulatively, the aggregate mining activities in combination with other projects in the area would not create or contribute to new or increased impacts related to housing flood hazards over and above the impacts discussed in this section. The aggregate mining activities will have no impact in relation to this issue and therefore do not contribute to any cumulative impacts.

Adoption of General Plan Amendments

With the adoption of the General Plan Amendments, the different project components analyzed in this section would occur. It is anticipated that each of the project components would have a less than significant impact associated with implementation of the proposed project. Therefore, no mitigation measures would be required.

Cumulative. Cumulatively, the adoption of General Plan Amendments in combination with other projects in the area would not create or contribute to new or increased impacts related to housing flood hazards over and above the impacts discussed in this section. The General Plan Amendments will have no impact in relation to this issue and therefore do not contribute to any cumulative impacts.

Roadway/Bridge Rights-of-Way

Activities associated with the ~~dedication~~ designation of additional rights-of-way for roadways do not include the construction of housing within a 100-year or 500-year floodplain. Since no housing would be built within a floodplain, no impacts related to this issue would occur and no mitigation is required.

Cumulative. Cumulatively, the designation of bridge and roadway rights-of-way in combination with other projects in the area would not create or contribute to new or increased impacts related to housing flood hazards over and above the impacts discussed in this section. The rights-of-way will have no impact in relation to this issue and therefore do not contribute to any cumulative impacts.

Recreational Trail Rights-of-Way

Activities associated with the ~~dedication~~ designation of trails for recreational uses within the Planning Area do not include the construction of habitable units within floodplains. Since no housing would be constructed within a floodplain, no impacts associated with this issue would occur and no mitigation is required.

Cumulative. Cumulatively, the ~~dedication~~ designation of recreational trail rights-of-way in combination with other projects in the area would not create or contribute to new or increased impacts related to housing flood hazards over and above the impacts discussed in this section. The proposed recreational trail rights-of-way will have no impact in relation to this issue and therefore do not contribute to any cumulative impacts.

Land Exchange between the District and the BLM

The land exchange between the District and BLM would not include the construction of housing within a floodplain; therefore, no impacts related to this issue would occur and no mitigation is required.

Cumulative. Cumulatively, the land exchange between the District and the BLM in combination with other projects in the area would not create or contribute to new or increased impacts related to housing flood hazards over and above the impacts discussed in this section. The land exchange will have no impact in relation to this issue and therefore would not contribute to any cumulative impacts.

Land Exchange between the SBCFCD and Robertson's

Similar to what was identified for the land exchange between the District and the BLM, the land exchange between the SBCFCD and Robertson's would not include the construction of housing within a floodplain. As a result, no housing flood hazard impacts would occur and no mitigation is required.

Cumulative. Cumulatively, the land exchange between the SBCFCD and Robertson's in combination with other projects in the area would not create or contribute to new or increased impacts related to housing flood hazards over and above the impacts discussed in this section. The land exchange will have no impact in relation to this issue and therefore would not contribute to any cumulative impacts.

4.8.4.8 Impede or Redirect Flood Flows

Threshold	Would the proposed project place within a 100-year flood hazard area non-habitable structure that would impede or redirect flood flows?
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Water Conservation Operations/Maintenance Activities of the District

Water conservation activities that would continue within the Planning Area would not require and do not propose the development of structures that would impede or redirect flood flows that would differ in any substantial way from current baseline conditions. Because such structures would not be present within these areas, no impacts associated with this issue would occur and no mitigation is required.

Cumulative. Cumulatively, the operations and maintenance activities of the District in combination with other projects in the area would not create or contribute to new or increased impacts related this issue over and above the impacts discussed in this section. The proposed activities of the District would not have an impact related to this issue and therefore would not contribute to a cumulative impact.

Flood Control Operations/Maintenance Activities of the SBCFCD

Flood control activities within the Planning Area would continue to occur with implementation of the proposed project. Because no additional flood control facilities or infrastructure are planned for the Planning Area, no additional structures would be placed within a 100-year floodplain. Therefore, no impacts related to the placement of structures within a floodplain would occur with implementation of the proposed project and no mitigation is required.

Cumulative. Cumulatively, the operations and maintenance activities of the SBCFCD in combination with other projects in the area would not create or contribute to new or increased impacts related this issue over and above the impacts discussed in this section. The activities of the SBCFCD would not have an impact related to this issue and therefore would not contribute to a cumulative impact.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Similar to what was identified for water conservation and flood control operations, existing water production activities would continue with implementation of the proposed project. It is anticipated that additional water production activities are not planned for the area and would not place non-habitable structures that would impede or redirect flood flows. Therefore, since no additional water production activities would occur within the Planning Area, no impact associated with this issue would occur and no mitigation is required.

Cumulative. Cumulatively, the operations and maintenance activities of the EVWD and RMUD in combination with other projects in the area would not create or contribute to new or increased impacts related this issue over and above the impacts discussed in this section. The activities of the EVWD and RMUD would not have an impact related to this issue and therefore would not contribute to a cumulative impact.

Aggregate Mining

The operation of mining activities and the reclamation of the mine sites after mine operations have ceased are discussed in the following paragraphs with respect to the addition of structures.

Operational Phase. The mining component of the proposed project would increase the area of land devoted to mining activities. These activities would include excavation and loading of aggregate materials and would involve mobile mining equipment such as dozers, shovels, and trucks. The expansion of the Plunge Creek Quarry would include a berm that would be located on the south side of the quarry with the top of the berm to be a minimum 1.5 feet above the 100-year flood design flow of Plunge Creek. The berm would be constructed of compacted fill to a typical height of 12 feet above the channel invert (i.e., the bottom of the channel) with a 30-foot wide top.

Although the proposed berm's main purpose is to control erosion and sedimentation by reducing the rate of surface runoff, in the event of flooding, the berm may act as a flood control feature that would redirect flood flows coming toward the berm and prevent water from topping the berm. The mining component does not contain plans for the construction of permanent structures, with the exception of the berm. However, the berm would be designed and used as an erosion control feature that would not significantly impede or redirect flood flows. Therefore, the flood-related impacts associated with the mining component of the proposed project are less than significant and no mitigation is required.

Reclamation Phase. The end use for the quarries within the Planning Area would consist of water recharge facilities, open space, and passive recreational use. There are no plans that propose the construction of structures on the future reclaimed lands. Therefore, as no structures are part of the final use of these quarries, no impacts related to this issue would occur and no mitigation is required.

Cumulative. Cumulatively, the aggregate mining activities in combination with other projects in the area would not create or contribute to new or increased impacts related this issue over and above the impacts discussed in this section. The aggregate mining would not have an impact related to this issue and therefore would not contribute to a cumulative impact.

Adoption of General Plan Amendments

With the adoption of the General Plan Amendments, the different project components analyzed in this section would occur. It is anticipated that each of the project components would have a less than significant impact associated with implementation of the proposed project. Therefore, no mitigation measures would be required.

Cumulative. Cumulatively, the General Plan Amendments in combination with other projects in the area would not create or contribute to new or increased impacts related this issue over and above the impacts discussed in this section. The General Plan Amendments would not have an impact related to this issue and therefore would not contribute to a cumulative impact.

Roadway/Bridge Rights-of-Way

The ~~dedication~~ designation of additional rights-of-way would not result in the development of structures that would be subject to a 100-year flood hazard since roadways are considered to be infrastructure. Because no structures would be developed in conjunction with the proposed circulation systems, no impacts with respect to structures impeding or redirecting flood flows would occur and no mitigation is required.

Cumulative. Cumulatively, the bridge and roadway rights-of-way in combination with other projects in the area would not create or contribute to new or increased impacts related this issue over and above the impacts discussed in this section. The rights-of-way would not have an impact related to this issue and therefore would not contribute to a cumulative impact.

Recreational Trail Rights-of-Way

The inclusion and extension of trails throughout the Planning Area would not result in the development of structures that would be subject to a 100-year flood hazard. Because no habitable structures would be developed in conjunction with the trail system, no impacts with respect to structures impeding or redirecting flood flows would occur and no mitigation is required.

Cumulative. Cumulatively, the recreational trail rights-of-way in combination with other projects in the area would not create or contribute to new or increased impacts related this issue over and above the impacts discussed in this section. The trails would not have an impact related to this issue and therefore would not contribute to a cumulative impact.

Land Exchange between the District and the BLM

The District's land exchange with the BLM will provide to the BLM an unrestricted habitat corridor for wildlife movement while maintaining continued water conservation activity. The land the BLM will exchange to the District, which is already mostly disturbed, will be used for aggregate mining. The land exchange that would occur between the District and the BLM would not require and does not propose the development of structures on the portions of land to be exchanged. Because structures would not be present within these areas, no impacts associated with this issue would occur and no mitigation is required.

Cumulative. Cumulatively, the land exchange between the District and the BLM in combination with other projects in the area would not create or contribute to new or increased impacts related this issue over and above the impacts discussed in this section. The land exchange would not have an impact related to this issue and therefore would not contribute to a cumulative impact.

Land Exchange between the SBCFCD and Robertson's

The portion of Robertson's land that would be exchanged to the SBCFCD would be used for habitat preservation and would not have structures built on it. The portion of SBCFCD land that would be exchanged to Robertson's would be used for aggregate mining, which typically does not have structures built upon it. Since the land exchange that would occur between the SBCFCD and Robertson's would not require and does not propose the development of structures on the portions of land to be exchanged, no impacts associated with this issue would occur and no mitigation is required.

Cumulative. Cumulatively, the land exchange between the SBCFCD and Robertson's in combination with other projects in the area would not create or contribute to new or increased impacts related this issue over and above the impacts discussed in this section. The land exchange would not have an impact related to this issue and therefore would not contribute to a cumulative impact.

4.8.4.9 Levee and Dam Flooding Impacts

Threshold	Would the proposed 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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The Seven Oaks Dam affords flood protection from the Santa Ana River for communities along the Santa Ana River and is one of two flood control reservoirs in the Santa Ana Watershed.¹ As specified in previously referenced Figure 4.8.1, portions of the Planning Area are within the potential inundation area of the Seven Oaks Dam; however, occurrence of such an event is extremely remote, as the Seven Oaks Dam has been engineered and constructed to withstand the projected maximum accelerations that could be produced at the site by seismic events on known faults. As such, a

¹ The Santa Ana Watershed, approximately 2,800 square miles in area includes much of Orange County, the northwestern corner of Riverside County, the southwestern corner of San Bernardino County, and a small portion of Los Angeles County. The watershed is bounded on the south by the Santa Margarita watershed, on the east by the Salton Sea and Southern Mojave watersheds, and on the north and west by the Mojave and San Gabriel watersheds. The Santa Ana Watershed is smaller than the South Coast Hydrologic Region but bigger than the Upper Santa Ana Valley Groundwater Basin.

seismically-induced failure of the dam is highly unlikely. As stated in the *Water Control Manual*¹ for the Seven Oaks Dam:

Seven Oaks Dam is located in a seismically active area and is designed to withstand an earthquake magnitude measuring 8+ on the Richter Scale, occurring on the nearby San Andreas Fault. ... Two smaller active faults were mapped within the footprint of the embankment. ... Displacement in bedrock due to seismic events was conservatively estimated at 4 feet for design purposes. The displacements are assumed to occur in subsidiary faults and shear zones at the dam site in response to forces from the design earthquake on the San Andreas Fault. The faults underneath the dam are not expected to move independently.

Water Conservation Operations/Maintenance Activities of the District

Although water conservation activities would occur within an area identified as being within the Seven Oaks Dam inundation zones, no habitable structures would be constructed and the type of activities would not expose a significant number of people to flooding hazards resulting from dam inundation. Therefore, impacts associated with this issue would be less than significant and no mitigation is required.

Cumulative. Cumulatively, the operations and maintenance activities of the District in combination with other projects in the area would not create or contribute to new or increased impacts related to the failure of a levee or dam over and above the impacts discussed in this section. Cumulative projects considered for the Planning Area do not include significant numbers of people that would be exposed to flooding and therefore a less than significant impact would occur.

Flood Control Operations/Maintenance Activities of the SBCFCD

Similar to the analysis for water conservation, flood control activities would occur within an area identified as being within the Seven Oaks Dam inundation zone. Although located within a dam inundation zone, the type of activities would not result in habitable structures being built and would not expose a significant number of people to flooding hazards. Therefore, impacts associated with this issue would be less than significant and no mitigation is required.

Cumulative. Cumulatively, the operations and maintenance activities of the SBCFCD in combination with other projects in the area would not create or contribute to new or increased impacts related to the failure of a levee or dam over and above the impacts discussed in this section. Cumulative projects considered for the Planning Area do not include significant numbers of people that would be exposed to flooding and therefore a less than significant impact would occur.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Similar to what was identified for water conservation and flood control operations, existing water production activities would continue with implementation of the proposed project. It is anticipated that additional water production activities are not planned for the area and would not expose a significant number of people or habitable structures to flooding hazards resulting from dam inundation. Therefore, a less than significant impact associated with this issue would occur and no mitigation is required.

Cumulative. Cumulatively, the operations and maintenance activities of the EVWD and the RMUD in combination with other projects in the area would not create or contribute to new or increased impacts related to the failure of a levee or dam over and above the impacts discussed in this section.

¹ *Water Control Manual, Seven Oaks Dam & Reservoir, Santa Ana River, San Bernardino County, California, U.S. Army Corps of Engineers, September 2003 (page 4-3).*

Cumulative projects considered for the Planning Area do not include significant numbers of people that would be exposed to flooding and therefore a less than significant impact would occur.

Aggregate Mining

Activities associated with aggregate mining would be within the Seven Oaks Dam inundation zone. However, aggregate mining activities typically do not require the construction of housing that would be affected by a dam inundation event. Similarly, aggregate mining activities do not expose a significant number of people to flooding hazards. The construction of a haul road and access road would be infrastructure features that would support aggregate mining activities and would not expose a significant number of people to flooding hazards. Existing mining operations do not expose people to flooding hazards and the incremental increase from additional mining activities is not considered to be a significant impact in terms of the number of additional people exposed. Therefore, impacts associated with this issue are considered to be less than significant and no mitigation is required.

Cumulative. Cumulatively, the aggregate mining in combination with other projects in the area would not create or contribute to new or increased impacts related to the failure of a levee or dam over and above the impacts discussed in this section. Cumulative projects considered for the Planning Area do not include significant numbers of people that would be exposed to flooding and therefore a less than significant impact would occur.

Adoption of General Plan Amendments

With the adoption of the General Plan Amendments, the different project components analyzed in this section would occur. It is anticipated that each of the project components would have a less than significant impact associated with implementation of the proposed project. Therefore, no mitigation measures would be required.

Cumulative. Cumulatively, the adoption of General Plan Amendments in combination with other projects in the area would not create or contribute to new or increased impacts related the failure of a levee or dam over and above the impacts discussed in this section. Cumulative projects considered for the Planning Area do not include significant numbers of people that would be exposed to flooding and therefore a less than significant impact would occur.

Roadway/Bridge Rights-of-Way

Additional rights-of-way would be dedicated for Greenspot Road and associated Greenspot Road Bridge, Alabama Street, Orange Street-Boulder Avenue. Circulation activities include the construction and maintenance of roadways and associated bridge. Such activities would be within a dam inundation zone; however, no construction of habitable structures is associated with circulation infrastructure. Therefore, impacts associated with this issue are considered to be less than significant and no mitigation is required.

Cumulative. Cumulatively, the designation of bridge and roadway rights-off-way in combination with other projects in the area would not create or contribute to new or increased impacts related to the failure of a levee or dam over and above the impacts discussed in this section. Cumulative projects considered for the Planning Area do not include significant numbers of people that would be exposed to flooding and therefore a less than significant impact would occur.

Recreational Trail Rights-of-Way

The ~~dedication~~ designation of trails for recreational uses within the Planning Area would not result in the construction of structures that would be affected by an inundation event. Similarly, the type of passive recreational activities that would be associated with the trails would not expose a significant

number of people to flooding. Therefore, impacts associated with this issue are considered to be less than significant and no mitigation is required.

Cumulative. Cumulatively, the ~~dedication~~ designation of rights-of-way for recreational trails in combination with other projects in the area would not create or contribute to new or increased impacts related to the failure of a levee or dam over and above the impacts discussed in this section. Cumulative projects considered for the Planning Area do not include significant numbers of people that would be exposed to flooding and therefore a less than significant impact would occur.

Land Exchange between the District and the BLM

The land exchange between the District and the BLM would be within the Seven Oaks Dam inundation zone. However, since the land exchange does not require the construction of structures or the exposure of a significant number of people to flooding hazards, impacts associated with this issue are considered to be less than significant and no mitigation is required.

Cumulative. Cumulatively, the land exchange between the District and the BLM in combination with other projects in the area would not create or contribute to new or increased impacts related to the failure of a levee or dam over and above the impacts discussed in this section. Cumulative projects considered for the Planning Area do not include significant numbers of people that would be exposed to flooding and therefore a less than significant impact would occur.

Land Exchange between the SBCFCD and Robertson's

The land exchange between the SBCFCD and Robertson's would have a similar impact to that identified for the land exchange between the District and the BLM as the land exchange would still occur within the Seven Oaks Dam inundation zone. Since this land exchange also does not require the construction of structure or the exposure of a significant number of people to flooding hazards, impacts associated with this issue are considered to be less than significant and no mitigation is required.

Cumulative. Cumulatively, the land exchange between the SBCFCD and Robertson's in combination with other projects in the area would not create or contribute to new or increased impacts related to the failure of a levee or dam over and above the impacts discussed in this section. Cumulative projects considered for the Planning Area do not include significant numbers of people that would be exposed to flooding and therefore a less than significant impact would occur.

4.8.4.10 Seiche, Tsunami, or Mudflow-Related Impacts

Threshold	Would the proposed project expose people or structure to a significant risk of loss, injury, or death involving inundation by seiche, tsunami, or mudflow?
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Seiches are oscillations in enclosed bodies of water that are caused by a number of factors, most often wind or seismic activity. Lakes in seismically active areas are also at risk from seiches. A tsunami is a series of large waves of extremely long wavelengths generated by a violent undersea disturbance or activity near the coast or in the ocean and can occur when there is a sudden displacement of a large volume of water. The Planning Area is approximately 52 miles northeast of the Pacific Ocean. A mud slide (also known as a mudflow) occurs when there is fast-moving water and a great volume of sediment and debris that surges down a slope, stream, canyon, arroyo, or gulch with tremendous force. They are similar to flash floods and can occur suddenly without time for adequate warning. Mudflows can ruin substantial improvements with the force of the flow itself or by burying improvements with mud and debris. Although the western portion of the Planning Area would normally be susceptible to mud slides, the operation of the Seven Oaks Dam effectively eliminates downstream transport of sediment larger than sand from the Santa Ana Watershed, fulfilling one of

the reasons why the dam was built. In addition, any potential mudflows that would occur would be confined to the area behind Seven Oaks Dam.

Water Conservation Operations/Maintenance Activities of the District

Water conservation activities would continue with implementation of the proposed project. Since no water conservation activities would be situated immediately adjacent to a lake or the ocean, a less than significant impact is anticipated to occur. Similarly, water conservation activities would be protected by the Seven Oaks Dam from mudslide debris; impacts are also anticipated to be less than significant and no mitigation is required.

Cumulative. Cumulatively, the activities of the District in combination with other reasonably foreseeable projects in the area are not likely to expose a significant number of people to hazards created as a result of a seiche, tsunami, or mudflow. The cumulative projects listed in Table 2.A are not located adjacent to a lake or the ocean and the Seven Oaks Dam would protect other projects in the area from mudflows and debris, thereby preventing a significant cumulative impact.

Flood Control Operations/Maintenance Activities of the SBCFCD

Flood control activities would remain the same with implementation of the proposed project. Since no flood control features would be situated immediately adjacent to a lake or the ocean, a less than significant impact is anticipated to occur. Similarly, because flood control activities would be protected by the Seven Oaks Dam from mudslide debris, impacts are also anticipated to be less than significant and no mitigation is required.

Cumulative. Cumulatively, the activities of the SBCFCD in combination with other reasonably foreseeable projects in the area are not likely to expose a significant number of people to hazards created as a result of a seiche, tsunami, or mudflow. The cumulative projects listed in Table 2.A are not located adjacent to a lake or the ocean and the Seven Oaks Dam would protect other projects in the area from mudflows and debris, thereby preventing a significant cumulative impact.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Water production activities would remain the same with implementation of the proposed project. Since no water production features would be situated immediately adjacent to a lake or the ocean, a less than significant impact is anticipated to occur. Similarly, because water production activities would be protected by the Seven Oaks Dam from mudslide debris, impacts are also anticipated to be less than significant and no mitigation is required.

Cumulative. Cumulatively, the activities of the EVWD and RMUD in combination with other reasonably foreseeable projects in the area is not likely to expose a significant number of people to hazards created as a result of a seiche, tsunami, or mudflow. The cumulative projects listed in Table 2.A are not located adjacent to a lake or the ocean and the Seven Oaks Dam would protect other projects in the area from mudflows and debris, thereby preventing a significant cumulative impact.

Aggregate Mining

Aggregate mining activities and the construction of the haul road are in the same geographical area as the other components of the project. Aggregate mining activities and the new haul road would not be located immediately adjacent to a lake; therefore, no seiche-related flooding is anticipated to occur with aggregate mining activities and the construction of the haul road in the area. In addition, aggregate mining activities and the construction of the haul road would not be in close proximity to the ocean; therefore, activities associated with mineral extraction and the construction of the haul road would not be inundated by a tsunami and a less than significant impact would occur. The Seven

Oaks Dam would capture any materials that would be generated by a mudslide in the area; therefore, impacts are anticipated to be less than significant for aggregate mining activities in the area and no mitigation is required.

Cumulative. Cumulatively, the aggregate mining activities in combination with other reasonably foreseeable projects in the area are not likely to expose a significant number of people to hazards created as a result of a seiche, tsunami, or mudflow. The cumulative projects listed in Table 2.A are not located adjacent to a lake or the ocean and the Seven Oaks Dam would protect other projects in the area from mudflows and debris, thereby preventing a significant cumulative impact.

Adoption of General Plan Amendments

With the adoption of the General Plan Amendments, the different project components analyzed in this section would occur. It is anticipated that each of the project components would have a less than significant impact associated with implementation of the proposed project. Therefore, no mitigation measures would be required.

Cumulative. Cumulatively, the General Plan Amendments for the Planning Area in combination with other reasonably foreseeable projects in the area are not likely to expose a significant number of people to hazards created as a result of a seiche, tsunami, or mudflow. The cumulative projects listed in Table 2.A are not located adjacent to a lake or the ocean and the Seven Oaks Dam would protect other projects in the area from mudflows and debris, thereby preventing a significant cumulative impact.

Roadway/Bridge Rights-of-Way

Activities associated with circulation (such as the ~~dedication~~ designation of additional rights-of-way and the maintenance of roads and bridges) would not be prone to seiche or tsunami events as circulation activities are not adjacent to a lake or in close proximity to the ocean. Circulation activities would not be prone to mudslide events as the Seven Oaks Dam captures most of the materials that would be generated by a mudslide in the area. Therefore, impacts are anticipated to be less than significant for circulation activities in the area and no mitigation is required.

Cumulative. Cumulatively, the bridge and roadway rights-of-way in combination with other reasonably foreseeable projects in the area are not likely to expose a significant number of people to hazards created as a result of a seiche, tsunami, or mudflow. The cumulative projects listed in Table 2.A are not located adjacent to a lake or the ocean and the Seven Oaks Dam would protect other projects in the area from mudflows and debris, thereby preventing a significant cumulative impact.

Recreational Trail Rights-of-Way

The dedication of trails for recreational uses in the Planning Area would not be adjacent to a lake and are not in close proximity to the ocean; therefore, impacts associated with seiche or tsunami-related flooding events would not occur. Since the Seven Oaks Dam captures much of the debris that would comprise of a mudslide, impacts are anticipated to be less than significant and no mitigation is required.

Cumulatively, the recreational trail rights-of-way for the Planning Area in combination with other reasonably foreseeable projects in the area are not likely to expose a significant number of people to hazards created as a result of a seiche, tsunami, or mudflow. The cumulative projects listed in Table 2.A are not located adjacent to a lake or the ocean and the Seven Oaks Dam would protect other projects in the area from mudflows and debris, thereby preventing a significant cumulative impact.

Land Exchange between the District and the BLM

The land exchange between the District and the BLM would occur in an area that is not adjacent to a lake or in close proximity to the ocean; therefore, it would not be prone to seiche or tsunami impacts. In addition, the land exchange would occur in an area where the Seven Oaks Dam captures potential materials that would be generated by a mudslide; therefore, mudslide impacts would be less than significant. Because these events are highly unlikely to occur, impacts are anticipated to be less than significant and no mitigation is required.

Cumulative. Cumulatively, the land exchange between the District and the BLM in combination with other reasonably foreseeable projects in the area is not likely to expose a significant number of people to hazards created as a result of a seiche, tsunami, or mudflow. The cumulative projects listed in Table 2.A are not located adjacent to a lake or the ocean and the Seven Oaks Dam would protect other projects in the area from mudflows and debris, thereby preventing a significant cumulative impact.

Land Exchange between the SBCFCD and Robertson's

Similar to what was identified in the land exchange between the District and the BLM, the land exchange that would occur between the SBCFCD and Robertson's would not be located adjacent to a lake or in close proximity to the ocean. Additionally, the land exchange between the SBCFCD and Robertson's would be in an area that would be protected from mudslides by the Seven Oaks Dam. Therefore, it is anticipated that impacts associated with seiches, tsunamis, and mudslides would be less than significant and that no mitigation would be required.

Cumulative. Cumulatively, the land exchange between the SBCFCD and Robertson's in combination with other reasonably foreseeable projects in the area is not likely to expose a significant number of people to hazards created as a result of a seiche, tsunami, or mudflow. The cumulative projects listed in Table 2.A are not located adjacent to a lake or the ocean and the Seven Oaks Dam would protect other projects in the area from mudflows and debris, thereby preventing a significant cumulative impact.

4.9 LAND USE AND PLANNING

This section describes the existing and proposed land use conditions on and adjacent to the Planning Area and evaluates potential impacts to a change in land use associated with the proposed project.

4.9.1 Existing Setting

On-site Land Uses. The Planning Area consists of private and publicly owned lands within the City of Highland and the City of Redlands. Small portions of the land consist of existing roadways, agriculture, utilities (water, electrical, telecommunications), and vacant lands. The majority of existing land uses within the planning area includes:

- Aggregate Mining;
- Flood Control;
- Water Conservation;
- Habitat Conservation; and
- Unmanaged Open Space.

Mining. Mining is currently carried out by two companies: Cemex and Robertson's. Both companies mine and process construction aggregate products. Existing mining operations are generally located in the northwestern and central portions of the Planning Area. Information regarding the existing mining operations of Cemex and Robertson's is contained in Section 4.10, Mineral Resources.

Flood Control. Flood control activities are conducted along Plunge Creek, City Creek, Mill Creek, and the Santa Ana River. These channels are managed by the SBCFCD. Existing levees assist in confining the flows of these creeks and the river to the waterway channels; however, during peak flood periods, floodwaters may overflow the channels and flood control activities may occur outside these waterways. Maintenance is necessary on an ongoing basis to maintain these flood control facilities and ensure safe water flows.

Water Conservation. The District conducts water conservation activities. Water recharge facilities are generally located in the eastern section of the Planning Area; however, land owned by the District extends to the western boundaries of the Planning Area. Water in the Planning Area is conveyed by gravity flow to a series of percolation basins owned by the District where it ponds to depths of 3 to 10 feet. The water percolates into the ground and recharges the Bunker Hill Groundwater Basin, which underlies the Planning Area.

Agricultural Orchard Operations. An actively farmed orchard is located southwest of the existing Greenspot Road "S" curve in the northeastern portion of the Planning Area. This orchard is located on land owned by the East Valley Water District.

Circulation. Alabama Street and Greenspot Road form the west and east boundaries of the Planning Area, respectively. Further information regarding the roadways is located in Section 4.15, Transportation and Traffic. Orange Street-Boulder Avenue and State Route 30 (SR-30) traverse the Planning Area in a north-south direction.

Area Not a Part. Several land areas are not a part of this project (totaling approximately 52 acres) and include the Match Batch Plant (2.0 acres), the Inland Fish and Game Club (35.5 acres), and four privately owned parcels (14.5 acres). The Match Batch Plant, located off Alabama Street, is a processing operation and does not mine aggregates in the Planning Area. The Inland Fish and Game Club is located south of Greenspot Road and immediately east of Orange Street-Boulder Avenue; it is a recreational facility located on land leased from the U.S. Department of the Interior, Bureau of Land Management (BLM). The Inland Fish and Game Club's lease was recently renewed with the BLM. These two existing uses are not participants in the Wash Plan and the land on which these facilities are situated is designated "Area Not a Part." In addition to these two existing uses, the Planning Area also contains privately owned parcels generally located in the northeastern area of the Planning Area. These parcels are also designated "Area Not a Part."

The location and acreages of these current land uses are illustrated and summarized in Figure 4.9.1 and Table 4.9.A.

Table 4.9.A – Existing Land Use Within The Planning Area

Land Use	Existing Area (acres)	Percentage of Total Area (%)
Water Conservation	1,260	28.20
Flood Control	414	9.20
Habitat Conservation	1,215	27.26
Undeveloped Natural Habitat	604	13.52
Aggregate Mining	832	18.62
Arterial/Highway	66	1.47
Agricultural	6	0.13
Undesignated Public Ownership	70	1.56
Total	4,467	100%

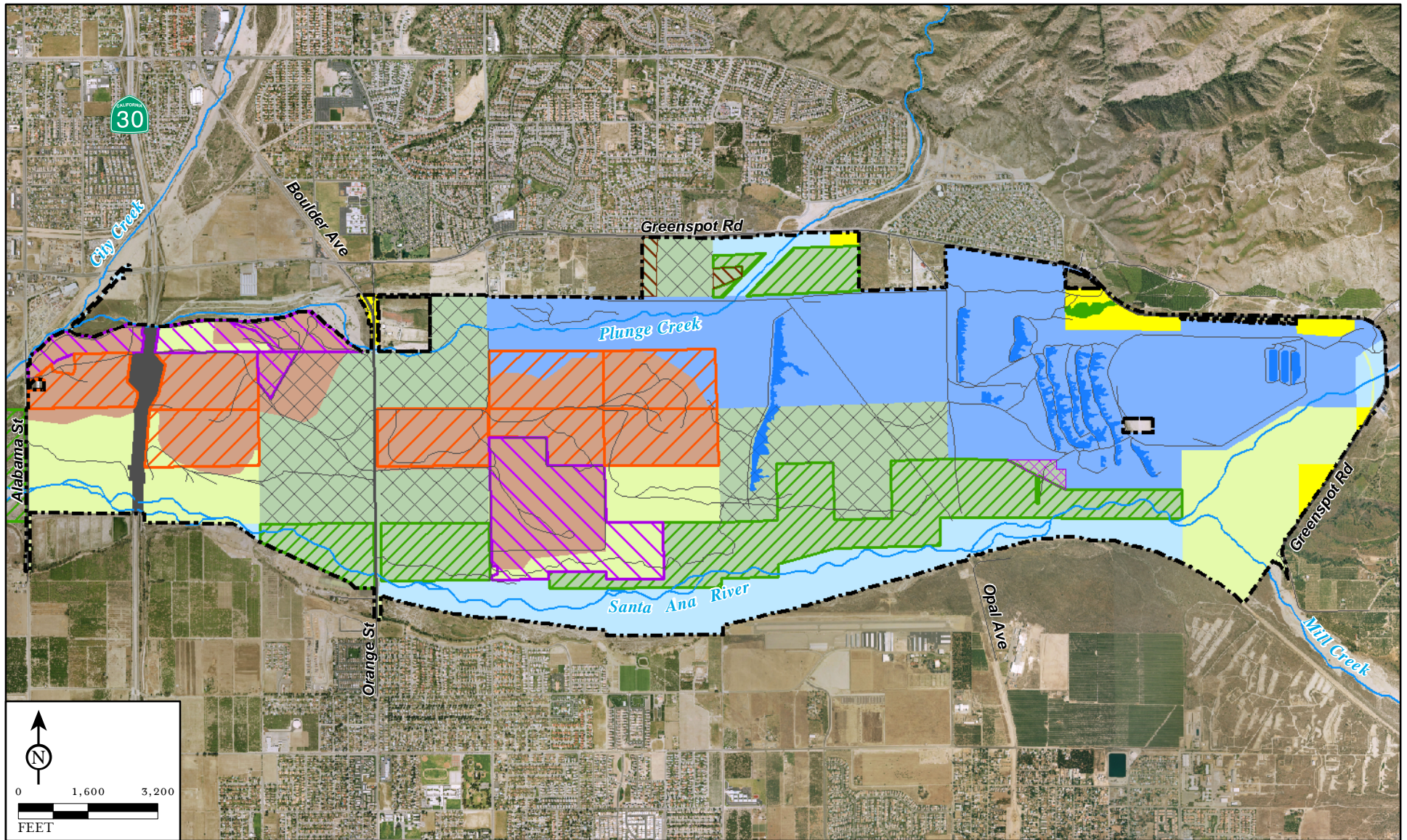
City of Highland General Plan Land Use Designation. The City of Highland's General Plan currently designates the portion of the Planning Area within its jurisdiction as "Agriculture/Equestrian" (Ag/Eq), "Public/Institutional" (P/I) and "Open Space" (OS). According to the General Plan,

Open space is the provision of recreational facilities, preservation of environmental values, managed production of resources and protection of public safety. Within lands designated Open Space, only uses consistent with the provision of recreational and community cultural activities, and which are consistent with the protection of the public health and safety may be considered appropriate.

Agricultural/Equestrian designated land is appropriate for rural and equestrian-oriented residential development. The maximum residential density is two dwelling units per acre. The keeping of large animals and light agricultural activities are permitted in this land use category.

Public/Institutional designated land is for public and institutional activities including, but not limited to, local, state and federal agencies, special districts, public and private utilities, and regional institutions. The maximum intensity for development in Public/Institutional designated area is 1.0 floor area ratio (FAR).

The proposed project would require the City of Highland to process a General Plan Amendment to change the land use designation from "Agriculture/Equestrian" to "Open Space" and "Public/Institutional" to "Open Space" and related zone change from "Agricultural Equestrian Residential" to "Open Space" and Public/Quasi-Public" to "Open Space."



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PLAN BOUNDARY

PERMIT QUARRIES 10-25-07

CEMEX PERMITTED

ROBERTSON'S PERMITTED

WATER CONSERVATION

FLOOD CONTROL

HABITAT CONSERVATION

UNDEVELOPED NATURAL HABITAT

AGGREGATE MINING

ROADS

STATE ROUTE 30

AGRICULTURAL

UNDESIGNATED/PUBLIC OWNERSHIP

PERCOLATION BASIN

WOOLLYSTAR PRESERVATION AREA

BLM, ACEC AND RNA

CITY OF HIGHLAND MITIGATION AREA

ROBERTSON'S CONSERVATION EASEMENT

ROADS*

RIVER OR CREEK*

FIGURE 4.9.1

Upper Santa Ana River Wash
Land Management Plan
Environmental Impact Report

Existing Land Uses

SOURCES: San Bernardino Valley Water Conservation District, San Bernardino County, AirPhotoUSA, 2007

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*Road and stream locations
digitized from 2006 aerial.

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City of Redlands General Plan Land Use Designation. The City of Redlands General Plan designates the portion of the Planning Area within its jurisdiction for “Flood Control/Construction Aggregates Conservation/Habitat Preservation.” The General Plan defines this land use category as areas subject to 100-year flood after implementation of flood control measures. No General Plan Amendment is required for land use purposes; however, a General Plan Amendment to the Open Space and Conservation Element is needed to modify the City’s Trails Plan to relocate the current Church Street north-south trail alignment to parallel Orange Street-Boulder Avenue.

Proposed Land Uses. The Planning Area currently includes mining, flood control, water conservation, habitat conservation, various utility uses (water, electrical, telecommunications), and open space uses. With implementation of the proposed project, these land uses would continue; the proposed changes are the locations and amount of land dedicated to each use. Table 4.9.B summarizes existing and proposed land use acreages within the Planning Area.

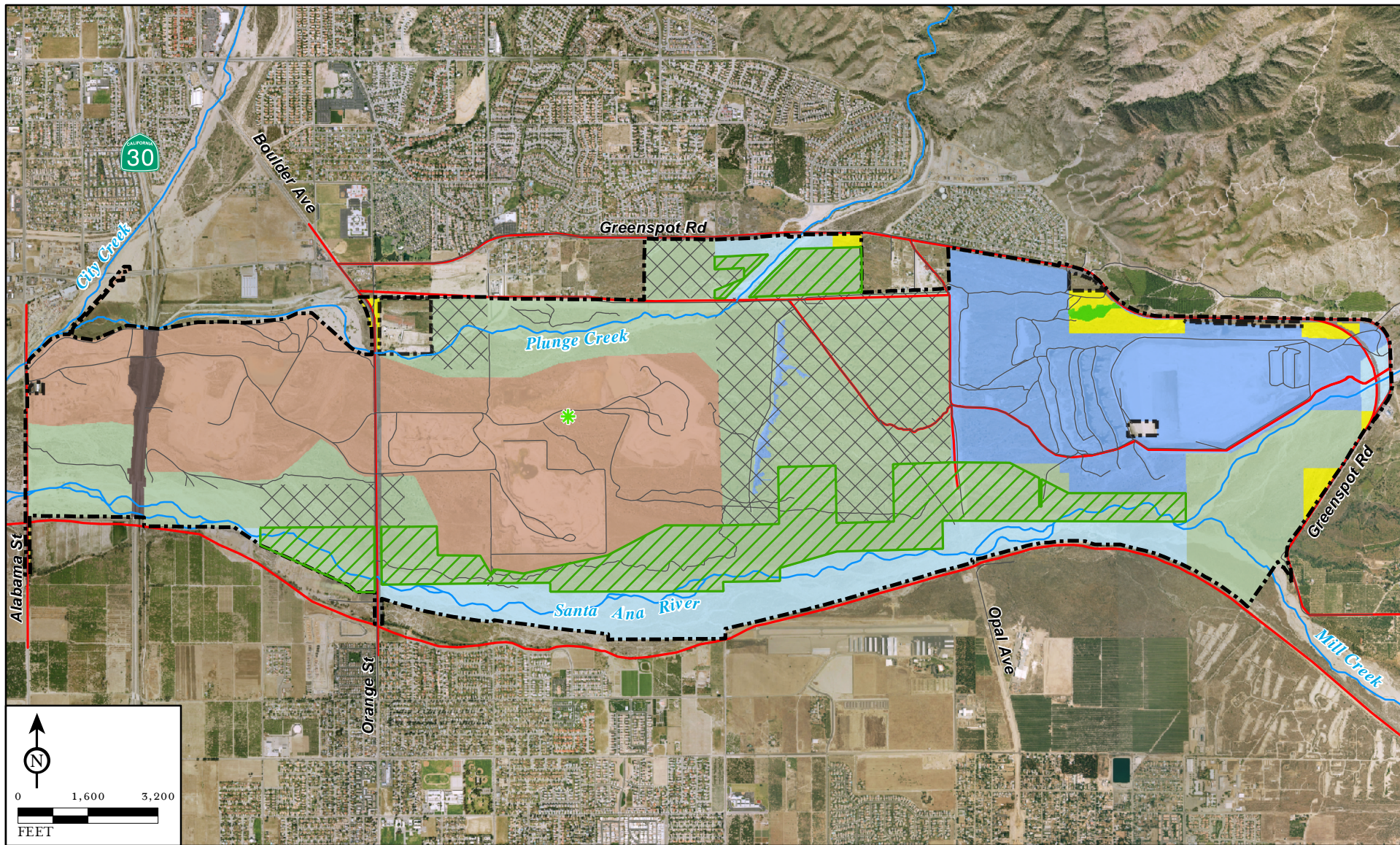
Table 4.9.B – Land Uses for Proposed Project and Comparison to Existing Conditions

Land Use	Existing Conditions (acres)	Proposed Project (acres)	Difference in Acreage	Main Reason(s) for Change in Acres
Water Conservation	1,260	749 <u>740</u>	-514 <u>-520</u>	Water Conservation changes to Habitat Conservation.
Flood Control	414	408 <u>406</u>	-6 <u>-8</u>	Portions are utilized as rights-of-way.
Habitat Conservation	1,215	1,947	732	Unmanaged Open Space and Water Conservation changes to Habitat Conservation.
Undeveloped Natural Habitat	604	0	-604	Existing open space that is unmanaged; with the proposed project, all open space would be managed.
Aggregate Mining and Processing	832	1,195	363	Aggregate Mining becomes consolidated area where mining haul roads exist, away from Habitat Conservation of better quality.
Arterial/Highway	66	96 <u>113</u>	30 <u>47</u>	Road rights-of-way are designated for future roadway projects (Alabama Street and Orange Street-Boulder Avenue widening, and Greenspot Road realignment and bridge).
Agricultural	6	6	0	No change.
Undesignated Public Ownership	70	66 <u>60</u>	-4 <u>10</u>	Portions are utilized as rights-of-way.
TOTAL	4,467	4,467	0	

Figure 4.9.2 illustrates the land uses that would be implemented with the proposed project.

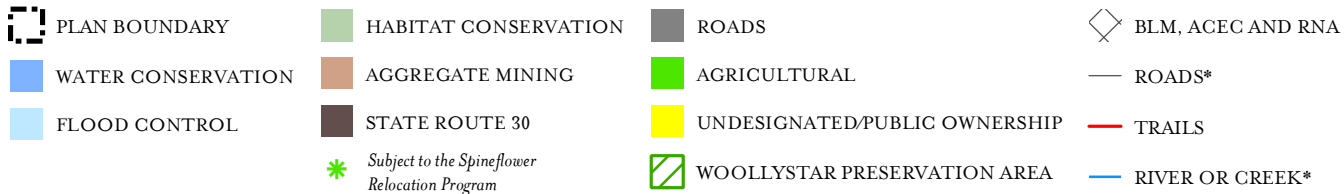
To facilitate some of the proposed land uses, a land exchange would be initiated by the District and the BLM. The land exchange would consist of the BLM exchanging approximately 315 acres of public lands to the District and receiving approximately 312 acres of District land. The lands being considered in the exchange are shown in Figure 4.9.3. Through this land exchange, the preservation of a block of land with high quality biodiversity value would be achieved. The final selection of parcels to be exchanged depends on the appraised values of the parcels and the approval of Congress.

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FIGURE 4.9.2



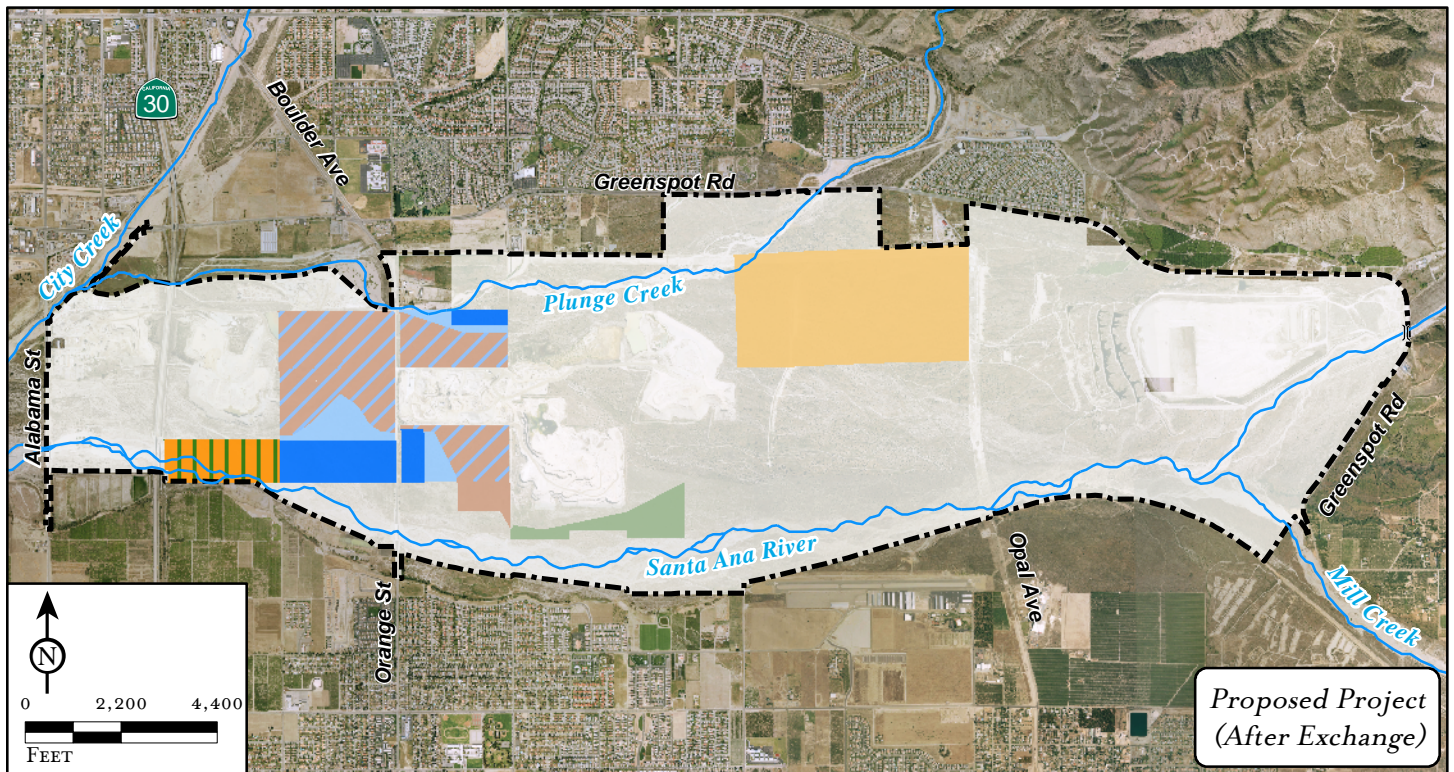
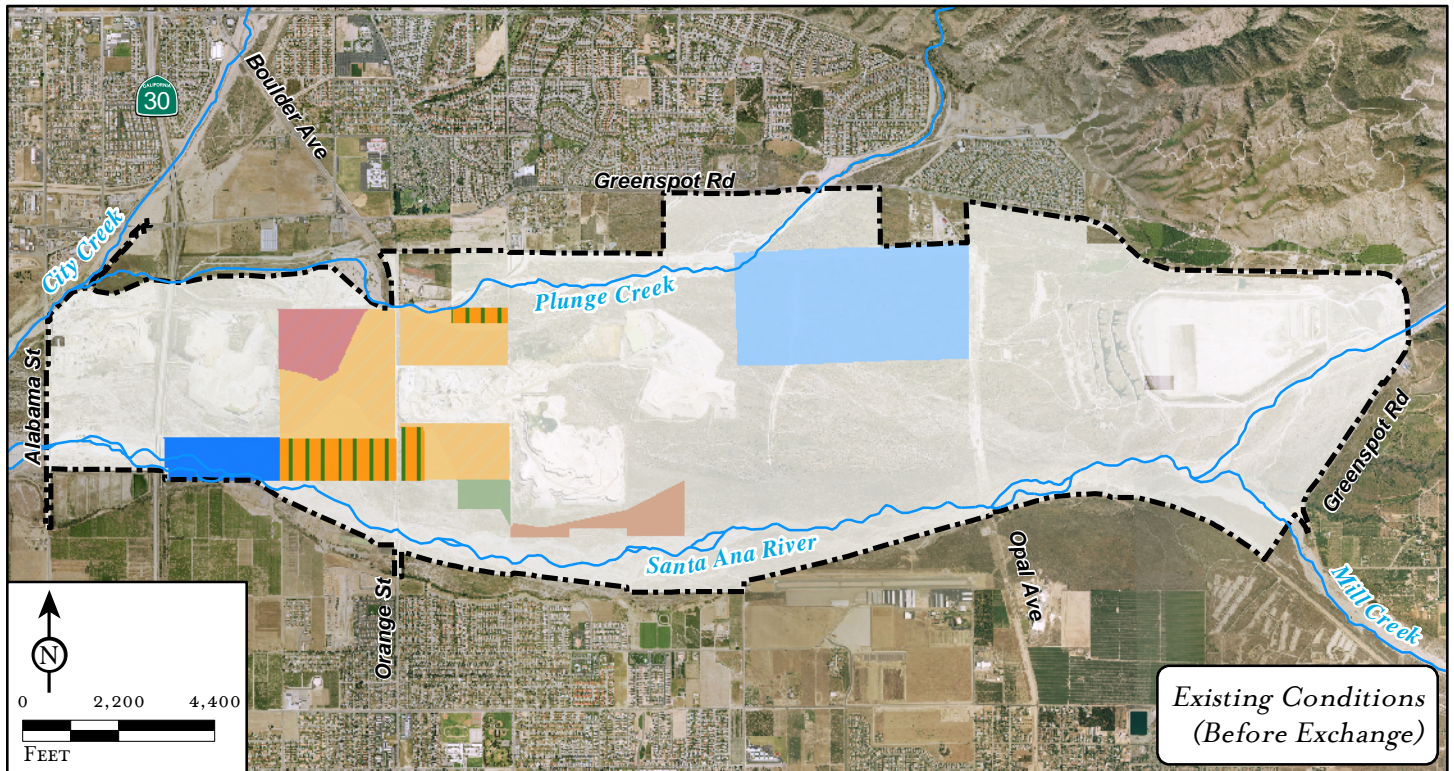
Upper Santa Ana River Wash
Land Management Plan
Environmental Impact Report

Proposed Land Uses

SOURCES: Thomas Bros, 2001, San Bernardino Water Conservation District, Dudek, Santa Ana Watershed Project Authority, AirPhotoUSA, 2007.
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* Road and stream locations digitized from 2006 aerial.

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FIGURE 4.9.3

- | | | |
|------------------|---------------------------------------|--|
| PLAN BOUNDARY | BLM, ACEC*, MINING USE | WATER CONSERVATION |
| AGGREGATE MINING | BLM, ACEC*, POTENTIAL EXCHANGE | WATER CONSERVATION, POTENTIAL EXCHANGE |
| BLM, ACEC* | SANTA ANA WOLLYSTAR PRESERVATION AREA | WATER CONSERVATION, MINING USE |

Upper Santa Ana River Wash
Land Management Plan
Environmental Impact Report

*ACEC: Areas of Critical Environmental Concern

SOURCES: San Bernardino Valley Water Conservation District, San Bernardino County,
Santa Ana Watershed Project Authority, AirPhotoUSA 2007.

Proposed Land Exchange

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The District currently uses a canal, dike, roads, and a spreading basin on approximately 10 acres of the land, which would be conveyed to the BLM as part of the exchange. These are existing facilities in the proposed Habitat Conservation Area that the District would continue to use for groundwater recharge purposes. Upon completion of the land exchange, the BLM would issue a right-of-way grant to the District authorizing continued operation and maintenance of these facilities.

Figure 4.9.4 illustrates the General Plan Land Use change and Zone change for portions of the Planning Area located within the City of Highland.

Adjacent Land Uses. The Planning Area extends from the mouth of the Santa Ana River Canyon at Greenspot Road westerly for approximately 6.0 miles to Alabama Street. The Planning Area is generally bounded by the following land uses:

- Urban and public facility uses and vacant land on the north;
- Urban and agricultural uses and vacant land on the south;
- The San Bernardino International Airport on the west; and
- Agricultural and public uses and the San Bernardino Mountains to the east.

Other adjacent or nearby land uses include the Redlands Wastewater Treatment Facility and California Street Landfill, both of which are located to the southwest, and the Redlands Municipal Airport to the south. Two north-south paved roadways cross the Planning Area: Orange Street-Boulder Avenue and SR-30. Greenspot Road wraps around the Planning Area, forming a portion of the north and eastern boundaries, and Alabama Street is the western boundary.

4.9.2 Policies and Regulations

Local Policies and Regulations

Local policies and regulations are those goals and policies that are contained in the following General Plans:

- *City of Highland General Plan*;¹
- *City of Redlands 1995 General Plan*;² and
- *South Coast Resource Management Plan*.³

The following paragraphs list the applicable goals and policies and address how the goals and objectives of the proposed project are in line with these goals and policies. Many entities are interested in land use and planning at the Planning Area and are directly involved with the proposed project. These include the City of Highland and City of Redlands, along with others:

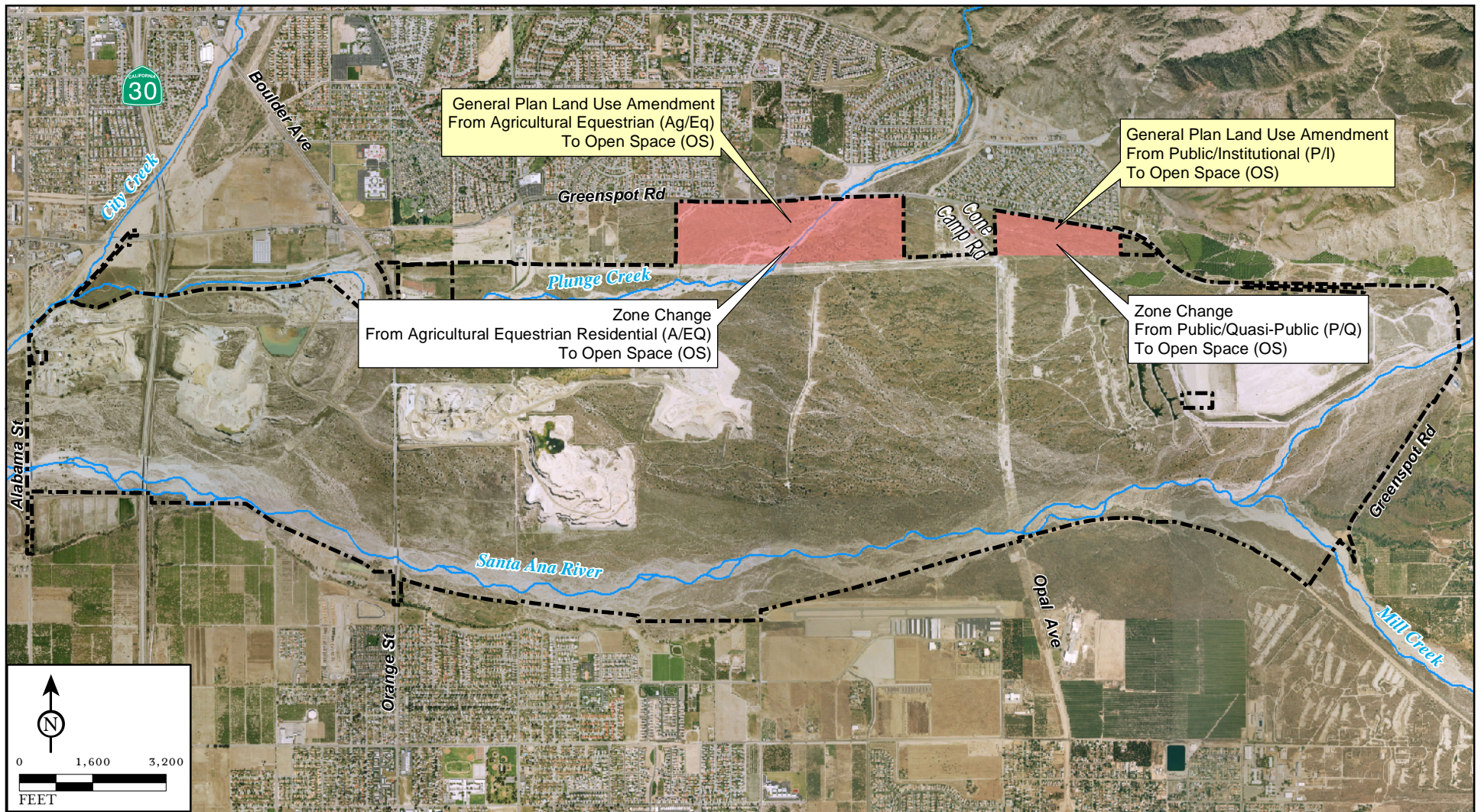
- San Bernardino Valley Water Conservation District;
- U.S. Department of Interior, Bureau of Land Management;
- Cemex Construction Materials LP;
- Robertson's Ready Mix, Ltd.;
- San Bernardino County Flood Control District;
- East Valley Water District; and
- City of Redlands Municipal Utilities Department.

¹ City of Highland, updated March 14, 2006.

² City of Redlands, as amended on December 12, 1997.

³ United States Department of the Interior (USDI) Bureau of Land Management, California Desert District Palm Springs – South Coast Resource Area, June 1984.

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FIGURE 4.9.4

- PLAN BOUNDARY
- GENERAL PLAN AMENDMENT AND ZONING CHANGE AREA
- RIVERS OR CREEKS

*Upper Santa Ana River Wash
Land Management Plan
Environmental Impact Report*

**General Plan Amendments and
Zoning Changes - City of Highland**

SOURCE: SBV Water Conservation District; AirPhotoUSA, 2007.

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City of Highland General Plan. The following goals and policies contained within the Land Use Element apply to land use and planning. Their main intentions follow the goals and objectives of the proposed project.

Land Use Element.

Goal 2.5 Promote a mix of attractive employment-generating areas with a mix of uses that provide a sound and diversified economic base and that are compatible with the community's overall residential character.

Goal 2.6 Maintain an organized pattern of land use that minimizes conflicts between adjacent land uses.

Policy 2 Where a question of compatibility exists, require the new use to conform to the lower intensity use.

Policy 4 Ensure that land uses develop in accordance with the Land Use Plan and Development Code in an effort to attain land use compatibility.

Policy 7 Require new or expanded uses to provide mitigation or buffers, including greenbelts or landscaping, between dissimilar uses or existing uses where potential adverse impacts could occur.

Policy 10 Aggressively review planning efforts of other jurisdictions to minimize potential incompatibilities with City land uses and preserve economic vitality.

Goal 2.7 Encourage natural resource and open space preservation through appropriate land use policies that recognize their value and through the conservation of areas required for the protection of public health and safety.

Policy 3 Permit mineral extraction activities and expansion of existing operations only where the following findings can be made:

- Potential significant impacts related to loss of significant biological resources have been mitigated to an acceptable level, as have potential significant impacts of noise, air pollutant emissions, dust and hazardous materials;
- Significant impacts will not be created on lands used or planned for residential use;
- Public health and safety will be protected;
- Haul routes have been identified, and will be utilized, which will not create significant impacts within residential areas and will not negatively impact access into commercial/industrial areas;
- The municipal revenue-generating characteristics of the proposed operation are such that a positive fiscal benefit will accrue to the City of Highland and to its residents; and
- The analysis of fiscal benefits shall account for the incremental capital and maintenance costs for the area circulation system created by the high intensity of truck use associated with the operation.

Policy 4 Preserve areas designated as Open Space to provide for recreation, preservation of scenic and environmental values, managed production of resources (agriculture, water reclamation and conservation, mineral extraction) and protection of public safety.

Policy 5 Promote joint development and use of open space resources with adjacent jurisdictions.

Goal 2.8 Coordinate land use planning programs between local, regional, state and federal jurisdictions.

Policy 1 Notify neighboring jurisdictions and adjacent developments when considering changes to the City's existing land use pattern adjacent to City boundaries.

Policy 2 Cooperate with neighboring jurisdictions through review and comment on proposed changes to existing land use patterns that could affect the City of Highland.

City of Redlands General Plan. The following policies within the Economic Development, Open Space and Conservation Element of the *City of Redlands General Plan* apply to land use and planning.

Open Space and Conservation Element

7.10f Encourage preservation of natural areas within and outside the Planning Area as regional parks or nature preserves.

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

7.21s Coordinate aggregate resource extraction with habitat preservation and protection of plant and animal species.

Economic Development Element

11.0a Promote a climate conducive to economic growth and rejuvenation to enhance employment and investment opportunities without sacrificing environmental standards.

11.0d Encourage coordination and balance between economic development and all other aspects of community life.

California State Policies and Regulations

State Aeronautics Act (Public Utilities Code Section 21670 et seq.). The Public Utilities Code establishes the requirement for the creation of airport land use commissions for every county in which there is located an airport which is served by a scheduled airline. Additionally, these Sections of the Code mandate the preparation of Comprehensive Land Use Plans (CLUP) to provide for the orderly growth of each public airport and the area surrounding the airport. The purpose of CLUPs includes the protection of the general welfare of inhabitants within the vicinity of the airport and the general public.

Natural Community Conservation Planning. Regional conservation planning efforts that have been conducted in accordance with the Natural Community Conservation Planning (NCCP) Act of 1991 are designed to provide protection and conservation to threatened and endangered species through a multi-species habitat-based and long-term approach, which ensures a balance between the conservation of the species and habitats and the economic growth of the community in which they exist. The NCCP process provides an alternative to protecting species on a single-species basis as in the Federal Endangered Species Act (FESA) and California Environmental Species Act (CESA). The California Department of Fish and Game (CDFG) is responsible for implementing process planning and conservation guidelines for NCCP programs. Local governments and landowners may prepare the NCCPs so that they comply with both the FESA and CESA.

4.9.3 Thresholds of Significance

The following thresholds of significance regarding impacts to land use and planning are based on the recommended questions contained in *Guidelines for California Environmental Quality Act*. A project would have a significant impact related to land use and planning if it resulted in 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 airport land use plan; and/or
- Conflict with any applicable habitat conservation plan or natural community conservation plan.

For the purpose of this EIR, significant and unavoidable land use and/or planning impacts would occur if the aforementioned conditions cannot be overcome by reasonable design, construction, and maintenance practices.

4.9.4 Impact Analysis

4.9.4.1 Physically Divide an Established Community

Threshold	Would the proposed project physically divide an established community?
-----------	--

The Planning Area does not contain any existing housing that constitutes part of a community or neighborhood. In addition, natural features, such as the Santa Ana River, form a physical divide within the Planning Area. The Planning Area is also divided by city boundary lines with the northern half of the Planning Area located within the City of Highland and the southern half of the Planning Area located within the City of Redlands.

Water Conservation Operations/Maintenance Activities of the District

With implementation of the proposed project, water conservation operations would continue to occur within the Planning Area. Because existing land uses within the Planning Area are not considered to be part of a community or neighborhood, the continuance of water conservation operations activities would not physically divide an established community. Therefore, no impacts related to this issue are anticipated to occur and no mitigation would be required.

Cumulative. Cumulatively, the water conservation activities of the District in combination with other projects in the area would not create or contribute to new or increased impacts related to the physical division of an established community over and above the impacts discussed in this section. This component of the proposed project will have no impact in relation to this issue and therefore it does not contribute to any cumulative impacts.

Flood Control Operations/Maintenance Activities of the SBCFCD

Similar to what was analyzed for water conservation activities, SBCFCD activities would not physically divide an established community with implementation of the proposed project since there are no existing communities or neighborhoods within the Planning Area. Therefore, no impacts associated with this issue are anticipated to occur and no mitigation would be required.

Cumulative. Cumulatively, the flood control activities of the SBCFCD in combination with other projects in the area would not create or contribute to new or increased impacts related to the physical division of an established community over and above the impacts discussed in this section. This

component of the proposed project will have no impact in relation to this issue and therefore it does not contribute to any cumulative impacts.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Water production activities would remain the same with implementation of the proposed project. Since there are no established communities or neighborhoods within the Planning Area, the continuance of water production operations would not physically divide an established community. Therefore, no impacts associated with this issue would occur and no mitigation measures would be required.

Cumulative. Cumulatively, the water production activities of the EVWD and the RMUD in combination with other projects in the area would not create or contribute to new or increased impacts related to the physical division of an established community over and above the impacts discussed in this section. This component of the proposed project will have no impact in relation to this issue and therefore it does not contribute to any cumulative impacts.

Aggregate Mining

Aggregate mining activities and the construction of the haul road are in the same geographical area as the other components of the project. Since there is no housing within the Planning Area, aggregate mineral extraction activities would not physically divide an established community or neighborhood. Therefore, no impacts associated with this issue would occur and no mitigation is required.

Cumulative. Cumulatively, the aggregate mining in combination with other projects in the area would not create or contribute to new or increased impacts related to the physical division of an established community over and above the impacts discussed in this section. This component of the proposed project will have no impact in relation to this issue and therefore it does not contribute to any cumulative impacts.

Adoption of General Plan Amendments

With the adoption of the General Plan Amendments, the different project components analyzed in this section would occur. It is anticipated that each of the project components would have a less than significant impact associated with implementation of the proposed project. Therefore, no mitigation measures would be required.

Cumulative. Cumulatively, the adoption of General Plan Amendments in combination with other projects in the area would not create or contribute to new or increased impacts related to the physical division of an established community over and above the impacts discussed in this section. This component of the proposed project will have no impact in relation to this issue and therefore it does not contribute to any cumulative impacts.

Roadway/Bridge Rights-of-Way

Activities associated with circulation (such as the ~~dedication~~ designation of additional rights-of-way and the maintenance of roads and bridges) would not divide a community or neighborhood as there are currently no established communities or neighborhoods within the Planning Area. Therefore, it is anticipated that no impacts associated with this issue would occur and no mitigation would be required.

Cumulative. Cumulatively, the ~~dedication~~ designation of bridge and roadway rights-of-way in combination with other projects in the area would not create or contribute to new or increased impacts related to the physical division of an established community over and above the impacts discussed in

this section. This component of the proposed project will have no impact in relation to this issue and therefore it does not contribute to any cumulative impacts.

Recreational Trail Rights-of-Way

The ~~dedication~~ designation of trails for recreational uses in the Planning Area would occur within existing roadways, utility easements, and old railroad beds. It is anticipated that the additional ~~dedication~~ designation of trail rights-of-way would not divide a community or neighborhood as there are no established communities or neighborhoods that exist within the Planning Area. Therefore, no impacts associated with this issue would occur and no mitigation measures would be required.

Cumulative. Cumulatively, the ~~dedication~~ designation of recreational trail rights-of-way in combination with other projects in the area would not create or contribute to new or increased impacts related to the physical division of an established community over and above the impacts discussed in this section. This component of the proposed project will have no impact in relation to this issue and therefore it does not contribute to any cumulative impacts.

Land Exchange between the District and the BLM

The land exchange between the District and the BLM proposes a combination of mining, habitat conservation, and potential future water facilities. The land exchange does not involve any property containing any established community or neighborhood that might be divided; therefore, no impacts associated with this issue are anticipated to occur. No mitigation would be required.

Cumulative. Cumulatively, the land exchange between the District and the BLM in combination with other projects in the area would not create or contribute to new or increased impacts related to the physical division of an established community over and above the impacts discussed in this section. This component of the proposed project will have no impact in relation to this issue and therefore it does not contribute to any cumulative impacts.

Land Exchange between the SBCFCD and Robertson's

The land exchange that would occur between the SBCFCD and Robertson's would result in mining activities on property currently owned by the SBCFCD and habitat preservation on land that is currently owned by Robertson's. The land that would be set aside for habitat conservation would be left in its natural state and would therefore not physically divide an established community or neighborhood as these do not exist within the Planning Area. Therefore, no impacts are anticipated to occur related to this issue. For the land that would be exchanged to Robertson's, the activities associated with extraction of mineral aggregate would occur within the Planning Area where no established communities or neighborhoods currently exist. Therefore, no impacts associated with this issue would occur related to aggregate mineral extractions. Because the resulting land exchange between the SBCFCD and Robertson's would not physically divide an established community or neighborhood, no mitigation is required.

Cumulative. Cumulatively, the land exchange between the SBCFCD and Robertson's in combination with other projects in the area would not create or contribute to new or increased impacts related to the physical division of an established community over and above the impacts discussed in this section. This component of the proposed project will have no impact in relation to this issue and therefore it does not contribute to any cumulative impacts.

4.9.4.2 Conflict with Applicable Land Use Plans, Policies, or Regulations

Threshold	Would the proposed project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect?
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The CEQA requires EIRs to “...discuss any inconsistencies between the proposed project and applicable general plans and regional plans.”¹ Pursuant to CEQA Section 15125 (d), this EIR chapter includes an evaluation of the consistency of the proposed project with relevant adopted local and regional plans. Because they are more specifically tailored to other issue areas, such as air quality, transportation, biology, hazards (airport land use), water quality, and water supply, the local and regional plans identified below are addressed in detail in other sections of this EIR.

- **South Coast Air Quality Management District (SCAQMD), Air Quality Management Plan (AQMP).** A description of the AQMP and a consistency analysis is provided in Section 4.3, Air Quality.
- **Redlands Municipal Airport Land Use Compatibility Plan.** A description of the Redlands Municipal Airport Land Use Compatibility Plan and a consistency analysis is provided in Section 4.7, Hazards and Hazardous Materials.
- **East Valley Water District 2005 Urban Water Management Plan.** A description of the Urban Water Management Plan (UWMP) along with a consistency analysis is provided in Section 4.16, Utilities and Service Systems.
- **City of Redlands 2005 Urban Water Management Plan.** A description of the City of Redlands’ UWMP along with a consistency analysis is provided in Section 4.16, Utilities and Service Systems.

The following land use plans are discussed in greater detail below:

- *South Coast Resource Management Plan;*
- *Southern California Association of Governments Regional Comprehensive Plan;*
- *Southern California Association of Governments Regional Transportation Plan;*
- *California Airport Land Use Planning Handbook;*
- *Redlands Municipal Airport Land Use Compatibility Plan;* and
- *Upper Santa Ana River Habitat Conservation Plan.*

South Coast Resource Management Plan (South Coast RMP). The overall goal of the South Coast RMP is to provide management guidance and identify land use decisions to be implemented for management of Federal public lands in San Bernardino and Riverside Counties.

Land Use Allocations identified within the South Coast RMP include the designation of three parcels totaling ~~640~~ 638 acres in the upper Santa Ana River Wash as the Santa Ana River Area of Critical Environmental Concern (ACEC) and Research Natural Area (RNA) for protection of the Santa Ana River woollystar and slender-horned spine flower with the following stipulations:

- The ACEC is unavailable for mineral material sales, is closed to motorized vehicle use, and is unavailable for livestock grazing; and
- The ACEC is a right-of-way avoidance area.

¹ Section 15125 (d) of the *CEQA Guidelines*.

Southern California Association of Governments Regional Comprehensive Plan (RCP). The overall goal of the RCP is to:¹

- Reinvigorate the region's economy;
- Avoid social and economic inequities and the geographical dislocation of communities; and
- To maintain the region's quality of life.

Currently, the Southern California Association of Governments (SCAG) is in the process of drafting an updated RCP that will feature nine chapters, each of which is based on a specific area of planning or resource management. As these chapters are still in the drafting stage, goals and policies found within these chapters were not subjected to a consistency analysis because of the fluid nature of the drafting process. The regional land use policy document of the SCAG was originally adopted in 1994 and revised in 1996. The document is described as a regional policy framework for future land use decisions in San Bernardino County in that it respects the need for strong local control, while still also recognizing the importance of regional comprehensive planning for issues of regional importance.

Southern California Association of Governments Regional Transportation Plan (RTP). The 2004 RTP was adopted by the SCAG and contains a set of existing socioeconomic projections that are used as the basis for the SCAG's transportation planning efforts. They include projections of population, housing, and employment at the regional, county, sub-regional, jurisdictional, census tract and transportation analysis zone levels. The RTP includes policies and regulations set forth to ensure development within the SCAG regional area is within planned and forecast future socioeconomic projections.

Because of the complexity of the project and the various plans that would be applicable to the Planning Area, a matrix which lists the various plans and each of the components of the project is provided in Table 4.9.C.

Water Conservation Operations/Maintenance Activities of the District

With implementation of the proposed project, water conservation operations would continue to occur within the Planning Area. As indicated in Table 4.9.C, water conservation activities would be consistent with applicable policies contained within the identified land use plans. Because water conservation activities would not conflict with land use plans no impacts related to this issue would occur and no mitigation would be required.

Cumulative. Cumulatively, the water conservation activities of the District in combination with other projects in the area would not create or contribute to new or increased impacts related to conflicts with land use plans and policies over and above the impacts discussed in this section. This component of the proposed project will have no impact in relation to this issue and therefore it does not contribute to any cumulative impacts.

Flood Control Operations/Maintenance Activities of the SBCFCD

No changes to existing flood control activities would occur with implementation of the proposed project. As indicated in Table 4.9.C, flood control activities would be consistent with applicable policies contained within the identified land use plans. Because flood control activities would not conflict with land use plans, no impacts related to this issue would occur and no mitigation would be required.

¹ *Regional Comprehensive Plan and Guide*, June 1994, Growth Management, page 3-1.

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Table 4.9.C – Applicable Land Use Plans and Policies to the Proposed Project

Plan and Policy	Water Conservation Activities	Flood Control Activities	Water Production Activities	Aggregate Mining Activities	Adoption of General Plan Amendments	Roadway/Bridge Rights-of-Way	Recreational Trail Rights-of-Way	Land Exchange between District and BLM	Land Exchange between SBCFCD and Robertson's
South Coast Air Quality Management District (SCAQMD), Air Quality Management Plan (AQMP)									
Component Consistency is discussed and analyzed in Section 4.3.4.1 <i>Consistency with the Air Quality Management Plan</i> .									
California Airport Land Use Planning Handbook									
Component Consistency is discussed and analyzed in Section 4.7.4.4 <i>Within Two Miles of a Public or Private Airport</i> .									
Redlands Municipal Airport Land Use Compatibility Plan									
Component Consistency is discussed and analyzed in Section 4.7.4.4 <i>Within Two Miles of a Public or Private Airport</i> .									
South Coast Resource Management Plan									
<i>Policy 1. Emphasize protection and enhancement of sensitive species habitats and open space values.</i>	Would result in preservation of habitat with continuance of water conservation activities, and expansion of mining activities. Preservation of habitat would occur on land that has better quality habitat while mining would occur on land that is mostly disturbed and low quality habitat. The exchange would enhance species habitat and open space values. (Consistent)	No change with implementation of project (Not Applicable)	Continuance of existing activities with implementation of project (Not Applicable)	Activities associated with aggregate mining during the operational phase would not be consistent with this policy. However, through the reclamation phase, the mined areas would be eventually restored and could be utilized for sensitive species habitat or open space. (Consistent) .	Would result in adoption of land exchanges which would emphasize protection and enhancement of sensitive species habitats and open space values. (Consistent)	Would occur within existing roadways and not in areas set aside for habitat (Consistent)	Would occur within existing circulation features such as roadways, utility easements, and old railroad beds and not in areas set aside for habitat conservation (Consistent)	Would result in preservation of habitat and continuance of water conservation activities – both activities would enhance sensitive species habitat and open space values (Consistent)	Would result in preservation of habitat and continuance of mining activities. Preservation of habitat would occur on land that has better quality habitat while mining would occur on land that is disturbed and low quality habitat instead of current conditions in which mining would occur on land that contains high quality habitat and preservation on land that has low quality of habitat (Consistent)
<i>Policy 2. Improve management effectiveness within the management area disposal of isolated parcels and consolidation of BLM public land ownership, including substantial acquisition within the management area.</i>	Would continue with implementation of the project but continuance of activities would not be applicable to this policy (Not Applicable)	No change with implementation of project (Not Applicable)	Continuance of existing activities with implementation of project (Not Applicable)	Aggregate mining activities would be consolidated off of BLM-owned land, and BLM ownerships would be consolidated (Consistent)	Would result in designation of recreational trails, which does not affect consolidation of BLM public land ownership. (Not applicable.)	Would occur within existing roadways - activities would not be applicable to this policy (Not Applicable)	Would occur within existing circulation features such as roadways, utility easements, and old railroad beds and does not deal with consolidation of BLM public land ownership. (Not Applicable)	Would result in preservation of habitat and continuance of water conservation activities – both activities would improve management effectiveness and consolidation of BLM land ownership through grouping of existing and proposed preservation areas and consolidating isolated parcels of BLM land (Consistent)	Would result in improved management effectiveness by expanding the Santa Ana River Woollystar Preservation Area, and consolidating adjacent managed habitat areas (Consistent) .

Table 4.9.C – Applicable Land Use Plans and Policies to the Proposed Project

Plan and Policy	Water Conservation Activities	Flood Control Activities	Water Production Activities	Aggregate Mining Activities	Adoption of General Plan Amendments	Roadway/Bridge Rights-of-Way	Recreational Trail Rights-of-Way	Land Exchange between District and BLM	Land Exchange between SBCFCD and Robertson's
<i>Policy 3. Provide recreation opportunities which are compatible with sensitive species management objectives.</i>	Would continue with implementation of the project, and would enhance sensitive species habitat and open space values through expansion of managed habitat areas. (Consistent)	Existing flood control activities consisting of flood control infrastructure maintenance and upkeep does not provide recreation opportunities (Not Applicable)	Existing water production activities consisting of water pumping and routing to distribution systems does not provide recreation opportunities (Not Applicable)	Aggregate mining activities do not provide for recreation opportunities (Not applicable)	Would result in adoption of land exchanges and trails which would provide recreation opportunities which are compatible with sensitive species management objectives (Consistent)	Would occur within existing roadways - activities would not be applicable to this policy (Not Applicable)	Would establish new recreational trails within existing circulation features such as roadways, utility easements, and/or railroad beds, providing recreation and avoiding sensitive habitat preservation areas. (Consistent.)	Would result in preservation of habitat with continuance of water conservation activities, and expansion of mining activities. Neither activity would provide for recreational opportunities, so activities would not be applicable to this policy. (Not Applicable)	Would result in preservation of habitat and continuance of mining activities. Both of which would not provide for recreation opportunities so activities would not be applicable to this policy. (Not Applicable)
<i>Policy 4. Allow mineral development and other uses while maximizing protection of sensitive resources.</i>	Existing water conservation activities do not allow for mineral development. However water conservation activities can occur while protecting sensitive resources such as habitat. (Consistent)	Existing flood control activities do not allow for mineral development (Not Applicable)	Existing water production activities do not allow for mineral development (Not Applicable)	Would allow mineral development during the operation phase and would restore the land during the reclamation phase which could be utilized for sensitive resources such as habitat. (Consistent)	Would result in adoption of land exchanges and trails which would provide recreation opportunities and allow additional mineral extraction to occur but at the same time maximizing the protection of sensitive resources through the habitat preservation of more land. (Consistent)	Would dedicate additional rights-of-way for roadways that would occur on existing roads which would not affect sensitive resources like habitat. (Consistent)	Would dedicate additional rights-of-way for trails which would occur on existing roadways, utility easements, and railroad beds and avoiding sensitive habitat. (Consistent)	Would result in preservation of habitat with continuance of water conservation activities, and expansion and consolidation of mining activities, allowing expanded mineral development. Preservation of habitat would occur on land that has better quality habitat while mining would occur on land that is mostly disturbed and low quality habitat. The exchange would enhance species habitat and open space values. (Consistent)	Would result in preservation of habitat and continuance of mining activities. Preservation of habitat would occur on land that has better quality habitat while mining would occur on land that is disturbed and low quality habitat instead of current conditions in which mining would occur on land that contains high quality habitat and preservation on land that has low quality of habitat (Consistent)
Southern California Association of Governments Regional Comprehensive Plan									
<i>Policy 3.05 Encourage patterns of urban development and land use that reduce costs of infrastructure construction and make better use of existing facilities.</i>	Continuance of existing water conservation activities such as percolation of water onto natural land (Consistent)	No changes associated with continuance of flood control activities – policy not applicable (Not Applicable)	No changes associated with continuance of existing water production activities – policy not applicable (Not Applicable)	Increase in aggregate mining in an area where there are known aggregate deposits and where mining has already occurred (Consistent)	Would result in adoption of land exchanges that would consolidate similar land uses together which would reduce infrastructure costs (e.g. building one haul road to service new mining area instead of two haul roads to service to isolated parcels). Would result in adoption of trail realignments which would utilize existing facilities such as roadways, utility easements, and old railroad beds. (Consistent)	Would dedicate additional rights-of-way that would allow for the potential expansion of roadway capacity in the future. This would result in utilizing existing roadways instead of building new roadways. (Consistent)	Would dedicate additional rights-of-way that would allow for the trails to be situated on existing roadways, utility easements, and old railroad beds. (Consistent)	Would result in a land exchange that would encourage a land use pattern that would maximize the preservation of sensitive species while allowing water conservation activities to continue, and provide for consolidation and expansion of mining activities. (Consistent)	Would result in a land exchange that would maximize habitat preservation by exchanging low quality habitat lands for high quality habitat lands. Would also result in a land exchange that would utilize existing infrastructure through the consolidation of aggregate mining areas (Consistent)

Table 4.9.C – Applicable Land Use Plans and Policies to the Proposed Project

Plan and Policy	Water Conservation Activities	Flood Control Activities	Water Production Activities	Aggregate Mining Activities	Adoption of General Plan Amendments	Roadway/Bridge Rights-of-Way	Recreational Trail Rights-of-Way	Land Exchange between District and BLM	Land Exchange between SBCFCD and Robertson's
<i>Policy 3.10 Support local jurisdictions' actions to minimize red tape and expedite the permitting process to maintain economic vitality and competitiveness.</i>	Continuance of existing water conservation activities not affected – policy not applicable (Not Applicable)	No changes associated with continuance of flood control activities – policy not applicable (Not Applicable)	No changes associated with continuance of existing water production activities – policy not applicable (Not Applicable)	Would result in an increase of mineral production and would minimize red tape that would result from approving individual permits in two different jurisdictions and two different mining companies. (Consistent)	Would result in adoption of land exchanges at the same time which would minimize the red tape and process that would result from approving several separate amendments regarding the land exchanges, changes to trials and land use within the Planning Area. (Consistent)	Would dedicate additional rights-of-way that would allow for the potential expansion of roadway capacity in the future. Implementation of proposed project would expedite permitting process as rights-of-way would already be established in the event that roadway capacity would need to be increased. (Consistent)	Would dedicate additional rights-of-way that would allow for the trails to be situated on existing roadways, utility easements, and old railroad beds and would reduce the time it would take to process the realignment or addition of each individual trail. (Consistent)	Would result in a land exchange that would preserve habitat, continue water conservation, and accommodate aggregate mining activities. Would reduce the time it would take to process each action individually. (Consistent)	Would result in a land exchange that would maximize habitat preservation by exchanging low quality habitat lands for high quality habitat lands. Would also result in a land exchange that would consolidate aggregate mining areas. Would reduce the time it would take to process each action individually. (Consistent)
Southern California Association of Governments Regional Transportation Plan									
<i>The 2004 RTP was adopted by the SCAG and contains a set of existing socioeconomic projections that are used as the basis for the SCAG's transportation planning efforts.</i>	Water conservation activities do not include transportation planning - the SCAG RTP is not applicable. (Not Applicable)	Flood control activities do not include transportation planning - the SCAG RTP is not applicable. (Not Applicable)	Water production activities do not include transportation planning - the SCAG RTP is not applicable. (Not Applicable)	Would increase aggregate mining and introduce a new haul road. This haul road would be used solely by mining operations and would therefore not be a part of the SCAG RTP. Policy does not apply (Not Applicable)	Would result in adoption of land exchanges and trails which do not contain transportation planning, so policy is not applicable (Not Applicable)	The additional rights-of-way for roadways would be planned to ensure that traffic congestion is reduced and that adequate transportation facilities could be provided if needed. Since the additional rights-of-way would be consistent with the General Plans of Highland and Redlands, and because the General Plans are consistent with the RTP, this component would be consistent with policies in the RTP. (Consistent)	Although the additional dedication-designation of trail rights-of-way would occur on existing roadways, utility easements, and railroad beds, the actual dedication-designation of rights-of-way does not contain a traffic planning component – the SCAG RTP is not applicable (Not Applicable)	The land exchange between the District and BLM does not contain a traffic planning component – the SCAG RTP is not applicable (Not Applicable)	The land exchange between the District and BLM does not contain a traffic planning component – the SCAG RTP is not applicable (Not Applicable)
East Valley Water District 2005 Urban Water Management Plan.									
Component Consistency is discussed and analyzed in Section 4.16.4.5 <i>Adequate Water Supply</i> .									
City of Redlands 2005 Urban Water Management Plan.									
Component Consistency is discussed and analyzed in Section 4.16.4.5 <i>Adequate Water Supply</i> .									

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Cumulative. Cumulatively, the flood control activities of the SBCFCD in combination with other projects in the area would not create or contribute to new or increased impacts related to conflicts with land use plans and policies over and above the impacts discussed in this section. This component of the proposed project will have no impact in relation to this issue and therefore it does not contribute to any cumulative impacts.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Water production activities would remain the same with implementation of the proposed project. As indicated in Table 4.9.C, water production activities would be consistent with applicable policies contained within the identified land use plans. Because water production activities would not conflict with land use plans, no impacts related to this issue would occur and no mitigation would be required.

Cumulative. Cumulatively, the water production activities of the EVWD and the RMUD in combination with other projects in the area would not create or contribute to new or increased impacts related to conflicts with land use plans and policies over and above the impacts discussed in this section. This component of the proposed project will have no impact in relation to this issue and therefore it does not contribute to any cumulative impacts.

Aggregate Mining

As indicated in Table 4.9.C, aggregate mining activities would be consistent with applicable policies contained within the identified land use plans. Because aggregate mining activities would not conflict with land use plans, no impacts related to this issue would occur and no mitigation would be required.

Cumulative. Cumulatively, the aggregate mining activities in combination with other projects in the area would not create or contribute to new or increased impacts related to conflicts with land use plans and policies over and above the impacts discussed in this section. This component of the proposed project will have no impact in relation to this issue and therefore it does not contribute to any cumulative impacts.

Adoption of General Plan Amendments

The adoption of the General Plan Amendments would be consistent with applicable policies contained within the land use plans identified in Table 4.9.C. Because the adoption of General Plan Amendments would not conflict with applicable land use plans, no impacts related to this issue would occur and no mitigation would be required.

Cumulative. Cumulatively, the adoption of the General Plan Amendments in combination with other projects in the area would not create or contribute to new or increased impacts related to conflicts with land use plans and policies over and above the impacts discussed in this section. This component of the proposed project will have no impact in relation to this issue and therefore it does not contribute to any cumulative impacts.

Roadway/Bridge Rights-of-Way

Activities associated with circulation (such as the dedication designation of additional rights-of-way for roads and bridges) would not conflict with applicable policies contained within the land use plans identified in Table 4.9.C. Because the dedication designation of additional rights-of-way would not conflict with applicable land use plans, no impacts related to this issue would occur and no mitigation would be required.

Cumulative. Cumulatively, the dedication designation of bridge and roadway rights-of-way in combination with other projects in the area would not create or contribute to new or increased impacts

related to conflicts with land use plans and policies over and above the impacts discussed in this section. This component of the proposed project will have no impact in relation to this issue and therefore it does not contribute to any cumulative impacts.

Recreational Trail Rights-of-Way

The ~~dedication~~ designation of trails for recreational uses in the Planning Area would occur within existing roadways, utility easements, and old railroad beds. To incorporate the specific alignments for the recreational trails rights-of-way, amendments to the General Plans of the City of Highland and Redlands are required. As indicated in Table 4.9.C, the additional ~~dedication~~ designation of trail rights-of-way would not conflict with the identified policies of applicable land use plans. Therefore, no impacts associated with this issue would occur and no mitigation measures would be required.

Cumulative. Cumulatively, the ~~dedication~~ designation of recreational trail rights-of-way in combination with other projects in the area would not create or contribute to new or increased impacts related to conflicts with land use plans and policies over and above the impacts discussed in this section. This component of the proposed project will have no impact in relation to this issue and therefore it does not contribute to any cumulative impacts.

Land Exchange between the District and the BLM

As indicated in Table 4.9.C, the land exchange between the District and the BLM would be consistent with applicable policies contained within the identified land use plans. However, the proposed project is inconsistent with portions of the BLM South Coast Resource Management Plan, in that it proposes mining for areas presently within the ACEC designation, and proposes land exchanges to change the areas of BLM ownership. The South Coast Resource Management Plan will be amended as a part of a subsequent action that will follow the approval of this plan. The amendment will revise the SCRMP to be consistent with this project to alleviate the inconsistency and any impact. Because the land exchange between the District and BLM would not conflict with land use plans, no impacts related to this issue would occur and no mitigation would be required.

Cumulative. Cumulatively, the land exchange between the District and the BLM in combination with other projects in the area would not create or contribute to new or increased impacts related to conflicts with land use plans and policies over and above the impacts discussed in this section. This component of the proposed project will have no impact in relation to this issue and therefore it does not contribute to any cumulative impacts.

Land Exchange between the SBCFCD and Robertson's

The land exchange that would occur between the SBCFCD and Robertson's would result in mining activities on property currently owned by the SBCFCD and habitat preservation on land that is currently owned by Robertson's. Activities associated with the land exchange would not conflict with applicable policies contained within the land use plans identified in Table 4.9.C. Because the resulting land exchange between the SBCFCD and Robertson's would not conflict with applicable land use plans, no impacts related to this issue would occur and no mitigation would be required.

Cumulative. Cumulatively, the land exchange between the SBCFCD and Robertson's in combination with other projects in the area would not create or contribute to new or increased impacts related to conflicts with land use plans and policies over and above the impacts discussed in this section. This component of the proposed project will have no impact in relation to this issue and therefore it does not contribute to any cumulative impacts.

4.9.4.3 Conflict with Applicable Airport Land Use Plans

Threshold	Would the proposed project conflict with any applicable airport land use plan?
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The following airport land use plans are applicable to the proposed project:

- **California Airport Land Use Planning Handbook.** Portions of the Planning Area are located within the Airport Influence Area (AIA) for the San Bernardino International Airport (SBD). While the SBD does not currently have an approved airport land use compatibility plan, an AIA Map (dated December 4, 2003) prepared by Caltrans depicting the Airport Influence Areas and safety zones for the airport is available for analyzing airport safety hazards. Because the International Airport does not currently have an approved airport land use compatibility plan, the *California Airport Land Use Planning Handbook*¹ (Handbook) was consulted for determining basic compatibility qualities in each of the zones depicted on the Airport Influence Area Map. Compatibility with this Handbook is discussed in Section 4.7, Hazards and Hazardous Materials.
- **Redlands Municipal Airport Land Use Compatibility Plan.** The southern tip of the Planning Area is located within the Redlands Municipal Airport Influence Area, which is divided into Compatibility Zones. According to the Redlands Municipal Airport Land Use Compatibility Plan, the notation of an area of special compatibility concern is intended to serve as a reminder that airport impacts should be carefully considered in any decision to change the current land use designation. Compatibility with the Redlands Municipal Airport Land Use Compatibility Plan is discussed in greater detail in Section 4.7, Hazards and Hazardous Materials.

Water Conservation Operations/Maintenance Activities of the District

With implementation of the proposed project, water conservation activities would continue to occur within the Planning Area. Water conservation activities would be limited to the spreading of water within detention basins and open space as well as the maintenance of existing water conservation facilities. Because these activities do not result in the building of structures or encourage high densities of people to congregate within existing flight patterns, a less than significant impact associated with this issue is anticipated to occur and no mitigation would be required.

Cumulative. Like the proposed project, the cumulative projects listed in Table 2.A do not encourage significant numbers of people to congregate within existing flight patterns or changes in land use that would conflict with an applicable airport land use plan. Cumulatively, a less than significant impact would occur as a result of the water conservation activities of the District.

Flood Control Operations/Maintenance Activities of the SBCFCD

Flood control operation activities would not result in the building of structures or encourage high densities of people to congregate within existing flight patterns. Therefore, the flood control operations would not significantly affect land use restrictions associated with airports and respective airport land use plans. A less than significant impact associated with this issue would occur and no mitigation would be required.

Cumulative. Like the proposed project, the cumulative projects listed in Table 2.A do not encourage tall buildings or significant numbers of people to congregate within existing flight patterns or changes in land use that would conflict with an applicable airport land use plan. Cumulatively, a less than significant impact would occur as a result of the flood control activities of the SBCFCD.

¹ *California Airport Land Use Planning Handbook*, State of California, Department of Transportation, Division of Aeronautics, January 2002.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Water production activities would remain the same with implementation of the proposed project. Water production activities consist of pumping water from wells and routing the water to existing distribution systems and would not result in the building of structure or encourage high densities of people to congregate within areas that would be affected by nearby airport. Therefore, the water production activities would not significantly affect land use restriction associated with airports and respective airport land use plans. A less than significant impact associated with this issue is anticipated to occur and no mitigation would be required.

Cumulative. Like the proposed project, the cumulative projects listed in Table 2.A do not include tall buildings or land uses that encourage significant numbers of people to congregate within existing flight patterns or changes in land use that would conflict with an applicable airport land use plan. Cumulatively, a less than significant impact would occur as a result of the water production activities of the EVWD or RMUD.

Aggregate Mining

Aggregate mining activities and the construction of the haul road are not considered to be land uses that would significantly affect existing airport land use plans as these uses are not land intensive like residential or commercial development. Since these activities would not significantly affect existing airport land use plans, a less than significant impact is anticipated to occur and no mitigation would be required.

Cumulative. Like the proposed project, the cumulative projects listed in Table 2.A do not include tall buildings or land uses that encourage significant numbers of people to congregate within existing flight patterns or changes in land use that would conflict with an applicable airport land use plan. Cumulatively, a less than significant impact would occur as a result of the aggregate mining activities.

Adoption of General Plan Amendments

With the adoption of the General Plan Amendments, the different project components analyzed in this section would occur. It is anticipated that each of the project components would have a less than significant impact associated with implementation of the proposed project. Therefore, no mitigation measures would be required.

Cumulative. Like the proposed project, the cumulative projects listed in Table 2.A do not include tall buildings or land uses that encourage significant numbers of people to congregate within existing flight patterns or changes in land use that would conflict with an applicable airport land use plan. Cumulatively, a less than significant impact would occur as a result of the adoption of the General Plan Amendments.

Roadway/Bridge Rights-of-Way

Activities associated with circulation (such as the ~~dedication~~ designation of additional rights-of-way and the maintenance of roads and bridges) would occur within an area that already has existing circulation infrastructure. Because these additional rights-of-way would not change existing land use patterns that would affect existing airport land use plans, no impacts associated with this issue are anticipated to occur. Therefore, no mitigation would be required.

Cumulative. Cumulatively, the ~~dedication~~ designation of bridge and roadway rights-of-way in combination with other projects in the area would not create or contribute to new or increased impacts related to airport land use plans over and above the impacts discussed in this section. This component of the proposed project will have no impact in relation to airport land use plans and therefore it does not contribute to any cumulative impacts.

Recreational Trail Rights-of-Way

The ~~dedication~~ designation of trails for recreational uses in the Planning Area would occur within existing roadways, utility easements, and old railroad beds. It is anticipated that the additional ~~dedication~~ designation of trail rights-of-way would not conflict with existing airport land use plans as the ~~dedication~~ designation of trails would not be within areas where airport operations solely occur. As discussed in Section 4.7, *Hazards and Hazardous Materials*, the proposed project would be consistent with applicable land use plans. No impacts associated with airport land use plan inconsistency are anticipated to occur and no mitigation measures would be required.

Cumulative. Cumulatively, the ~~dedication~~ designation of recreational trail rights-of-way in combination with other projects in the area would not create or contribute to new or increased impacts related to airport land use plans over and above the impacts discussed in this section. This component of the proposed project will have no impact in relation to airport land use plans and therefore it does not contribute to any cumulative impacts.

Land Exchange between the District and the BLM

The land exchange between the District and BLM would expand the area of managed habitat and consolidate mining in areas adjacent to existing mining disturbances. Portions of the managed habitat areas may be subject to potential water conservation facilities, but these do not entail the type of building structures or heights of such structures that would impair airport operations. As discussed in Section 4.7, *Hazards and Hazardous Materials*, the proposed project is consistent with applicable plans, no impacts associated with airport plan inconsistencies are anticipated to occur, and no mitigation would be required.

Cumulative. Cumulatively, the land exchange between the District and the BLM in combination with other projects in the area would not create or contribute to new or increased impacts related to airport land use plans over and above the impacts discussed in this section. This component of the proposed project will have no impact in relation to airport land use plans and therefore it does not contribute to any cumulative impacts.

Land Exchange between the SBCFCD and Robertson's

The land exchange that would occur between the SBCFCD and Robertson's would result in mining activities on property currently owned by the SBCFCD and habitat preservation on land that is currently owned by Robertson's. As indicated in the analysis for the land exchange between the District and BLM, land that would be set aside for habitat conservation and flood control would be managed habitat and would not result in any structures or uses that would conflict with airport uses. The land exchange would therefore not result in the construction of buildings or the continuance of actions that would be in conflict with airport land use plans. Additionally, as discussed in Section 4.7, *Hazards and Hazardous Materials*, the proposed project would be consistent with applicable land use plans. No impacts associated with land use plan inconsistency would occur and no mitigation would be required.

Cumulative. Cumulatively, the land exchange between the SBCFCD and Robertson's in combination with other projects in the area would not create or contribute to new or increased impacts related to airport land use plans over and above the impacts discussed in this section. This component of the proposed project will have no impact in relation to airport land use plans and therefore it does not contribute to any cumulative impacts.

4.9.4.4 Conflict with a Habitat Conservation Plan

Threshold	Would the proposed project conflict with any applicable habitat conservation plan or natural community conservation plan?
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There are currently no adopted habitat conservation plans or natural community conservation plans for the Planning Area. This environmental document lays the groundwork for subsequent environmental documents that would allow for the land exchange between the District and the BLM, which would ultimately lead to the development and approval of the Upper Santa Ana River Habitat Conservation Plan (HCP). The HCP would cover the entire project site and would take into account the various activities and land uses that are occurring and would occur. However, since this HCP is still in the developmental phase and is not an adopted habitat conservation plan, the proposed project would not conflict with any applicable habitat conservation plans or natural community conservation plans. In addition, the Army Corps of Engineers has recently undertaken a feasibility study for potential recreational and habitat preservation uses in an area including the Planning Area for this project. That study, titled the "San Bernardino Lakes and Streams Ecosystem Restoration Feasibility Study," will use much of the underlying analyses and data from this EIR as a basis for its studies. That feasibility study is expected to tier off of the analyses presented in this document for this project, and will take the habitat enhancement programs and ultimate habitat conservation plan to implement this project as part of the environmental and regulatory baseline against which any project or program arising from the feasibility study will be measured. As such, there is not expected to be any long-term cumulative impact in terms of consistency with this project's HCP or the mitigation measures it proposes.

Water Conservation Operations/Maintenance Activities of the District

With implementation of the proposed project, water conservation operations would continue to occur within the planning area. Because the Upper Santa Ana River Wash HCP would be prepared in subsequent environmental documents; the activities associated with water conservation activities would not conflict with the Upper Santa Ana River Wash HCP. Therefore, no impacts related to this issue are anticipated to occur and no mitigation would be required.

Cumulative. Cumulatively, the operations and maintenance activities of the District in combination with other projects in the area would not create or contribute to new or increased impacts related to habitat conservation plans over and above the impacts discussed in this section. This component of the proposed project will have no impact in relation to habitat conservation plans and therefore it does not contribute to any cumulative impacts.

Flood Control Operations/Maintenance Activities of the SBCFCD

Flood control activities would not change with implementation of the proposed project. Flood control activities would continue to occur within the Planning Area after the adoption of the Upper Santa Ana River HCP. Since these activities would be included as part of the planning process of the Upper Santa Ana River HCP, no impacts related to this issue are anticipated to occur and no mitigation would be required.

Cumulative. Cumulatively, the operations and maintenance activities of the SBCFCD in combination with other projects in the area would not create or contribute to new or increased impacts related to habitat conservation plans over and above the impacts discussed in this section. This component of the proposed project will have no impact in relation to habitat conservation plans and therefore it does not contribute to any cumulative impacts.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Water production activities would remain the same with implementation of the proposed project. Since water production activities would be considered part of baseline conditions for the Upper Santa Ana River HCP, no impacts associated with this issue would occur and no mitigation measures would be required.

Cumulative. Cumulatively, the operations and maintenance activities of the EVWD and the RMUD in combination with other projects in the area would not create or contribute to new or increased impacts related to habitat conservation plans over and above the impacts discussed in this section. This component of the proposed project will have no impact in relation to habitat conservation plans and therefore it does not contribute to any cumulative impacts.

Aggregate Mining

Aggregate mining activities and the construction of the haul road are in the same geographical area as the other components of the project. Aggregate mining activities would continue to occur within the Planning Area after the adoption of the Upper Santa Ana River Wash HCP. Mining activities would be taken into account during the preparation of this plan since the activities would be considered part of baseline conditions. Since these activities would be included as part of the planning process of the applicable habitat conservation plan, no impacts related to this issue are anticipated to occur and no mitigation would be required.

Cumulative. Cumulatively, the aggregate mining in combination with other projects in the area would not create or contribute to new or increased impacts related to habitat conservation plans over and above the impacts discussed in this section. This component of the proposed project will have no impact in relation to habitat conservation plans and therefore it does not contribute to any cumulative impacts.

Adoption of General Plan Amendments

With the adoption of the General Plan Amendments, the different project components analyzed in this section would occur. It is anticipated that each of the project components would have a less than significant impact or no impact associated with implementation of the proposed project. Therefore, no mitigation measures would be required.

Cumulative. Cumulatively, the adoption of General Plan Amendments in combination with other projects in the area would not create or contribute to new or increased impacts related to habitat conservation plans over and above the impacts discussed in this section. This component of the proposed project will have no impact in relation to habitat conservation plans and therefore it does not contribute to any cumulative impacts.

Roadway/Bridge Rights-of-Way

Activities associated with circulation such as the ~~dedication~~ designation of additional rights-of-way, and the maintenance of roads and bridges would occur in close proximity to existing roadways. It is anticipated that these additional ~~dedications~~ designations of rights-of-way would be considered part of existing baseline conditions during the preparation of the Upper Santa Ana River HCP. Therefore, it is anticipated that no impacts associated with this issue would occur and no mitigation would be required.

Cumulative. Cumulatively, the ~~dedication~~ designation of bridge and roadway rights-of-way in combination with other projects in the area would not create or contribute to new or increased impacts related to habitat conservation plans over and above the impacts discussed in this section. This

component of the proposed project will have no impact in relation to habitat conservation plans and therefore it does not contribute to any cumulative impacts.

Recreational Trail Rights-of-Way

The ~~dedication~~ designation of trails for recreational uses in the Planning Area would occur within existing roadways, utility easements, and old railroad beds. Since these trails would occur within existing circulation features, it is anticipated that the additional ~~dedication~~ designation of trail rights-of-way would not conflict with the Upper Santa Ana River HCP as such trail rights-of-way would be considered part of existing baseline conditions during the preparation of the Upper Santa Ana River HCP. Therefore, no impacts associated with this issue would occur and no mitigation measures would be required.

Cumulative. Cumulatively, the ~~dedication~~ designation of recreational trail rights-of-way in combination with other projects in the area would not create or contribute to new or increased impacts related to habitat conservation plans over and above the impacts discussed in this section. This component of the proposed project will have no impact in relation to habitat conservation plans and therefore it does not contribute to any cumulative impacts.

Land Exchange between the District and the BLM

With the implementation of the proposed project, the resulting land exchange between the District and BLM would set aside land for habitat conservation and the continuance of water conservation activities. The land that would be set aside for habitat conservation and the continuance of water conservation activities would become managed habitat, whose management would be directed with the applicable habitat conservation plan for the Planning Area. Currently there is an inconsistency between the BLM's South Coast Resource Management Plan and the project. As a part of the implementation of the proposed project, the BLM will amend the SCRMP to alleviate this inconsistency. Because neither of these activities would conflict with an applicable habitat conservation plan for the Planning Area, no impacts associated with the land exchange between the District and BLM would occur and no mitigation would be required.

Cumulative. Cumulatively, the land exchange between the District and the BLM in combination with other projects in the area would not create or contribute to new or increased impacts related to habitat conservation plans over and above the impacts discussed in this section. This component of the proposed project will have no impact in relation to habitat conservation plans and therefore it does not contribute to any cumulative impacts.

Land Exchange between the SBCFCD and Robertson's

The land exchange that would occur between the SBCFCD and Robertson's would result in mining activities on property currently owned by the SBCFCD and habitat preservation on land that is currently owned by Robertson's. The land that would be set aside for habitat conservation and the continuance of water conservation activities would become managed habitat, whose management would be directed with the applicable habitat conservation plan for the Planning Area. For the land that would be exchanged to Robertson's, the activities associated with extraction of mineral aggregate would occur within the Planning Area where established mining activities currently exist. Because these land uses would be taken into account during the planning process for the Upper Santa Ana River Wash HCP, no impacts associated with this issue would occur with aggregate mineral extractions. Because the resulting land exchange between the SBCFCD and Robertson's would not physically conflict with an applicable habitat conservation plan, no mitigation is required.

Cumulative. Cumulatively, the land exchange between the SBCFCD and Robertson's in combination with other projects in the area would not create or contribute to new or increased impacts related to

habitat conservation plans over and above the impacts discussed in this section. This component of the proposed project will have no impact in relation to this issue and therefore it does not contribute to any cumulative impacts.

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4.10 MINERAL RESOURCES

This section evaluates the potential loss of availability of known mineral resources due to land use conversions. This section is based in part on the following:

- *Mine and Reclamation Plans for the Upper Santa Ana River Wash Aggregate Lands to be Operated by Cemex Construction Material L.P.*, prepared by Lilburn Corporation, March 2006 (Appendix G); and
- *Mine and Reclamation Plans for the Upper Santa Ana River Wash Aggregate Lands to be Operated by Robertson's Ready Mix.*, prepared by Lilburn Corporation, March 2006 (Appendix H).

The information cited in this section represents a summary of more exhaustive data contained in the aforementioned references, which are hereby incorporated by reference.

4.10.1 Existing Setting

Aggregate mining operations have been conducted in portions of the Planning Area for more than 80 years. There are currently three aggregate mining or aggregate processing-related companies operating near the Planning Area. One of the companies, Matich, has facilities contained on approximately 2.0 acres east of Alabama Street. Although Matich is located within the Planning Area boundaries, it is not part of the proposed project. The other two companies, Cemex Construction Materials, LP (Cemex) and Robertson's Ready Mix, Inc. (Robertson's), currently mine portions of the Planning Area for sand, gravel, and aggregates.¹

Existing Site Characteristics

The historical frequent flooding of the Santa Ana River has created a high quality aggregate resource in the Planning Area. In 1987, the California Department of Conservation, Division of Mines and Geology, issued *Special Report 143, Part VII, Classification of Sand and Gravel Resource Areas, San Bernardino Production-Consumption Region* in which virtually all of the Planning Area was designated as a Class 2 Mineral Resource Zone (MRZ-2).² Figure 4.10.1 identifies the MRZ-2 designated lands within the Planning Area.

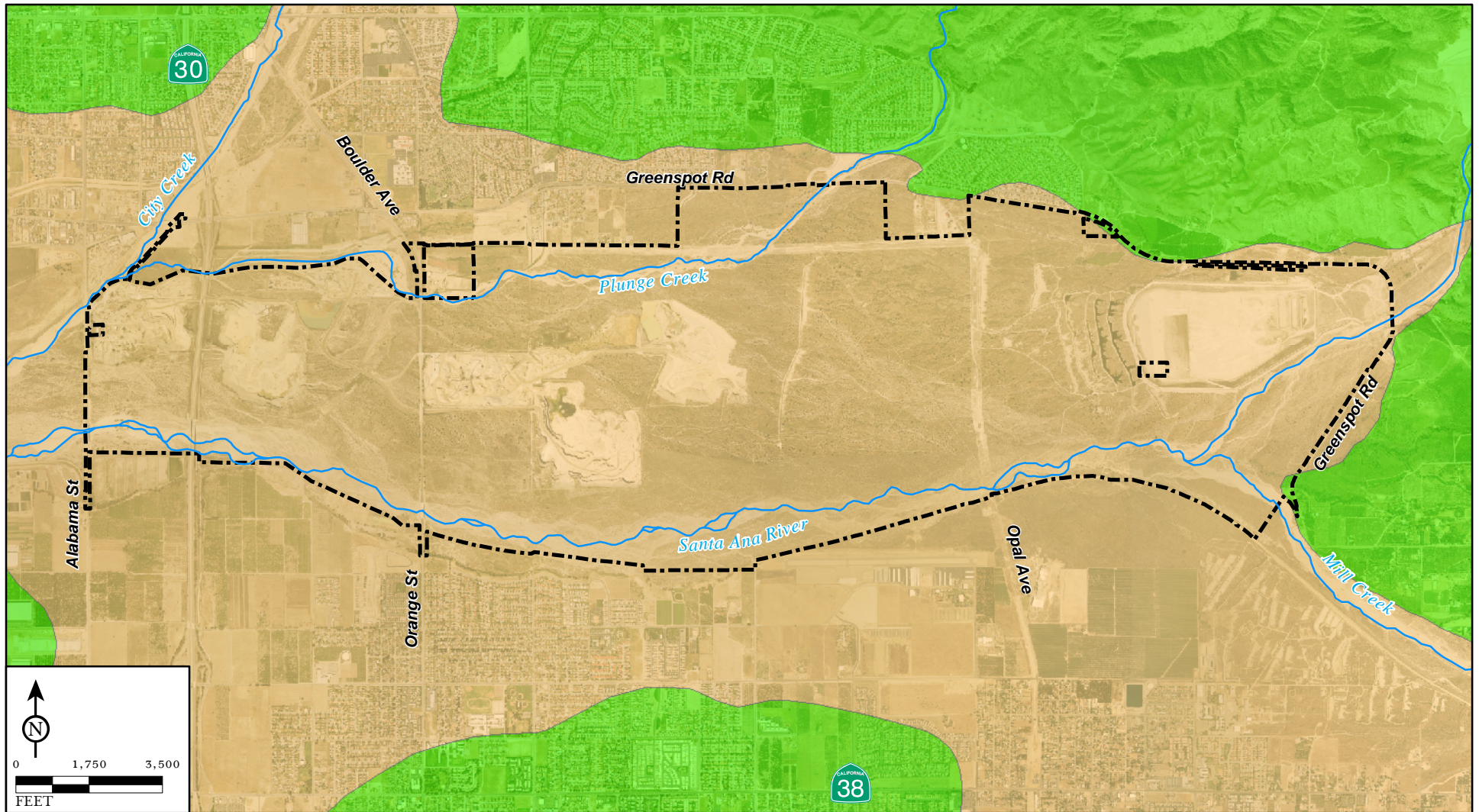
Existing Cemex Mining Operations

Cemex currently leases approximately 1,290 acres within the Planning Area of which 1,070 acres of land is leased from District and 220 acres of land is leased from the City of Redlands for excavation of aggregate materials. Generally located east of Orange Street-Boulder Avenue and on both sides of SR-30, existing disturbed mining areas consist of 540 acres and are divided among seven quarries and one processing plant. The existing mining operations include the excavation of raw aggregate materials, the stockpiling of materials and the processing of the raw aggregate. Table 4.10.A identifies existing Cemex mining and processing areas.

¹ Aggregate products are used in almost all building construction and in most public works projects such as roadways, bridges, dams, water and sewer facilities, airports and in the maintenance of these structures and facilities. Products in which aggregate is the principal component include Portland cement concrete, asphalt concrete, road base, road subbase, fill, riprap, and decorative uses.




² The MRZ-2 land classification is applied to land in which adequate information indicates that significant mineral deposits are present or it is judged that there is a high likelihood that their presence exists.

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FIGURE 4.10.1

-  PLAN BOUNDARY
-  ZONE MRZ-2 - AREA CONTAINING SIGNIFICANT MINERAL DEPOSITS
-  ZONE MRZ-3 - AREA CONTAINING UNDETERMINED MINERAL DEPOSITS

*Upper Santa Ana River Wash
Land Management Plan
Environmental Impact Report*

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Table 4.10.A – Cemex Existing Mining and Processing Areas

Mine Area	Existing Disturbed Area (acres)	Jurisdiction (City)
Johnson North	53	Highland
Johnson South	56	Redlands
Redlands Aggregate North	58	Highland
Redlands Aggregate South	78	Redlands
Orange Street Plant	84	Redlands
Alabama Street Northwest	73	Redlands
Alabama Street Southeast	69	Redlands
Alabama Street Northeast	69	Highland
Total	540	

Source: *Mine and Reclamation Plan for the Upper Santa Ana River Wash Aggregate Lands to be Operated by Cemex Construction Materials L.P.*, prepared by Lilburn Corporation, March 2006.

Cemex processes aggregates at both its Alabama Street and Orange Street processing plants and currently has an average annual production rate of 2.5 million tons per year (MTPY). Current Cemex mining activities operate in accordance with permits issued by the City of Highland and the City of Redlands. Each pit area has been assigned a mining permit with differing requirements. Table 4.10.B identifies current permits held by Cemex and the permit and depth limitations of each pit area.

Table 4.10.B – Existing Cemex Mining and Processing Permits

Site / CA Mine ID #	Permit Number	Permitting Agency	Permit Issuance Date	Permit Expiration Date	Maximum Depth of Excavation (feet)	Maximum Production Rate (tons per year)
Johnson North / #91-36-0069	MR Plan 99-001 CUP-00-006	City of Highland	6/6/00	Not stated	Not stated	Not applicable
Johnson South / #91-36-0069	CUP 692	City of Redlands	10/12/99	Not applicable	80	Not applicable
Redlands Aggregate North / #91-36-0070	NHSA/84-0094/E289-81 (85M-04)	County of San Bernardino	8/6/85	6/30/2045	70	1 million
Redlands Aggregate South / #91-36-0070	CUP 693	City of Redlands	12/14/99	Not applicable	120	Not applicable
Orange Street Mine and Plant / #91-36-0088	SMARA/84-0133/E281-85, 85M-08	County of San Bernardino	12/01/85	9/30/2065	70	350,000 ¹
Alabama Street Northwest / #91-36-0068	CUP 694	City of Redlands	10/12/99	Not applicable	150	Not applicable
Alabama Street Southeast / #91-36-0162	CUP 733	City of Redlands	8/14/01	Not applicable	120	Not applicable

Table 4.10.B – Existing Cemex Mining and Processing Permits

Site / CA Mine ID #	Permit Number	Permitting Agency	Permit Issuance Date	Permit Expiration Date	Maximum Depth of Excavation (feet)	Maximum Production Rate (tons per year)
Alabama Street Northeast	SMARA 02-001	City of Highland	5/20/03	5/31/2025	150	Not applicable

Notes: ¹ Revised contract was issued in August 1990 that increased maximum production rate from 350,000 tons per year to 4 million tons per year.

Source: E-mail communication from Marty Derus, Lilburn Corporation, e-mail dated February 9, 2007.

Existing Robertson's Mining Operations

Robertson's owns approximately 254 acres of land within the Planning Area that are currently devoted to mining operations, which include processing facilities, haul roads, and other ancillary facilities such as supporting offices and receiving areas. In addition to these lands, Robertson's leases approximately 240 acres of land from the District. As indicated in Table 4.10.C, 288 acres of land currently utilized by Robertson's mining activities are divided among two quarries, an aggregate processing plant, a ready-mix facility, and a silt pond. Robertson's currently excavates its raw aggregate materials from the Old Webster Pit area. Aggregate processing is conducted at its East Basin plant and Robertson's operates a ready-mix concrete batch plant at its West Basin area. Robertson's is authorized through land use approvals to extract 2 MTPY.

Table 4.10.C – Robertson's Existing Mining and Processing Areas

Mine Area	Existing Disturbed Area (acres)	Jurisdiction (City)
Old Webster Quarry	149	Redlands
Silt Pond Quarry	43	Highland and Redlands
Plunge Creek Quarry	13	Highland
West Basin	33	Highland
East Basin	36	Highland
Silt Pond	13	Highland
Total	288	

Source: *Mine and Reclamation Plan for the Upper Santa Ana River Wash Aggregate Lands to be Operated by Robertson's Ready Mix*, prepared by Lilburn Corporation, March 2006.

Current Robertson's mining activities operate in accordance with permits issued by the City Redlands and the County of San Bernardino. Each pit area has been assigned a mining permit with different requirements occurring among the various permits. Table 4.10.D identifies current permits held by Robertson's and permit and depth limitation requirements of each mining area.

Table 4.10.D – Existing Robertson's Mining and Processing Permits

Site / CA Mine #	Permit Number	Permitting Agency	Permit Issuance Date	Permit Expiration Date	Maximum Depth of Excavation (feet)	Maximum Production Rate (tons per year)
Old Webster Quarry / #91-36-0073	CUP 597 Rev No. 2	City of Redlands	11/24/01	12/31/2029	120	2 million

Table 4.10.D – Existing Robertson's Mining and Processing Permits

Site / CA Mine #	Permit Number	Permitting Agency	Permit Issuance Date	Permit Expiration Date	Maximum Depth of Excavation (feet)	Maximum Production Rate (tons per year)
Plunge Creek Basins (including East Basin Plant) / #91-36-0072	SAMR/85-0069/E273-81 (86M-03)	County of San Bernardino	4/86	6/30/2010	50	400,000
Haul Road	CACA 25557	BLM	1992	4/16/2022	Not applicable	Not applicable
East Basin Silt Ponds	CACA 36490	BLM	12/5/96	12/31/07	Not applicable	Not applicable
Highland Plant	CUP SA80-0038/E274-82	City of Highland	5/28/80	Not applicable	Not applicable	Not applicable
Plunge Creek	CACA 19146	BLM	8/21/96	12/31/07	Not applicable	Not applicable

Source: Email communication from Marty Derus, Lilburn Corporation, email dated February 9, 2007.

4.10.2 Policies and Regulations

Policies and regulations for mining resources include the following:

- *City of Highland General Plan Update*;¹
- *City of Redlands 1995 General Plan*;² and
- Surface Mining and Reclamation Act (SMARA).

City of Highland General Plan Update

Goal 2.7 of the Land Use Element and its associated Policy 3 contained in the *City of Highland General Plan Update* apply to the protection of mineral resources.

Goal 2.7 Encourage natural resource and open space preservation through appropriate land use policies that recognize their value and through the conservation of areas required for the protection of public health and safety.

Policy 3 Permit mineral extraction activities and expansion of existing operations only where the following findings can be made:

- Potential significant impacts related to loss of significant biological resources have been mitigated to an acceptable level, as have potential significant impacts of noise, air pollutant emissions, dust, and hazardous materials.
- Significant impacts will not be created on lands used or planned for residential use.
- Public health and safety will be protected.
- Haul routes have been identified, and will be utilized, which will not create significant impacts within residential areas and will not negatively impact access into commercial/industrial areas.
- The municipal revenue-generating characteristics of the proposed operation are such that a positive fiscal benefit will accrue to the City of Highland and to its residents.

¹ *City of Highland General Plan Update*, City of Highland, updated March 14, 2006.

² *City of Redlands 1995 General Plan*, City of Redlands, as amended on December 12, 1997.

- The analysis of fiscal benefits shall account for the incremental capital and maintenance costs for the area circulation system created by the high intensity of truck use associated with the operation.

City of Redlands General Plan

The following policies contained in the Open Space and Conservation Element of the *City of Redlands 1995 General Plan* apply to the protection of mineral resources.

- Policy 7.21s** Coordinate aggregate resource extraction with habitat preservation and protection of plant and animal species.
- Policy 7.42a** Conserve sufficient aggregate resources to allow conversion of two 50-year supplies (approximately 2,400 acres) of aggregate reserves to meet the Planning Area's [City of Redlands'] contribution to future regional needs.
- Policy 7.42b** Manage aggregate resources to ensure that extraction results in the fewest environmental impacts. Require preparation and assured implementation of a reclamation plan for aggregate extraction sites as a condition of approval of mining.
- Policy 7.42d** Clearly identify mineral resource areas, those areas targeted for conversion to reserves for possible future extraction, and areawide aggregate transportation routes. Coordinate aggregate resource extraction with habitat preservation and protection of plant and animal species.
- Policy 7.42f** Deny approval of surface mining permits at locations where unmitigated adverse impacts would be significantly greater than at alternative locations with the San Bernardino Consumption Region.

Surface Mining and Reclamation Act

The Surface Mining and Reclamation Act of 1975 (SMARA) requires classification of land into mineral resources zones (MRZs) according to the known or inferred mineral potential of the area. Construction aggregate resources (sand and gravel) deposits were the first commodity selected for classification by the State Mining and Geology Board. Once mapped, the State Mining and Geology Board is required to designate for future use those areas that contain aggregate deposits that are of prime importance in meeting the region's future need for construction-quality aggregates. There are three key objectives of SMARA regulations:

- Adverse environmental effects are prevented or minimized, and mined lands are reclaimed to a usable condition that is readily adaptable for alternative uses;
- The production and conservation of minerals are encouraged, while consideration is given to values relating to recreation, watershed, wildlife, range and forage, and aesthetic enjoyment; and
- Residual hazards to the public health and safety are eliminated.

To obtain the authority to mine in a specific area, the SMARA requires that three main conditions are met by the surface mining entity prior to the initiation of mining:

- A permit must be obtained;
- A reclamation plan must be submitted and approved; and
- Financial assurances for reclamation must be approved from the Lead Agency for the area to be mined.

The SMARA provides guidance for the development of the elements to be included in a reclamation plan that is to be submitted for Lead Agency approval, which for the proposed project are the City of

Highland and the City of Redlands. The primary objective of the SMARA is for each jurisdiction to develop policies that will conserve important mineral resources, where feasible, that might otherwise be unavailable when needed. The SMARA requires that once policies are adopted, local agency land use decisions must be in accordance with its mineral resource management policies. These decisions must also balance the mineral value of the resource to the market region as a whole, not just their importance to the local jurisdiction.

4.10.3 Thresholds of Significance

The following thresholds of significance regarding impacts to mineral resources are based on the recommended questions contained in *Guidelines for California Environmental Quality Act* (as amended December 1, 2006). A project would have a significant impact on mineral resources if it resulted in the following:

- The loss of availability of a known mineral resource that would be of value to the region and the residents of the State; and/or
- The loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plans.

The CEQA requires that an EIR discuss and analyze the project's incremental effect to determine if the effects are cumulatively considerable. The discussion of cumulative impacts must reflect the severity of the impacts and the likelihood of their occurrence; however, the discussion need not be as detailed as the discussion of environmental impacts attributable to the project alone. In addition, the discussion must demonstrate practicality and reasonableness.

The cumulative area for mineral resources is the San Bernardino Production-Consumption Region (Figure 4.10.2). Within this area, the project proposes to expand existing mining operations, adjacent to existing quarries, by some 363 acres. In this sense, additional reserves are cleared for mining and regional use, and the project results in an increase, rather than a loss, of available mining reserves.

4.10.4 Impacts Analysis

4.10.4.1 Loss of Statewide or Regional Mineral Resources

Threshold	Would the proposed 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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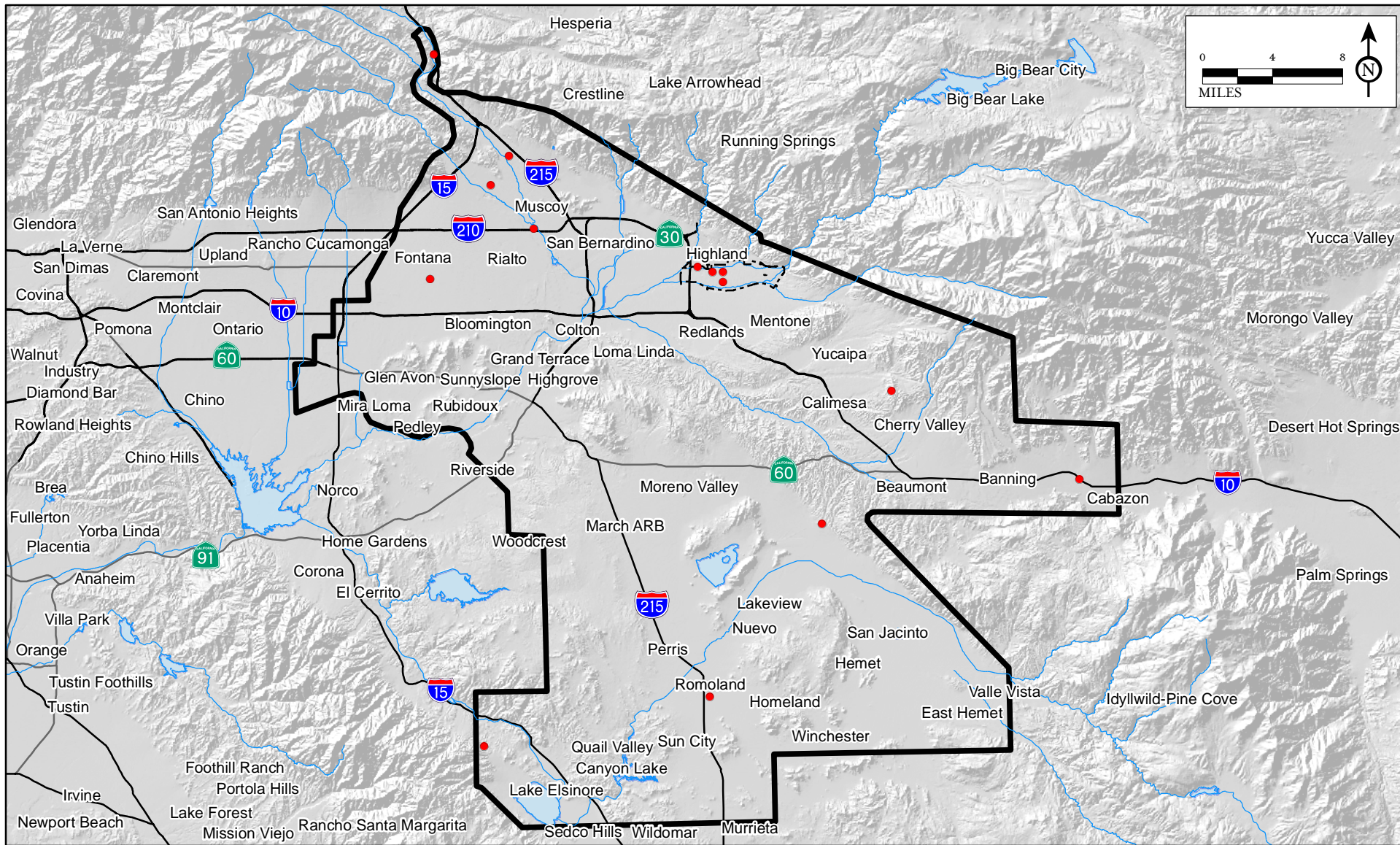
The Planning Area is classified as an MRZ-2 zone, which is an area where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood exists for their presence. Much of the Planning Area contains high quality alluvial deposits of sand and gravel associated with the Santa Ana River Floodplain. The State of California, Department of Conservation has classified and designated these sand and gravel deposits as a regionally significant¹ source of construction aggregate for the rapidly developing areas of San Bernardino and Riverside Counties.

In 2005, the production of 176.4 million tons of sand and gravel material in California was valued at approximately 1.27 billion dollars.² Cemex and Robertson's mining production currently occurs on 832 acres within the Planning Area and averages 4 to 5 million tons of sand and gravel per year. Current production within the Planning Area accounts for approximately 2 percent of the total production of sand

¹ "Area of regional significance" means an area that is known to contain a deposit of minerals, the extraction of which is judged to be of prime importance in meeting the future needs for minerals in a particular region of the state within which the minerals are located and which, if prematurely developed for alternate incompatible land uses, could result in the permanent loss of minerals that are of more than local significance.

² *California Non-Fuel Mineral Production 2005*, Department of Conservation, California Geological Survey, by Susan Kohler, Senior Geologist, California Geological Survey, http://www.consrv.ca.gov/CGS/geologic_resources/mineral_production/index.htm, October 30, 2006.

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FIGURE 4.10.2

- PLAN BOUNDARY
- SAN BERNARDINO PRODUCTION-CONSUMPTION REGION BOUNDARY
- MINE LOCATION

*Upper Santa Ana River Wash
Land Management Plan
Environmental Impact Report*

SOURCES: ESRI, 2004, San Bernardino Water Conservation District; California Dept. of Conservation Division of Mines and Geology, 1987

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Mineral Resource Cumulative Impact Area

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and gravel in California. Lands adjacent to existing sand and gravel mining operations are anticipated to contain a similar quantity and quality of sand and gravel found in existing mining operations.

The availability of aggregate for concrete, asphalt and other building materials to construct new buildings, homes, and infrastructure at a competitive price is a key element of the local economy. The Planning Area has extensive natural sand and gravel resources for highway and building construction necessary to supporting the economy of the Inland Empire. In 1987, the State of California Department of Conservation, Division of Mines and Geology identified the high quality of aggregate resources in the Planning Area as one of the best aggregate deposits in the State.¹ It was also noted that adjacent regions in Orange, Los Angeles, and Riverside Counties had lesser reserves and would likely need to import aggregates from the San Bernardino Valley to meet their local needs, which adds to the extended regional importance of aggregate resources in the Inland Empire. According to the report, "Aggregate Availability in California," (DOC 2006) the San Bernardino production-consumption region has permitted aggregate reserves of 262 million tons as compared to the 50-year demand of 1,074 million tons. This equates to a 12-year supply of permitted aggregate reserves or only 24 percent of the estimated 50-year demand. This demand is based on population forecast data prepared by the California Department of Finance using U.S. Census data. The proposed project would provide approximately an additional 140 million tons of aggregate reserves or about 17 percent of the 50-year demand.

It is State policy that when a designation of statewide or regional significance is made within its jurisdictions, a local community shall establish mineral resources management policies to be incorporated in General Plans to assist in management of land use and emphasize the conservation and development of those identified mineral deposits.² It is State policy to protect the availability of those resources needed to support economic development in the region. Currently, aggregate mining in the Planning Area is near areas where aggregate is needed, which reduces the transportation cost of the raw aggregate and end products of ready-mix concrete and asphalt; this, in turn, affects construction costs. The need to provide areas within the Planning Area for the availability of aggregate reserves to meet the expected demand is vital to the local and regional economy.

Water Conservation Operations/Maintenance Activities of the District

With implementation of the proposed project, the amount of land that would be set aside for water conservation would be reduced. However, this amount of land would be used for habitat conservation. Although water conservation activities are located in an area identified as containing significant mineral resources, land set aside for water conservation has already been designated for such activities and are no longer considered to be viable mining areas by the City of Highland and the City of Redlands. Therefore, impacts are less than significant and no mitigation is required.

Cumulative. Cumulatively, existing water conservation activities of the District would not contribute to the loss of mineral resources as activities consist of maintaining existing infrastructure. Measured against existing baseline of actual and permitted mining operations, the project does not reduce aggregate mining, but instead expands it. On a cumulative basis, however, the project involves designation of areas containing potentially significant aggregate reserves, and reserves them to non-mining uses. This impact, combined with potential development of other projects inside the San Bernardino production-consumption region, may result in a cumulative loss of availability of mineral resources. While there may be some question regarding the practical ability to permit those portions of the region's aggregate reserves located within the Planning Area, under existing regulatory constraints for mining, the cumulative removal of reserves from the possibility of mining still commits areas containing aggregate to non-mining uses. Such areas that would be lost to future potential mineral exploitation cannot be mitigated. Therefore, the project, in conjunction with other identified cumulative projects, would have a cumulatively significant impact on the availability of mineral resources.

¹ CDMG Special Report 143, State of California Department of Conservation, Division of Mines and Geology, 1987.

² SMARA Note 26, Article 4, revised January 1997.

Flood Control Operations/Maintenance Activities of the SBCFCD

Flood control activities currently occur within the Planning Area and are anticipated to continue with implementation of the proposed project. Since there would be no change to flood control activities within the Planning Area, there would be no change to the loss of land identified as containing mineral resources. Therefore, no impacts associated with this issue would occur and no mitigation is required.

Cumulative. Cumulatively, flood control operations would not contribute to the loss of mineral resources as existing and flood control activities consist of maintaining existing infrastructure. Measured against existing baseline of actual and permitted mining operations, the project does not reduce aggregate mining, but instead expands it. On a cumulative basis, however, the project involves designation of areas containing potentially significant aggregate reserves, and reserves them to non-mining uses. This impact, combined with potential development of other projects inside the San Bernardino production-consumption region, may result in a cumulative loss of availability of mineral resources. While there may be some question regarding the practical ability to permit those portions of the region's aggregate reserves located within the Planning Area, under existing regulatory constraints for mining, the cumulative removal of reserves from the possibility of mining still commits areas containing aggregate to non-mining uses. Such areas that would be lost to future potential mineral exploitation cannot be mitigated. Therefore, the project, in conjunction with other identified cumulative projects, would have a cumulatively significant impact on the availability of mineral resources.

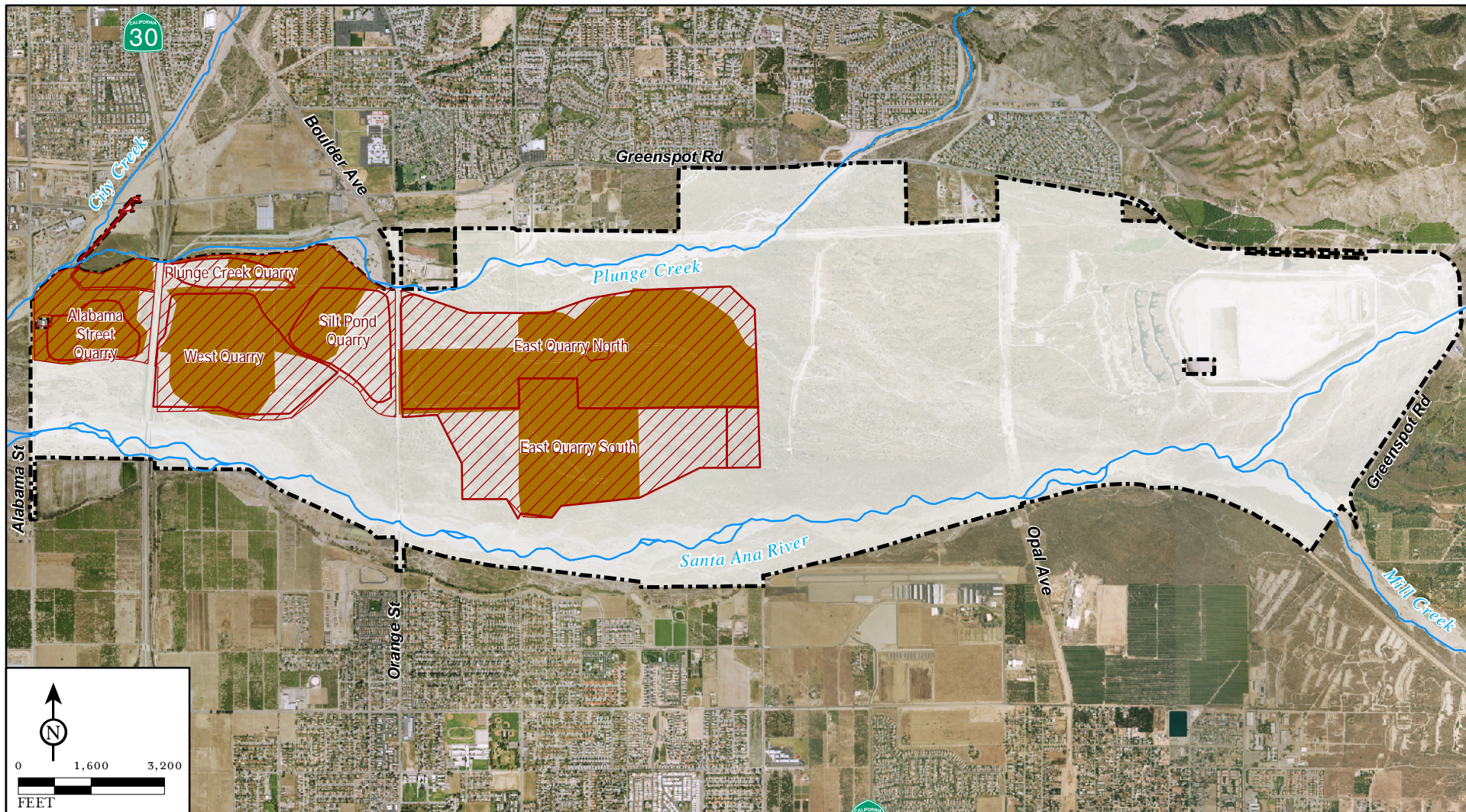
Water Production Operations/Maintenance Activities of the EVWD and RMUD

Water production activities currently occur within the Planning Area. Implementation of the proposed project would not change existing water production activities. Therefore, impacts associated with this issue would be less than significant, as existing baseline conditions would remain in effect. No mitigation would be required.

Cumulative. Cumulatively, water production operations would not contribute to the loss of mineral resources as the water production component consists of maintaining existing infrastructure. Measured against existing baseline of actual and permitted mining operations, the project does not reduce aggregate mining, but instead expands it. On a cumulative basis, however, the project involves designation of areas containing potentially significant aggregate reserves, and reserves them to non-mining uses. This impact, combined with potential development of other projects inside the San Bernardino production-consumption region, may result in a cumulative loss of availability of mineral resources. While there may be some question regarding the practical ability to permit those portions of the region's aggregate reserves located within the Planning Area, under existing regulatory constraints for mining, the cumulative removal of reserves from the possibility of mining still commits areas containing aggregate to non-mining uses. Such areas that would be lost to future potential mineral exploitation cannot be mitigated. Therefore, the project, in conjunction with other identified cumulative projects, would have a cumulatively significant impact on the availability of mineral resources.




Aggregate Mining

As illustrated in Figure 4.10.3, with the implementation of the proposed project, an additional 363 acres would be devoted to mining uses, bringing the total mining area to approximately 1,195 acres. Planned mining uses for Cemex operations are identified in Table 4.10.E. With the implementation of the proposed project, Cemex operations would expand to 678 acres, with 135 of those acres being newly mined. The expansion includes combining existing and former quarries into three large quarries. The existing 73-acre Alabama Street Quarry would be reduced by 1 acre, resulting in a total of 72 acres. The proposed new West Quarry would encompass a total of 186 acres and would contain two existing active quarries: Alabama Street Southeast (69 acres) and Alabama Street Northeast (69 acres), plus the



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FIGURE 4.10.3

-  PLAN BOUNDARY
-  EXISTING AGGREGATE MINING AREA
-  PROPOSED AGGREGATE MINING AREA

*Upper Santa Ana River Wash
Land Management Plan
Environmental Impact Report*

SOURCES: San Bernardino Valley Water Conservation District, San Bernardino County, Santa Ana Watershed Project Authority, AirPhotoUSA (2007)

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Aggregate Mining

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planned Alabama Street East Quarry (43 acres). The proposed new East Quarry North would encompass 420 acres and include Johnson North, Johnson South, Redlands Aggregate North, and Redlands Aggregate South Quarries in addition to the Orange Street Plant, the Redlands Aggregate Southeast, and the Orange Street North.

Table 4.10.E – Cemex Proposed Mining Operations

Mining Site	Proposed Site Name	Existing Disturbed Area (Acres)	New Area (Acres)*	Total Area (Acres)
Johnson North	East Quarry North	53	6	59
Johnson South	East Quarry North	56	2	58
Redlands Aggregate North	East Quarry North	58	17	75
Redlands Aggregate South	East Quarry North	78	-1	77
Redlands Aggregate Southeast	East Quarry North	Not Applicable	21	21
Orange Street Plant	East Quarry North	84	-8	76
Orange Street North	East Quarry North	Not Applicable	54	54
Alabama Street Northwest	Alabama Street Quarry	73	-1	72
Alabama Street Southeast	West Quarry	69	6	75
Alabama Street Northeast	West Quarry	69	-1	68
Alabama Street East	West Quarry	Not Applicable	43	43
Total		540	138	678

* A negative number connotes a reduction from existing area.

Source: Draft Habitat Conservation Plan for Upper Santa Ana River, Dudek & Associates, Inc, July 2005.

As indicated in Table 4.10.F, with the implementation of the proposed project, Robertson's mining operations would expand to a total of 513 acres, with 225 of those acres being newly mined lands. Robertson's mining operations would be grouped into three general areas. East Quarry South (290 acres) would be created by merging the following:

- Existing Old Webster Quarry (150 acres);
- New Old Webster Quarry West (70 acres); and
- New Old Webster Quarry East (58 acres).

Table 4.10.F – Robertson's Proposed Mining Operations

Mining Site	Proposed Site Name	Existing Disturbed Area (Acres)	New Area (Acres)*	Total Area (Acres)
Old Webster Quarry	East Quarry South	150	14	162
Old Webster Quarry West	East Quarry South	—	70	70
Old Webster Quarry East	East Quarry South	—	58	58
Silt Pond Quarry	Silt Pond/Plunge Creek Quarry	43	55	98
Plunge Creek Quarry	Silt Pond/Plunge Creek Quarry	13	25	38
West Basin	Facilities	33	3	36
East Basin	Facilities	36	0	36
Silt Pond	Facilities	13	0	13
Total		288	225	513

* A negative number connotes a reduction from existing area.

Source: Draft Habitat Conservation Plan for Upper Santa Ana River, Dudek & Associates, Inc, July 2005.

For the purpose of this analysis, Silt Pond Quarry and Plunge Creek are grouped together to form a 137-acre area with Silt Pond Quarry encompassing 98 acres and Plunge Creek Quarry encompassing 38 acres. The remaining 85 acres consisting of West Basin (36 acres), East Basin (36 acres), and Silt Pond (13 acres) would remain as processing facilities.

With the expansion of the area of mining, production at Cemex and Robertson's operations would increase up to 6.0 million tons per year. Using the 2005 production amount of 176.4 million tons on a Statewide level, the amount of production that would result from the implementation of the proposed project would amount to 3.4 percent of the total production of sand and gravel in California. Because the proposed project would increase sand and gravel aggregate production, no loss of statewide or regional mineral resources would occur. As a result, no significant impact with respect to this issue would occur. In fact, there would be a beneficial impact with regard to providing an increased amount of sand and gravel aggregate to the communities in the San Bernardino Valley.

Implementation of the proposed project would also result in the construction of a new access road and the continued maintenance of existing access roads. The construction of a new access road would supplement current and future mineral extraction activities in the Planning Area. The construction of the new access road would be within an area that has already been mined and is already a designated part of the internal circulation of existing mineral extraction activities. Therefore, impacts associated with this issue would be less than significant and no mitigation is required.

Cumulative. Cumulatively, the aggregate mining component would not contribute to the loss of mineral resources as the component actually increases the amount of area that would be mined for aggregate materials. Measured against existing baseline of actual and permitted mining operations, the project does not reduce aggregate mining, but instead expands it. On a cumulative basis, however, the project involves designation of areas containing potentially significant aggregate reserves, and reserves them to non-mining uses. This impact, combined with potential development of other projects inside the San Bernardino production-consumption region, may result in a cumulative loss of availability of mineral resources. While there may be some question regarding the practical ability to permit those portions of the region's aggregate reserves located within the Planning Area, under existing regulatory constraints for mining, the cumulative removal of reserves from the possibility of mining still commits areas containing aggregate to non-mining uses. Such areas that would be lost to future potential mineral exploitation cannot be mitigated. Therefore, the project, in conjunction with other identified cumulative projects, would have a cumulatively significant impact on the availability of mineral resources.

Adoption of General Plan Amendments

With the adoption of the General Plan Amendments, the different project components analyzed in this section would occur. It is anticipated that each of the project components would have a less than significant impact associated with implementation of the proposed project. Therefore, no mitigation measures would be required.

Cumulatively, the adoption of the General Plan Amendments would not result in the loss of regionally significant mineral resources as the adoption of the General Plan Amendments is considered to be an administrative process. Measured against existing baseline of actual and permitted mining operations, the project does not reduce aggregate mining, but instead expands it. On a cumulative basis, however, the project involves designation of areas containing potentially significant aggregate reserves, and reserves them to non-mining uses. This impact, combined with potential development of other projects inside the San Bernardino production-consumption region, may result in a cumulative loss of availability of mineral resources. While there may be some question regarding the practical ability to permit those portions of the region's aggregate reserves located within the Planning Area, under existing regulatory constraints for mining, the cumulative removal of reserves from the possibility of mining still commits areas containing aggregate to non-mining uses. Such areas that would be lost to future potential mineral exploitation cannot be mitigated. Therefore, the project, in conjunction with other identified cumulative projects, would have a cumulatively significant impact on the availability of mineral resources.

Roadways/Bridge Rights-of-Way

The ~~dedication~~ designation of additional rights-of-way for Greenspot Road, Greenspot Road Bridge, Alabama Street, and Orange Street-Boulder Avenue would occur near the existing roadways. Given the physical, environmental, and economical feasibility and constraints associated with mining the area directly adjacent to these existing circulation features, the loss of ~~30~~ 47 acres to additional rights-of-way would have a less than significant impact when compared against the total amount of land within the Planning Area (4,467 acres). Since a less than significant impact would occur, no mitigation would be required.

Cumulative. Cumulatively, the ~~dedication~~ designation of roadway/bridge rights-of-way would not result in the loss of regionally significant mineral resources as the ~~dedication~~ designation of roadway/bridge rights-of-way is considered to be an administrative process. Measured against existing baseline of actual and permitted mining operations, the project does not reduce aggregate mining, but instead expands it. On a cumulative basis, however, the project involves designation of areas containing potentially significant aggregate reserves, and reserves them to non-mining uses. This impact, combined with potential development of other projects inside the San Bernardino production-consumption region, may result in a cumulative loss of availability of mineral resources. While there may be some question regarding the practical ability to permit those portions of the region's aggregate reserves located within the Planning Area, under existing regulatory constraints for mining, the cumulative removal of reserves from the possibility of mining still commits areas containing aggregate to non-mining uses. Such areas that would be lost to future potential mineral exploitation cannot be mitigated. Therefore, the project, in conjunction with other identified cumulative projects, would have a cumulatively significant impact on the availability of mineral resources.

Recreational Trail Rights-of-Way

The ~~dedication~~ designation of trails within the Planning Area would occur along existing maintenance roads, rights-of-way, and old rail lines. Since these features currently exist, the ~~dedication~~ designation of trails would not result in the loss of additional land for mineral resources. Therefore, no impacts associated with this issue would occur and no mitigation is required.

Cumulative. Cumulatively, the ~~dedication~~ designation of trail rights-of-way would not result in the loss of regionally significant mineral resources as the ~~dedication~~ designation of trail rights-of-way is considered to be an administrative process. Additionally, the trails would be located on existing roadways, railway beds, and other infrastructure. Measured against existing baseline of actual and permitted mining operations, the project does not reduce aggregate mining, but instead expands it. On a cumulative basis, however, the project involves designation of areas containing potentially significant aggregate reserves, and reserves them to non-mining uses. This impact, combined with potential development of other projects inside the San Bernardino production-consumption region, may result in a cumulative loss of availability of mineral resources. While there may be some question regarding the practical ability to permit those portions of the region's aggregate reserves located within the Planning Area, under existing regulatory constraints for mining, the cumulative removal of reserves from the possibility of mining still commits areas containing aggregate to non-mining uses. Such areas that would be lost to future potential mineral exploitation cannot be mitigated. Therefore, the project, in conjunction with other identified cumulative projects, would have a cumulatively significant impact on the availability of mineral resources.

Land Exchange between the District and the BLM

The District's land exchange with the BLM is intended to facilitate mining on portions of the BLM land to be transferred to the Water District, the effects of which are discussed under "Aggregate Mining" above. The land exchange will also designate lands presently leased for mineral extraction to managed habitat, water conservation, and potential future water conservation facility areas. The designation of the former leased properties to non-aggregate mining uses does, in a sense, cause an

impact of loss of aggregate reserves. As noted against environmental baseline, however, these areas are not presently being mined, and under prevailing regulatory constraints there is some question whether they could be mined, absent the consolidated permitting effort which constitutes this project. Since much of this area has already been planned for habitat conservation activities, these lands are not considered to be viable mining areas by the City of Highland and City of Redlands. Therefore, impacts of the project to aggregate reserves which are likely to be mined are less than significant, and no mitigation is required.

Cumulative. Cumulatively, the land exchange between the District and the BLM would not result in the loss of regionally significant mineral resources as land exchanges are considered to be an administrative process. Measured against existing baseline of actual and permitted mining operations, the project does not reduce aggregate mining, but instead expands it. On a cumulative basis, however, the project involves designation of areas containing potentially significant aggregate reserves, and reserves them to non-mining uses. This impact, combined with potential development of other projects inside the San Bernardino production-consumption region, may result in a cumulative loss of availability of mineral resources. While there may be some question regarding the practical ability to permit those portions of the region's aggregate reserves located within the Planning Area, under existing regulatory constraints for mining, the cumulative removal of reserves from the possibility of mining still commits areas containing aggregate to non-mining uses. Such areas that would be lost to future potential mineral exploitation cannot be mitigated. Therefore, the project, in conjunction with other identified cumulative projects, would have a cumulatively significant impact on the availability of mineral resources.

Land Exchange between the SBCFCD and Robertson's

The SBCFCD land exchange with Robertson's will allow mining activities to take place on property currently owned by the SBCFCD and habitat preservation to occur on land that is currently owned by Robertson's. There will be no changes associated with the property to become habitat. However, since this land would be set aside for habitat conservation, restrictions on aggregate mining would occur due to the presence of sensitive habitat and would result in a loss of availability of known mineral resources. The land exchange would result in both the preservation of better quality habitat and the expansion of mineral extraction on already disturbed land. With implementation of the proposed project, there would not be a net loss of aggregate production but an increase as more production would occur. Therefore, impacts are less than significant and no mitigation is required.

Cumulative. Cumulatively, the land exchange between the SBCFCD and Robertson's would not result in the loss of regionally significant mineral resources as land exchanges are considered to be an administrative process. However, development of other projects within the San Bernardino Production-Consumption Region may result in a loss of statewide or regional significant mineral resources. While there may be some question regarding the practical ability to permit these areas under existing regulatory constraints for mining, these cumulative projects would still commit areas containing aggregate to uses other than mining, and they will be lost to future potential mineral exploitation, which cannot be mitigated. Therefore, the land exchange between the SBCFCD and Robertson's in conjunction with other identified cumulative projects would have a cumulatively significant impact on mineral resources.

4.10.4.2 Loss of Locally Important Mineral Resources

Threshold	Would the proposed 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 plans?
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Loss of access to mineral resources would result from the conversion of lands underlain by these resources to other uses, or within close proximity to the resources, such that the implementation of the project would restrict or eliminate safe and environmentally sound measures to implement

extractive operations. The loss of access to mineral resources for the purpose of future extraction could be considered to be primarily an economic issue. According to *CEQA Guidelines* Section 15131(a), purely economic impacts are not considered physical environmental impacts.

As previously discussed, the entire Planning Area is classified with an MRZ-2 designation, indicating that significant mineral deposits are present within the Planning Area. The Planning Area encompasses an area approximately 4,467 acres in size. Of these, 1,195 acres, or 27 percent, would be devoted to aggregate mining activities (832 existing acres and 363 additional acres). The remaining 3,272 acres, or 73 percent, would be devoted to land uses other than aggregate mining (habitat preservation, water conservation, trails, flood control, etc.). The implementation of the proposed project would remove 3,272 acres of potential mineral resource area from mining activities.

Water Conservation Operations/Maintenance Activities of District

Although 749 740 acres would be precluded from mineral extraction activities, these lands have already been utilized and designated for water conservation and are no longer considered viable mining areas by the Cities of Highland and Redlands. Therefore, impacts associated with this issue are less than significant and no mitigation measures are required.

Cumulative. Cumulatively, existing water conservation activities of the District would not contribute to the loss of mineral resources as activities consist of maintaining existing infrastructure. However, development of other projects inside the San Bernardino Production-Consumption Region, including future water conservation activities, may result in a loss of locally significant mineral resources. While there may be some question regarding the practical ability to permit these areas under existing regulatory constraints for mining, these cumulative projects would still commit areas containing aggregate to uses other than mining. Such areas that would be lost to future potential mineral exploitation cannot be mitigated. Therefore, the water conservation component in conjunction with other identified cumulative projects would have a cumulatively significant impact on local mineral resources.

Flood Control Operations/Maintenance Activities of the SBCFCD

The reduction of flood control land by 68 acres would not significantly change flood control activities with implementation of the proposed project, and no impacts associated with the loss of locally important mineral resources would occur and no mitigation would be required.

Cumulative. Cumulatively, flood control operations would not contribute to the loss of mineral resources as existing and flood control activities consist of maintaining existing infrastructure. However, development of other projects inside the San Bernardino Production-Consumption Region may result in a loss of local mineral resources. While there may be some question regarding the practical ability to permit these areas under existing regulatory constraints for mining, these cumulative projects would still commit areas containing aggregate to uses other than mining, and they will be lost to future potential mineral exploitation, which cannot be mitigated. Therefore, the flood control component in conjunction with other identified cumulative projects would have a cumulatively significant impact on local mineral resources.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Water production activities currently occur within the Planning Area. With the implementation of the proposed project, it is anticipated that existing water production activities would continue in a similar manner as they currently exist. Therefore, no impacts associated with this issue would occur as existing baseline conditions would remain in effect. No mitigation would be required.

Cumulative. Cumulatively, water production operations would not contribute to the loss of mineral resources as the water production component consists of maintaining existing infrastructure. However, development of other projects inside the San Bernardino Production-Consumption Region may result in a loss of locally significant mineral resources. While there may be some question regarding the practical ability to permit these areas under existing regulatory constraints for mining, these cumulative projects would still commit areas containing aggregate to uses other than mining, and they will be lost to future potential mineral exploitation, which cannot be mitigated. Therefore, the water production component in conjunction with other identified cumulative projects would have a cumulative impact on locally significant mineral resources.

Aggregate Mining

The development of the remaining 1,195 acres of the Planning Area with mining uses would be constrained by a number of environmental and land use factors. These constraints include the following:

- Property line and slope setbacks from adjacent roadways (e.g., Orange Street-Boulder Avenue and SR-30);
- Periodic mining depth limitations due to rising groundwater during high rainfall periods;
- Potential for headcutting¹ and upstream erosion of mining areas within active stream channels; and
- Presence of important biological habitat.

Implementation of the proposed project would result in the expansion of mining uses within the Planning Area. Cemex and Robertson's would devote an additional 140 acres of land in the City of Highland and 220 acres of land in the City of Redlands for mining purposes, as listed in Table 4.10.G.

Table 4.10.G – Existing and Proposed Mining Operations (acres)

Mining Area	City of Highland		City of Redlands		Total Area
	Existing Area	New Area	Existing Area	New Area	
Cemex					
East Quarry North ¹	112	76	220	12	420
Alabama Street Quarry ²	0	0	73	-1	72
West Quarry ³	69	-1	69	49	186
Subtotal	181	75	362	60	678
Robertson's					
East Quarry South ⁴	0	0	149	141	290
Silt Pond/Plunge Creek Quarry ⁵	35	65	21	16	137
Facilities ⁶	80	0	3	3	86
Subtotal	115	65	173	160	513
Other ⁷	0	0	4	0	4
TOTAL	296	140	539	220	1,195

Notes: ¹ Johnson North and South, Redlands Aggregate North, South, Southeast, Orange Street Plant, and Orange Street North.
² Alabama Street Northwest.
³ Alabama Street Southeast, Northeast, and East.
⁴ Old Webster Quarry, Old Webster Quarry West, and Old Webster Quarry East.
⁵ Silt Pond Quarry and Plunge Creek Quarry.
⁶ West Basin, East Basin, and Silt Pond.
⁷ Includes areas disturbed previously by mining companies other than Robertson's or Cemex.

¹ Headcutting is a process of streambed degradation triggered by a disturbance of loose streambed substrate.

The Cities of Highland and Redlands have adopted policies governing the extraction of mineral resources and reclamation of mined areas. Continued implementation of these regulations would allow for the mining of locally-important mineral resources. Because this additional land is situated in an area designated as having significant mineral resources and because the proposed project would result in the extraction of those resources, a less than significant impact is anticipated to occur with respect to a locally available and known mineral resource.

Implementation of the proposed project would also result in the construction of a new access road and the continued maintenance of existing access roads. The construction of a new access road would supplement current and future mineral extraction activities in the Planning Area. The construction of the new access road would be within an area that has been mined already and is already a designated part of the internal circulation of mineral extraction activities. Therefore, impacts associated with this issue would be less than significant and no mitigation is required.

Cumulative. Cumulatively, the aggregate mining component would not contribute to the loss of mineral resources as the component actually increases the amount of area that would be mined for aggregate materials. However, development of other projects inside the San Bernardino Production-Consumption Region may result in a loss of locally significant mineral resources. While there may be some question regarding the practical ability to permit these areas under existing regulatory constraints for mining, these cumulative projects would still commit areas containing aggregate to uses other than mining, and they will be lost to future potential mineral exploitation, which cannot be mitigated. Although the aggregate mining component would increase the area that would be mined, other identified cumulative projects would have a cumulatively significant impact on locally significant mineral resources.

Adoption of General Plan Amendments

With the adoption of the General Plan Amendments, the different project components analyzed in this section would occur. It is anticipated that each of the project components would have a less than significant impact associated with implementation of the proposed project. Therefore, no mitigation measures would be required.

Cumulative. Cumulatively, the adoption of the General Plan Amendments would not result in the loss of locally significant mineral resources as the adoption of the General Plan Amendments is considered to be an administrative process. However, development of other projects inside the San Bernardino Production-Consumption Region may result in a loss of locally significant mineral resources. While there may be some question regarding the practical ability to permit these areas under existing regulatory constraints for mining, these cumulative projects would still commit areas containing aggregate to uses other than mining, and they will be lost to future potential mineral exploitation, which cannot be mitigated. Therefore, the adoption of the General Plan Amendments in conjunction with other identified cumulative projects would have a cumulative impact on locally significant mineral resources.

Roadway/Bridge Rights-of-Way

The ~~dedication~~ designation of additional rights-of-way for Greenspot Road, Greenspot Road Bridge, Alabama Street, and Orange Street-Boulder Avenue would occur near the existing roadways. Given the physical, environmental, and economical feasibility and constraints associated with mining the area directly adjacent to these existing circulation features, the loss of ~~30~~ 47 acres of land identified as containing significant mineral resources to additional rights-of-way would have a less than significant impact. Since a less than significant impact would occur, no mitigation would be required.

Cumulative. Cumulatively, the ~~dedication~~ designation of roadway/bridge rights-of-way would not result in the loss of locally significant mineral resources as the ~~dedication~~ designation of

roadway/bridge rights-of-way is considered to be an administrative process. However, development of other projects within the San Bernardino Production-Consumption Region may result in a loss of locally significant mineral resources. While there may be some question regarding the practical ability to permit these areas under existing regulatory constraints for mining, these cumulative projects would still commit areas containing aggregate to uses other than mining, and they will be lost to future potential mineral exploitation, which cannot be mitigated. Therefore, the ~~dedication~~ designation of roadway/bridge rights of way in conjunction with other identified cumulative projects would have a cumulative impact on locally significant mineral resources.

Recreational Trail Rights-of-Way

The ~~dedication~~ designation of trails within the Planning Area would occur on existing maintenance roads, rights-of-way, and old rail lines. Since these features currently exist, the ~~dedication~~ designation of trails would not result in the loss of additional land for locally significant mineral resources. Therefore, no impacts associated with this issue would occur and no mitigation is required.

Cumulative. Cumulatively, the ~~dedication~~ designation of trail rights-of-way would not result in the loss of locally significant mineral resources as the ~~dedication~~ designation of trail rights-of-way is considered to be an administrative process. Additionally, the trails would be located on existing roadways, railway beds, and other infrastructure. However, development of other projects within the San Bernardino Production-Consumption Region may result in a loss of locally significant mineral resources. While there may be some question regarding the practical ability to permit these areas under existing regulatory constraints for mining, these cumulative projects would still commit areas containing aggregate to uses other than mining, and they will be lost to future potential mineral exploitation, which cannot be mitigated. Therefore, the ~~dedication~~ designation of trail rights of way in conjunction with other identified cumulative projects would have a cumulative impact on local mineral resources.

Land Exchange between the District and the BLM

The District's land exchange with the BLM will provide to the BLM an unrestricted habitat corridor for wildlife movement while maintaining continued water conservation activity. The land the BLM will exchange to the District, which is already mostly disturbed, will be used for aggregate mining. As indicated in Section 4.10.4.1, due to the presence sensitive habitat, the land that would be set aside for habitat conservation would result in the prohibition of aggregate mining on those portions would result in a loss of availability of known mineral resources. However, since the activities that currently occur on the land (i.e., habitat conservation and water conservation) would continue to occur under this land exchange, these lands are no longer considered to be viable mining areas by the agencies that would be part of the land exchange. Therefore, impacts are less than significant and no mitigation is required.

Cumulative. Cumulatively, the land exchange between the District and the BLM would not result in the loss of locally significant mineral resources as land exchanges are considered to be an administrative process. However, development of other projects within the San Bernardino Production-Consumption Region may result in a loss of locally significant mineral resources. While there may be some question regarding the practical ability to permit these areas under existing regulatory constraints for mining, these cumulative projects would still commit areas containing aggregate to uses other than mining, and they will be lost to future potential mineral exploitation, which cannot be mitigated. Therefore, the land exchange between the District and the BLM in conjunction with other identified cumulative projects would have a cumulative impact on locally significant mineral resources.

Land Exchange between the SBCFCD and Robertson's

Similar to what was identified in Section 4.10.4.1, although some land would be precluded from mineral extraction activities, additional land would be designated for mineral extraction. This would benefit both aggregate mining and habitat preservation since the land exchange would enable aggregate mining to take place on already disturbed lands while preserving better quality habitat for sensitive species in the Planning Area. Therefore, impacts associated with this issue would be less than significant and no mitigation would be required.

Cumulative. Cumulatively, the land exchange between the SBCFCD and Robertson's would not result in the loss of locally significant mineral resources as land exchanges are considered to be an administrative process. However, development of other projects within the San Bernardino Production-Consumption Region may result in a loss of locally significant mineral resources. While there may be some question regarding the practical ability to permit these areas under existing regulatory constraints for mining, these cumulative projects would still commit areas containing aggregate to uses other than mining, and they will be lost to future potential mineral exploitation, which cannot be mitigated. Therefore, the land exchange between the SBCFCD and Robertson's in conjunction with other identified cumulative projects would have a locally significant impact on mineral resources.

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4.11 NOISE

This section has been prepared to evaluate the potential noise impacts and mitigation measures for the Santa Ana River Wash in the Cities of Highland and Redlands and the Community of Mentone, an unincorporated area of San Bernardino County. This analysis is intended to satisfy the Cities' requirements for a project-specific noise impact analysis by examining the short-term and long-term impacts of the proposed project on sensitive uses adjacent to the Planning Area and by evaluating the effectiveness of mitigation measures incorporated as part of the project design. Noise modeling output sheets are contained in Appendix I.

4.11.1 Existing Setting

Characteristics of Sound

Noise is usually defined as unwanted sound; it consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, and sleep. To the human ear, sound has two significant characteristics: pitch and loudness. Pitch is generally an annoyance, while loudness can affect our ability to hear.

Measurement of Sound

There are many ways to rate sound for various time periods. An appropriate rating of ambient noise¹ affecting humans, accounts for the annoying effects of sound by penalizing noises that occur during quiet periods of time, such as late night/early morning, through weighted averaging metric. Single-event or peak noises are measured by a simple peak noise measurement.

Table 4.11.A defines noise measurements that are typically used in noise analyses.

Table 4.11.A – Noise Measurement Definitions

Unit of Measurement		Description
dB	Decibel	Units for measuring the volume of sound, decibels are measured on a logarithmic scale, representing points on a sharply rising curve. For example, 10 decibels are 10 times more intense than one decibel and 20 decibels are 100 times more intense. A 10-decibel increase in sound level is perceived by the human ear as a doubling of the loudness of the sound.
dBA	A-Weighted Decibel	A sound pressure level that has been weighted to quantitatively reduce the effect of the high and low frequency noise. It was designed to approximate the response of the human ear to sound.
CNEL	Community Noise Equivalent Level	The CNEL value represents noise as measured by an A-weighted sound level. The metric includes a 4.8-decibel penalty during relaxation hours (7 p.m. to 10 p.m.) and a 10-decibel penalty for sleeping hours (10 p.m. to 7 a.m.). CNEL is similar to L_{dn} (which does not include the evening penalty).
L_{dn}	Day-Night Average Noise	The 24 hour average sound level, expressed in a single decibel rating, for the period from midnight to midnight obtained after the addition of a 10.0-decibel penalty to sound levels for the periods between 10 p.m. and 7 a.m.
L_{eq}	Equivalent Noise Level	Total sound energy of time-varying noise over a sample period.
L_{max}	Maximum Noise Level	L_{max} is the highest exponential time-averaged sound level that occurs during a stated time period. It reflects peak operating conditions and addresses the annoying aspects of intermittent noise.
L_{01} , L_{10} , L_{50} , L_{90}	Percentile Noise Exceedance Levels	The fast A-weighted noise levels that are equaled or exceeded by a fluctuating sound level 1 percent, 10 percent, 50 percent, and 90 percent of a stated time period.

Source: LSA Associates, Inc., *Noise Analysis, High Desert Gateway Shopping Center*, November 2006.

¹ Ambient noise is the totality of noise in a given place and time; usually a composite of sounds from varying sources at varying distances. Ambient sounds generally range from 30 dBA (very quiet) to 100 dBA (very loud).

Sound levels are generated from a source, and their decibel level decreases as the distance from that source increases. Sound dissipates exponentially with distance from the noise source. For a single-point source, sound levels decrease approximately 6 dB for each doubling of distance from the source. This drop-off rate is appropriate for noise generated by stationary equipment. If noise is produced by a line source, such as highway traffic or railroad operations, the sound decreases 3 dB for each doubling of distance in a hard-site environment. Line source noise in a relatively flat environment with absorptive vegetation decreases 4.5 dB for each doubling of distance. Table 4.11.B describes attenuation levels of various types of noise sources.

Table 4.11.B – Attenuation Levels and Type of Noise Sources

Decrease in Sound for Each Doubling of Distance	Type of Noise Source	Description/Example
6.0 decibels	Single-point source	Stationary equipment
4.5 decibels	Line source	Highway traffic or railroad operations in a relatively flat environment with absorptive vegetation
3.0 decibels	Line source	Highway traffic or railroad operations in a hard-site environment

Source: LSA Associates, Inc., *Noise Analysis, High Desert Gateway Shopping Center*, November 2006.

Definition of Noise

Noise impacts can be described within three categories:

- Audible (3.0 dB or greater);
- Potentially audible (between 1.0 and 3.0 dB); and
- Inaudible (less than 1.0 dB).

Audible noises are increases in noise levels noticeable to humans and generally refer to a change of 3.0 dB or greater, because this level has been found to be barely perceptible in exterior environments. Potentially audible refers to a change in the noise level between 1.0 and 3.0 dB, which is noticeable only in laboratory environments. Changes in noise levels of less than 1.0 dB are inaudible to the human ear. Only audible changes in existing ambient or background noise levels are considered potentially significant. Therefore, a 3 dBA increase in long-term noise levels is used as a threshold of significant change in this noise analysis.

Fundamentals of Groundborne Vibration

Vibration refers to groundborne noise and perceptible motion. Groundborne vibration is almost exclusively a concern inside buildings and is rarely perceived as a problem outdoors, where the motion may be discernable. However, without the effects associated with the shaking of a building, there is less adverse reaction. Building vibration may be perceived by the occupants as motion of building surfaces, rattling of items on shelves or hanging on walls, or as a low-frequency rumbling noise. Building damage is not a factor for normal projects, with the occasional exception of blasting and pile driving during construction. Annoyance from vibration often occurs when the vibration exceeds the threshold of perception by up to 10 decibels. This is an order of magnitude below the damage threshold for normal buildings.

Typical sources of groundborne vibration are construction activities (e.g., blasting, pile driving, and operating heavy-duty earthmoving equipment), steel-wheeled trains, and occasional traffic on rough roads. Problems with groundborne vibration and noise from these sources are usually localized to within about 100 feet of the vibration source, although there are examples of groundborne vibration causing interference out to distances greater than 200 feet, as described in the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment (FTA, May 2006). When roadways are smooth,

vibration from traffic, even heavy trucks, is rarely perceptible. It is assumed that the roadway surface in the project vicinity will be smooth enough that groundborne vibration from street traffic will not exceed the impact criteria; however, operation of the proposed project could result in groundborne vibration that could be perceptible and annoying. Groundborne noise is not likely to be a problem because noise arriving via the normal airborne path usually will be greater than groundborne noise.

Groundborne vibration has the potential to disturb people as well as to damage buildings. Although it is rare for traffic-induced groundborne vibration to cause even cosmetic building damage, it is not uncommon for construction processes such as blasting and pile driving to cause vibration of sufficient amplitude to damage nearby buildings (FTA, May 2006).

Factors that influence groundborne vibration and noise include the following:

- Vibration Source: vehicle suspension, wheel types and condition, track/roadway surface, track support system, speed, transit structure, and depth of vibration source.
- Vibration Path: soil type, rock layers, soil layering, depth to water table, and frost depth.
- Vibration Receiver: foundation type, building construction, and acoustical absorption.

Among the factors listed above, there are significant differences in the vibration characteristics when the source is underground compared to at ground surface. In addition, soil conditions are known to have a strong influence on the levels of groundborne vibration. Among the most important factors are the stiffness and internal damping of the soil and the depth to bedrock. Vibration propagation is more efficient in stiff clay soils than in loose sandy soils, and shallow rock seems to concentrate the vibration energy close to the surface and can result in groundborne vibration problems at a great distance from the track. Factors such as layering of the soil and depth to water table can have significant effects on the propagation of groundborne vibration. Soft, loose, sandy soils tend to attenuate more vibration energy than hard, rocky materials. Vibration propagation through groundwater is more efficient than through sandy soils.

Sensitive Land Uses in the Project Vicinity

Certain land uses are considered more sensitive to noise than others. Examples include residential areas, educational facilities, hospitals, childcare facilities, and senior housing. Residential land uses are located to the north and south of the project boundary. The nearest residences are located approximately 1,300 feet from the closest excavation site and 1,690 feet from the closest active aggregate processing site.

Existing Noise Environment

The existing noise sources in the Planning Area include aggregate operations (Cemex and Robertson's Ready Mix), Redlands Municipal Airport, San Bernardino International Airport (formerly Norton Air Force Base), a shooting range, and State and local transportation facilities. Aggregate mining facilities generate noise and groundborne vibration from sand and gravel operations and haul trucks that transport the raw materials. The Redlands Municipal Airport is located immediately south of the Planning Area, and the San Bernardino International Airport is located immediately west of the Planning Area. Areas surrounding the Redlands Municipal Airport and the San Bernardino International Airport are exposed to aircraft noise. A small shooting range is located near the intersection of Orange Street and Greenspot Road. Intermittent noise from firearms is generated from this location. Traffic on Greenspot Road, State Route 30 (SR-30), Orange Street, Opal Avenue, and Alabama Street also contribute to the existing noise levels in the Planning Area.

Ambient Noise Monitoring in the Project Vicinity

An ambient noise survey was conducted by LSA Associates, Inc. (LSA) in the project vicinity on June 18, 2003. Ambient noise measurements were taken for 20 minutes each at six sites in and adjacent to the

Planning Area. These measurements were conducted to document the existing noise environment levels. Four of the six measurements represent noise-sensitive locations in the vicinity of the Planning Area. Two of the six noise measurements represent locations where ambient noise is dominated by noise generated by aggregate mining operations. Table 4.11.C summarizes the noise measurement data from the six noise monitoring locations. The monitoring locations are shown in Figure 4.11.1.

Table 4.11.C – Ambient Noise Monitoring Results

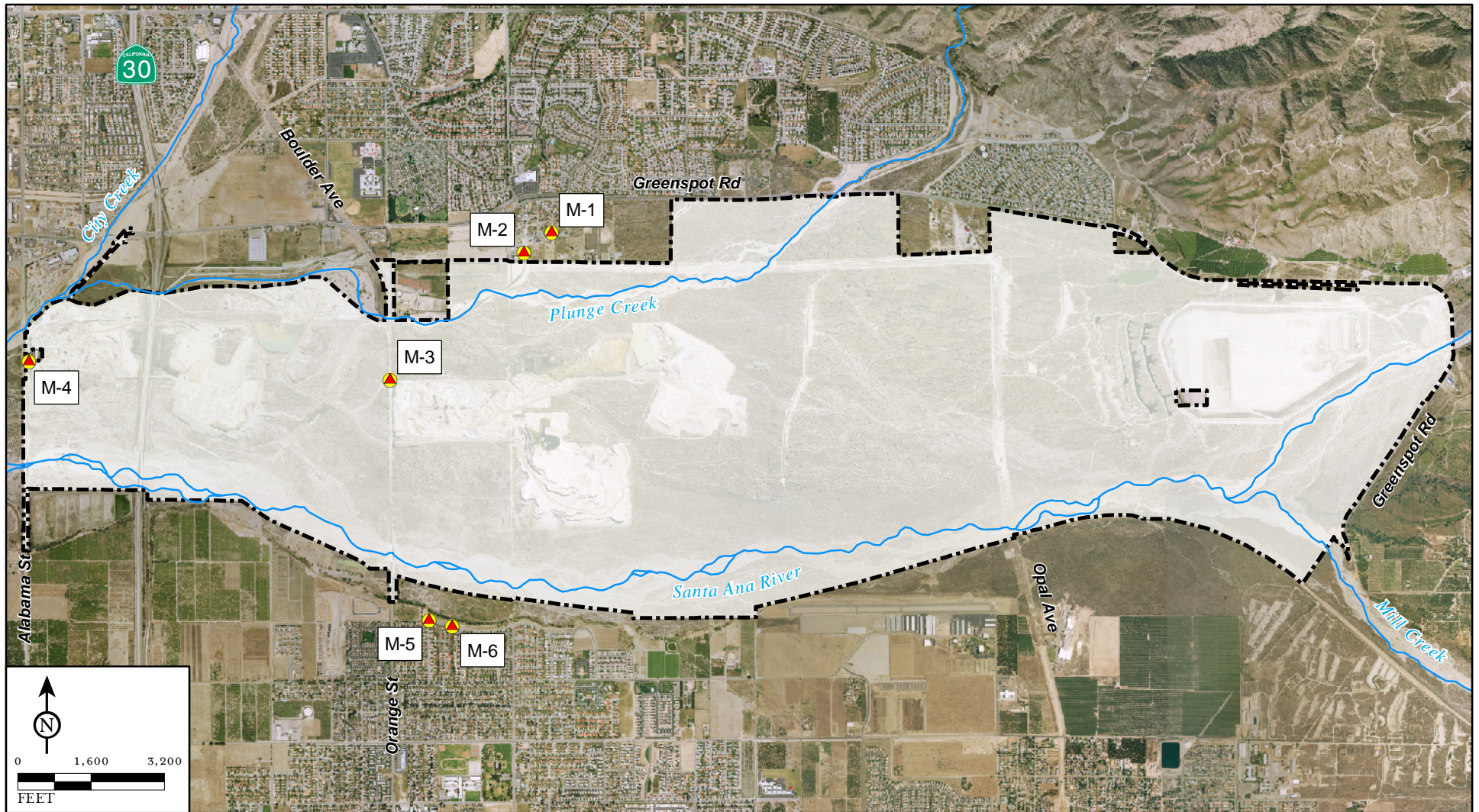
Monitor	Location	Start Time and Duration	Noise Sources	L _{eq} (dBA)
M-1	Residence at 7998 Cortez Street, Highland, located at the corner of Cortez Street and Merris Street (about 600 feet from project boundary).	9:48 a.m. 20 minutes	Activity with the use of a hammer from nearby aggregate mining facility and birds.	45.4
M-2	Residences along Abbey Way, Highland, located about 50 feet north of aggregate facility.	10:53 a.m. 20 minutes	Stacking conveyor, screen, crusher, and activity with a use of a hammer in the background.	54.5
M-3	Aggregate operations along Orange Street at the Cemex weighing station and the office building in the City of Redlands.	11:21 a.m. 20 minutes	Heavy trucks at 15 mph, stacking conveyor (approximately 100 feet), car radio, and activity with the use of a hammer in the background.	65.6
M-4	Aggregate operations along Alabama at the Hot Asphalt Plant and Cemex, Redlands.	12:06 p.m. 20 minutes	Traffic along Alabama, trucks entering and exiting the facility.	63.8
M-5	Residence at 1956 Cave Street, Redlands, located at the corner of Cave Street and Riverview Street (about 725 feet from project boundary).	12:40 p.m. 20 minutes	Heavy truck activity, rock tumbling, some aircraft noise, and faint sounds of a gunshot or engine backfiring.	48.2
M-6	Residence at 828 Riverview Street between Church Street and Duke (about 525 feet from project boundary).	1:10 p.m. 20 minutes	Noise from the Cemex facility, truck noises in the background, birds, and tree leaves.	52.0

Source: LSA Associates, Inc. June 18, 2003.

Existing Traffic Noise

The Federal Highway Administration (FHWA) highway traffic noise prediction model (FHWA RD-77-108) was used to evaluate traffic-related noise conditions in the project vicinity. This model requires various parameters, including traffic volumes, vehicle mix, vehicle speed, and roadway geometry, to compute typical equivalent noise levels during daytime, evening, and nighttime hours. The modeling parameters for the existing average daily traffic (ADT) volumes, vehicle speed, and roadway geometry were obtained from the *Traffic Study* prepared for the project (LSA, January 26, 2007). The following lists the parameters used for each roadway.

- **Greenspot Road.** Greenspot Road was modeled as a four-lane divided roadway (two lanes in each direction) with vehicle speeds at 50 miles per hour (mph).
- **Alabama Street.** Alabama Street was modeled as a two to four-lane roadway (varying from one to two lanes in each direction) with vehicle speeds at 45 mph.



LSA

FIGURE 4.11.1

-  PLAN BOUNDARY
-  NOISE MONITORING LOCATION

*Upper Santa Ana River Wash
Land Management Plan
Environmental Impact Report*

Noise Monitoring Locations

SOURCE: San Bernardino Valley Water Conservation District; Dudek, 2006; AirPhotoUSA, 2007.

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- **Boulder Avenue.** Boulder Avenue was modeled a two-lane roadway (one lane in each direction) with vehicle speeds at 40 mph.

The vehicle mix was assumed to be 97.42 percent automobiles, 1.84 percent medium trucks, and 0.74 percent heavy trucks. The resultant noise levels are weighted and summed over 24-hour periods to determine the community noise equivalent level (CNEL) values. Table 4.11.D provides the existing traffic noise levels along Greenspot Road, Alabama Street, and Boulder Avenue. These noise levels represent the worst-case scenario, which assumes that no shielding is provided between the traffic and the location where the noise contours are drawn. The specific assumptions used in developing these noise levels and the model printouts are provided in Appendix I of this EIR.

Table 4.11.D – Existing Traffic Noise Levels

Roadway Segment	ADT	Centerline to 70 CNEL (feet)	Centerline to 65 CNEL (feet)	Centerline to 60 CNEL (feet)	CNEL (dBA) 50 feet from Outermost Lane
5th Street					
West of Alabama Street	9,060	< 50*	86	180	66.1
Between Alabama Street and Church Avenue	17,780	65	132	281	69.0
Between Church Avenue and State Route 30 westbound ramp	18,600	67	136	289	69.2
Between State Route 30 westbound ramp and State Route 30 eastbound ramp	18,580	67	136	289	69.2
Between State Route 30 eastbound ramp and Boulder Avenue	17,555	64	131	278	69.0
East of Boulder Avenue	13,780	56	112	237	67.9
Alabama Street					
North of 5 th Street	7,970	< 50	68	139	64.4
Between 5 th Street and 3 rd Street	15,475	< 50	102	215	67.3
Between 3 rd Street and Robertson's Access	11,495	< 50	82	176	67.5
Between Robertson's Access and Cemex Access	10,670	< 50	78	167	67.2
South of Cemex Access	10,250	< 50	76	163	67.0
Boulder Avenue					
North of Greenspot Road	6,420	< 50	< 50	98	63.7
South of Greenspot Road	9,420	< 50	59	127	65.4
North of Cemex Access	14,910	< 50	80	172	67.3
South of Cemex Access	14,940	< 50	80	172	67.4

* Traffic noise within 50 feet of the roadway centerline should be evaluated with site-specific information.

Source: LSA Associates, Inc., February 2007.

As shown in Table 4.11.D, traffic noise is generally moderate to high along the existing roadway segments in the project vicinity. The 70, 65, and 60 dBA impact zones extend 67, 136, and 289 feet along the Greenspot Road centerline. Also, Table 4.11.D shows that the 70 dBA impact zone is confined to the right-of-way along Alabama Street and Boulder Avenue. The 65 and 60 dBA impact zones extend 102 and 215 feet along Alabama Street. The 65 and 60 dBA impact zones extend 80 and 172 feet along the Boulder Avenue centerline.

Existing Mining Operations

Two aggregate mining and processing operations comprising a total of 832 acres, or 18.6 percent of the total land area, are currently located in the Planning Area. The existing mining and processing operations are generally located in the western and central western portions of the Planning Area. The Cities of Highland and Redlands have approved land use permits for all of the existing mining operations.

Cemex is currently conducting excavations in the approved Alabama Street Northwest, Northeast, and Southeast quarries adjacent to SR-30 and is using the portions of the East Quarry North for mining, processing at the Orange Street Plant, and silt ponds and aggregate storage. Aggregate processing occurs at both the Alabama Street and the Orange Street Plants, and concrete batching occurs at the Alabama Street plant. From the years 2003 through 2005, Cemex had an average annual processing rate of 2.5 million tons per year (MTPY). Cemex has approval per a contract signed in 1990 with the City of Redlands to produce up to 7 MTPY. Air quality permits from South Coast Air Quality Management District (SCAQMD) limit the plant to a not-to-exceed amount of 18,000 tons per day, or 5.4 MTPY, based on 300 operating days annually.

Robertson's currently operates an aggregate facility at the East Basin Processing Plant and a concrete batch plant at its West Basin facility. Excavations are currently conducted in the former "Webster Pit" area, to be a part of the East Quarry South. During the past three years, Robertson's has an average annual processing rate of approximately 2 MTPY. Robertson's has land use approval to produce 2 MTPY at its East Basin Processing Plant. SCAQMD air quality permits limit production to a not-to-exceed amount of 8,500 tons per day, or 2.55 MTPY, based on 300 operating days annually.

4.11.2 Existing Policies and Regulations

A project would normally have a significant effect on the environment related to noise if it will substantially increase the ambient noise levels for adjoining areas or conflict with adopted environmental plans and goals of the community in which it is located. The applicable noise standards governing the Planning Area are the criteria in the City of Highland's General Plan Update Noise Element and Municipal Code and the City of Redlands' 1995 General Plan Noise Element and Municipal Code. In addition, standards identified in the California Noise Insulation Standards¹ and the State of California Vehicular Code² are included. The following sections list the State standards and General Plan policies relevant to noise for the agencies with jurisdiction over the Planning Area.

City of Highland General Plan Update³

The specific goals and policies of the *Noise Element* of the *City of Highland's General Plan Update* that are relevant to the proposed project are as follows:

Goal 7.1 *Protect sensitive land uses and the citizens of Highland from annoying and excessive noise through diligent planning and regulation.*

Policies

- 1) *Enforce the City's Noise Control Ordinance consistent with health and quality of life goals and employ effective techniques of noise abatement through such means as a noise ordinance, building codes and subdivision and zoning regulations.*
- 2) *Encourage the use of site planning and architectural techniques such as alternative building orientation and walls combined with landscaping to mitigate noise to levels consistent with interior and exterior noise standards.*

¹ California Code of Regulations, Title 24, Part 2, §3501, *California Noise Insulation Standards*.

² Governor's Office of Planning and Research, *State of California General Plan Guidelines*, October 2003, pages 249 and 250.

³ City of Highland, *City of Highland General Plan Update*, The Planning Network, adopted March 14, 2006.

- 3) *Require mitigation where sensitive uses are to be placed along transportation routes to ensure compliance with interior and exterior noise standards.*
- 4) *Consider the compatibility of proposed land uses with the noise environment when preparing, revising or reviewing development proposals.*
- 5) *Prevent the siting of sensitive uses in areas in excess of established 65 dBA CNEL without appropriate mitigation. Special attention should be paid to potential development within the 65 dBA CNEL noise contour of the San Bernardino International Airport and mining operations of the Santa Ana River.*
- 6) *Work with San Bernardino International Airport Authority to ensure that future airport planning activities encourage consistency with adopted City land use plans and minimize impacts on Highland's economic development opportunities and quality of life.*
- 7) *Require that site-specific noise studies be conducted by a qualified acoustic consultant utilizing acceptable methodologies while reviewing the development of sensitive land uses or development that has the potential to impact sensitive land uses. Also require a site-specific noise study if the proposed development could potentially violate the noise provisions of the General Plan or City ordinance.*

Goal 7.2 *Encourage the reduction of noise from transportation-related noise sources such as automobile and truck traffic.*

Policies

- 1) *Guide the location and design of transportation facilities to minimize the exposure of noise on noise-sensitive land uses.*
- 2) *Employ noise mitigation practices, as necessary, when designing future streets and highways, and when improvements occur along existing road segments. Mitigation measures should emphasize the establishment of natural buffers or setbacks between the arterial roadways and adjoining noise-sensitive areas.*
- 3) *Require that development generating increased traffic and subsequent increases in the ambient noise level adjacent to noise sensitive land uses provide appropriate mitigation measures.*
- 4) *Minimize truck traffic through residential neighborhoods.*
- 5) *Encourage the development of alternative transportation modes such as bicycle paths and pedestrian walkways to minimize the number of automobile trips and noise.*

Goal 7.3 *Protect residents from the effects of "spill over" or nuisance noise.*

Policies

- 1) *Enforce the City's Noise Control Ordinance so that new projects located in commercial or entertainment areas do not exceed stationary-source noise standards at the property line of proximate residential or commercial uses, as appropriate.*
- 2) *Prohibit new industrial uses from exceeding commercial or residential stationary-source noise standards at the most proximate land uses, as appropriate. (Industrial noise may spill over to proximate industrial uses so long as the combined noise does not exceed the appropriate industrial standards.)*
- 3) *Require that construction activities employ feasible and practical techniques to minimize noise impacts on adjacent uses. Particular emphasis shall be placed on the restriction of hours in which work other than emergency work may occur.*
- 4) *Require that the hours of truck deliveries to commercial properties abutting residential uses be limited unless there is no feasible alternative or there are overriding transportation benefits by scheduling deliveries at another hour.*
- 5) *Ensure that buildings are constructed to prevent adverse noise transmission between differing uses located in the same structure and individual residences in multi-family buildings.*

City of Redlands 1995 General Plan¹

The specific goals and policies of the *Noise Element* of the *City of Redlands 1995 General Plan* that are relevant to the proposed project are as follows:

Guiding Policies: Noise

- 9.0a *Protect public health and welfare by eliminating existing noise problems where feasible and by preventing significant degradation of the future acoustic environment.*
- 9.0b *Incorporate noise considerations into land use planning decisions.*
- 9.0c *Support measures to reduce noise emissions by motor vehicles, aircraft, and trains. The most efficient and effective means of controlling noise from transportation systems is reducing noise at the source. However, the City has little direct control over source noise levels because of State and federal preemption (i.e., State Motor Vehicle Noise Standards). Cooperative efforts with State and federal offices are essential.*
- 9.0d *Adopt and enforce a Community Noise Ordinance to control non-transportation noise impacts.*

Implementing Policies: Noise

Introduction: In addition to the provisions of the following sections 9.0e through 9.0z, it is the policy of the City of Redlands that no land use adjacent to existing residential land shall generate noise in excess of the residential CNEL levels specified in Table 9.1 and Table 9.2 of this Noise Element unless appropriate mitigation measures are imposed to reduce the noise level on adjacent residential property to the standards set forth in Tables 9.1 and 9.2.

- 9.0e *Use the criteria specified in GP Table 9.1 to assess the compatibility of proposed land uses with the projected noise environment, and apply the noise standards in GP Table 9.2, which prescribe interior and exterior noise standards in relation to specific land uses. Do not approve projects that would not comply with the standards in GP Table 9.2. These tables are the primary tools which allow the City to ensure noise-integrated planning for compatibility between land uses and outdoor noise.*
- 9.0f *Require a noise impact evaluation based on noise measurements at the site for all projects in Noise Referral Zones (B, C, or D) as shown on GP Table 9.1 and on GP Figure 9.1 or as determined from tables in the Appendix, as part of the project review process. Should measurements indicate that unacceptable noise levels will be created or experienced, require mitigation measures based on a detailed technical study prepared by a qualified acoustical engineer (i.e., a Registered Professional Engineer in the State of California with a minimum of three years experience in acoustics).*
- 9.0g *Consider establishing a periodic noise monitoring program to identify progress in achieving noise abatement objectives and to perform necessary updating of the Noise Element and community noise standards.*

The California Department of Health Services recommended that noise elements be updated every five years.

- 9.0h *Minimize potential transportation noise through proper design of street circulation, coordination of routing, and other traffic control measures.*
- 9.0i *Require construction of barriers to mitigate sound emissions where necessary or where feasible, and encourage use of walls and berms to protect residential or other noise sensitive land uses that are adjacent to major roads, commercial, or industrial areas.*

¹ City of Redlands, *City of Redlands 1995 General Plan*, City of Redlands Community Development Department, Effective October 19, 1995.

- 9.0j *Require the inclusion of noise mitigation measures in the design of new roadway projects.*
- 9.0k *Ensure the effective enforcement of City, State and Federal noise levels by all appropriate City departments.*
- 9.0l *Adopt and enforce a new Community Noise Ordinance to mitigate noise conflicts between adjacent land uses, to ensure that City residents are not exposed to excessive noise levels from existing and new stationary noise sources, and to educate the public regarding noise issues. A Community Noise Ordinance establishes noise limits, typical of a quiet residential area that cannot be exceeded at the property line of the noise-creating use. The types of noise to be controlled include sources such as amplified sound, street sales, animals, construction and demolition, vibration, powered model vehicles, emergency signaling devices, power tools, air conditioning, and vehicles on private property.*
- 9.0m *Designate one agency or department in the City to act as the noise control coordinator, to ensure the continued operation of the City's noise enforcement efforts, and to establish and maintain coordination among the City agencies involved in noise abatement.*
- 9.0n *Ensure the effective enforcement of City, State, and Federal noise levels by all appropriate City departments, and provide quick response to complaints and rapid abatement of noise nuisances within the scope of the City's police power.*
- 9.0o *Establish noise guidelines for City purchasing policy to take advantage of Federal regulations and labeling requirements.*
- 9.0p *Coordinate with the California Occupational Safety and Health Administration (Cal-OSHA) to provide information on and enforcement of occupational noise requirements within the City.*
- 9.0q *Provide for continued evaluation of truck movements in the City to provide effective separation from residential or other noise-sensitive land uses.*
- 9.0r *Encourage the enforcement of State Motor Vehicle noise standards for cars, trucks, and motorcycles through coordination with the California Highway Patrol and Redlands Police Department.*
- 9.0s *Require mitigation to ensure that indoor noise levels for residential living spaces not exceed 45 dB LDN/CNEL due to the combined effect of all exterior noise sources. The Uniform Building Code (specifically, the California Administrative Code, Title 24, Part 6, Division T25, Chapter 1, Subchapter 1, Article 4, Sections T25-28) requires that "Interior community noise levels (CNEL/LDN) with windows closed, attributable to exterior sources shall not exceed an annual CNEL or LDN of 45 dB in any habitable room." The code requires that this standard be applied to all new hotels, motels, apartment houses and dwellings other than detached single-family dwellings. Policy 9-s sets the maximum acceptable interior noise level at 45 CNEL. The Noise Referral Zones (65 CNEL) delineate areas within which tests to ensure compliance are to be required for new structures.*
- 9.0t *Require proposed commercial projects near existing residential land use to demonstrate compliance with the Community Noise Ordinance prior to approval of the project.*
- 9.0u *Require all new residential projects or replacement dwellings to be constructed near existing sources of non-transportation noise (including but not limited to commercial facilities or public parks with sports activities) to demonstrate via an acoustical study conducted by a Registered Engineer that the indoor noise levels will be consistent with the limits contained in the Community Noise Ordinance.*
- 9.0v *Consider the following impacts as possibly "significant": An increase in exposure of four or more dB if the resulting noise level would exceed that described as clearly compatible for the affected land use, as established in GP Table 9.1 and GP Table 9.2; Any increase of six dB or more, due to the potential for adverse community response.*
- 9.0w *Limit hours for all construction or demolition work where site-related noise is audible beyond the site boundary.*

- 9.0x *Work with Caltrans to establish sound walls along freeways where appropriate.*
- 9.0y *Minimize impacts of loud trucks by requiring that maximum noise levels due to single events be controlled to 50 dB in bedrooms and 55 dB in other habitable spaces.*
- 9.0z *Coordinate with the San Bernardino International Airport Authority to minimize potential noise impacts to the City of Redlands which may result from overflights as specific airport operations and flight patterns are established.*

State of California Noise Insulation Standards

The California Commission of Housing and Community Development officially adopted noise standards in 1974. In 1988, the Building Standards Commission revised the noise standards (California Noise Insulation Standards). As revised, these standards establish an interior noise standard of 45 dBA for residential space (CNEL or L_{dn}). Acoustical studies must be prepared for residential structures that are to be located within noise contours of 60 dBA or greater that are created from freeways, major streets, thoroughfares, rail lines, rapid transit lines, or industrial noise sources. The studies must demonstrate that the building is designed to reduce interior noise to 45 dBA or lower.

State of California Vehicular Code

Recent studies have shown that the most objectionable feature of traffic noise is the sound produced by vehicles equipped with illegal or faulty exhaust systems. In addition, such vehicles are often operated in a manner that causes tire squeal and excessively loud exhaust noise. A number of California State vehicle noise regulations can be enforced by local authorities as well as the California Highway Patrol. These include § 23130, § 23130.5, § 27150, and § 38275 of the California Vehicle Code, as well as excessive speed laws, which may be applied to curtail traffic noise:

- § 23130 and § 23130.5 establish maximum noise emission limits for the operation of all motor vehicles at any time under any conditions of grade, load, acceleration, or deceleration;
- § 27150 requires motor vehicles to be equipped with an adequate muffler to prevent excessive noise; and
- § 38275 requires off-highway motor vehicles to be equipped with an adequate muffler to prevent excessive noise.

The California Highway Patrol and the Department of Health Services (through local health departments) are available to aid local authorities in code enforcement and training pursuant to proper vehicle sound level measurements.

4.11.3 Thresholds of Significance

A project would normally have a significant effect on the environment related to noise if it will substantially increase the ambient noise levels for adjoining areas or conflict with adopted environmental plans and goals of the community in which it is located. The applicable noise standards governing the Planning Area are the criteria in the City of Highland's Noise Element of the General Plan and Municipal Code and the City of Redlands' Noise Element of the General Plan and Municipal Code.

Based on Appendix G of the *State CEQA Guidelines*, a project may have a significant noise-related effect on the environment if it would result in any of the following:

- For a project within the vicinity of a private airstrip, exposure of people residing or working in the Planning Area to excessive noise levels.
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;

- 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;
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;
- Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels;
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, exposure of people residing or working in the Planning Area to excessive noise levels; and/or

City of Highland Noise Standards

The City of Highland's Noise Element of its General Plan established land use compatibility guidelines and exterior and interior noise standards from vehicular traffic for the evaluation of compatibility between land uses in the City. The City specifies outdoor and indoor noise limits for residential uses, places of worship, educational facilities, hospitals, hotels/motels, and commercial and other land uses. The City of Highland's exterior and interior noise standards from vehicular traffic are provided in Table 4.11.E1 and 4.11.E2 and Land Use Compatibility Guidelines are provided in Table 4.11.F. As shown in Tables 4.11.E1, 4.11.E2, and 4.11.F, the City of Highland has a daytime exterior noise standard of 60 dBA CNEL for residential land uses.

Table 4.11.E1 – City of Highland Interior a Noise Standards from Vehicular Traffic (dBA CNEL)

Type of Land Use	Interior Standard CNEL
Residential	45
Educational/churches, other institutional uses	45
General offices	50
Retail stores, restaurants	55
Manufacturing, warehousing	65
Agricultural	55
Sand and gravel operations	75

Source: Chapter 8.50, Noise Control, City of Highland Municipal Code.

Table 4.11.E2 – City of Highland Exterior Noise Standards from Vehicular Traffic (dBA CNEL)

Type of Land Use	Time Interval	Exterior Standard CNEL
Residential	10:00 p.m. – 7:00 a.m.	55
	7:00 a.m. – 10:00 p.m.	60
Agricultural/Equestrian	10:00 p.m. – 7:00 a.m.	60
	7:00 a.m. – 10:00 p.m.	65
Commercial	10:00 p.m. – 7:00 a.m.	65
	7:00 a.m. – 10:00 p.m.	70
Manufacturing or Industrial	Any Time	75
Open Space	Any Time	75

Source: Chapter 8.50, Noise Control, City of Highland Municipal Code.

Table 4.11.F – City of Highland Land Use Compatibility Guidelines

<i>Land Uses Category</i>	<i>Community Noise Exposure Level Ldn or CNEL, dBA</i>					
	55	60	65	70	75	80
Residential-Low Density Single Family Dwellings, Duplexes and Mobile Homes						
Residential Multi-Family Dwellings						
Transient Lodging – Motels, Hotels						
Schools, Libraries, Churches, Hospitals, Nursing Homes						
Auditoriums, Concert Halls, Amphitheaters						
Sports Arena, Outdoor Spectator Sports						
Playgrounds, Neighborhood Parks						
Golf Courses, Riding Stables, Water Recreation, Cemeteries						
Commercial and Office Buildings						
Industrial, Manufacturing, Utilities, Agriculture						

Explanatory Notes



Normally Acceptable:

Specified land use is satisfactory based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.



Conditionally 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. Conventional construction, but with closed windows and fresh air supply system or air conditioning will normally suffice. Outdoor environment will seem noisy.



Normally Unacceptable:

New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made with needed noise insulation features included in the design. Outdoor areas must be shielded.



Clearly Unacceptable:

New construction or development should generally not be undertaken. Construction cost to make the indoor environment acceptable would be prohibitive and the outdoor environment would not be usable.

Source: California Office of Noise Control

The City of Highland's Municipal Code limits the hours of construction to between the hours of 7:00 a.m. and 8:00 p.m. from Monday through Saturday. No construction is permitted on Sundays or Federal holidays. The ordinance is also designed to protect sensitive areas from intruding noise across property lines. It limits noise at residential properties to 60 dBA from 7:00 a.m. to 10:00 p.m. and 55 dBA from 10:00 p.m. and 7:00 a.m. It is unlawful for any person to create noise at noise-sensitive land uses that causes the sound level to exceed the following:

- The noise standard for a cumulative period of more than 30 minutes in any hour;
- The noise standard plus 5 dBA for a cumulative period of more than 15 minutes in any hour;
- The noise standard plus 10 dBA for a cumulative period of more than 5 minutes in any hour;
- The noise standard plus 15 dBA for a cumulative period of more than 1 minute in any hour; or
- The noise standard plus 20 dBA for any period of time.

City of Redlands Noise Standards

The City of Redlands' General Plan Noise Element establishes¹ exterior and interior noise standards for the evaluation of compatibility between land uses in the City. The City specifies outdoor and indoor noise limits for residential uses, places of worship, educational facilities, hospitals, hotels/motels, and commercial and other land uses. Table 4.11.G shows interior and exterior noise standards for the City of Redlands and Table 4.11.H provides City of Redlands Land Use Compatibility Guidelines. As shown in Tables 4.11.G and 4.11.H, the City of Redlands has an exterior noise standard of 60 dBA CNEL for residential land uses.

Table 4.11.G – City of Redlands Interior and Exterior Noise Standards (dBA CNEL)

Category	Uses	Interior Standard ¹	Exterior Standard ²
Residential	Single and multifamily, duplex	45 ³	60
	Mobile home	NA	60 ⁴
Commercial	Hotel, motel, transient lodging	45	65 ⁵
Industrial	Commercial retail, bank, restaurant	50	NA
Institutional	Office building, research and development, professional offices, City office building	45	NA
	Amphitheater, Concert Hall, Auditorium, Meeting Hall	45	NA
	Gymnasium (Multipurpose)	50	NA
	Sports Club	55	NA
	Manufacturing, Warehousing, Wholesale, Utilities	60	NA
	Movie Theaters	45	NA
Institutional	Hospital, schools, classroom	45	60
Open Space	Parks	NA	60

¹ Indoor environment excluding bathrooms, toilets, closets, corridors.

² Outdoor environment limited to private yard of single-family residences as measured at the property line; multifamily private patio or balcony that is served by a means of exit from inside; mobile home park; hospital patio; park picnic area; school playground; hotel and recreational area.

³ Noise level requirement with open windows, if they are used to meet natural ventilation requirements.

⁴ Exterior noise level should be such that interior level will not exceed 45 dBA CNEL.

⁵ Except those areas affected by aircraft noise.

Source: *City of Redlands General Plan Noise Element*, October 1995.

¹ *City of Redlands General Plan*, prepared by City of Redlands Community Development Department, effective October 19, 1995.

Table 4.11.H – City of Redlands Land Use Compatibility Guidelines

Land Use Category	Land Use Interpretation for L _{dn} Value					
	55	60	65	70	75	80
Residential (Single-family/Duplex/Multi-family)						
Residential (Mobile homes)						
Hotels/motels						
Commercial Retail/Bank/Restaurant/Movie Theater						
Office Building/Professional Offices/City Office Buildings						
Amphitheater/Concert Hall/Auditorium/Meeting Hall						
Amusement Parks/Equestrian Center/Sports Club						
Auto Service Center/Auto Dealership/Manufacturing/Warehousing						
Hospital/Church/Library/Schools						
Parks						
Golf Course/Cemeteries/Nature Centers/Wildlife Preserves/Habitat						
Agriculture						

Source: City of Redlands General Plan Noise Element, October 1995.

Key to Table 4.11.H

CLEARLY ACCEPTABLE Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.	NORMALLY UNACCEPTABLE New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirement must be made and needed noise insulation features included in the design.
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. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.	CLEARLY UNACCEPTABLE New construction or development should generally not be undertaken.

The City of Redlands' Municipal Code limits the hours of construction to between the hours of 7:00 a.m. and 6:00 p.m. from Monday through Saturday. No construction is permitted on Sundays. The ordinance is also designed to protect sensitive areas from intruding noise across property lines. It limits noise at residential properties to 60 dBA from 7:00 a.m. to 10:00 p.m. and 50 dBA from 10:00 p.m. and 7:00 a.m. It

is unlawful for any person to create noise at noise-sensitive land uses that causes the sound level to exceed the following:

- The noise standard for a cumulative period of more than 30 minutes in any hour;
- The noise standard plus 5 dBA for a cumulative period of more than 15 minutes in any hour;
- The noise standard plus 10 dBA for a cumulative period of more than 5 minutes in any hour;
- The noise standard plus 15 dBA for a cumulative period of more than 1 minute in any hour; or
- The noise standard plus 20 dBA for any period of time.

Groundborne Vibration

According to the FTA, a vibration velocity level of 65 VdB or above would be perceptible, while a level of 72–80 VdB may cause residential annoyance. A vibration velocity of 95–100 VdB would result in potential building damage. A vibration velocity of 75 VdB, with noise levels of a low frequency of 35 dBA and a mid-frequency of 50 dBA, is the threshold of annoyance for humans.

Groundborne vibration levels were compared to the groundborne noise and vibration criteria established by the FTA because the Cities of Redlands and Highland do not have any regulations related to vibration. Vibration levels were also compared to vibration thresholds that would damage structures. The groundborne vibration and noise criteria were obtained from the FTA's Transit Noise and Vibration Impact Assessment (FTA, May 2006). Although the FTA's groundborne noise and vibration criteria are prepared for railroads, vibration thresholds were used to predict community annoyance from other sources. Vibration levels generated by construction equipment were also compared with the FTA's Human Response to Different Levels of Groundborne Noise and Vibration to predict community annoyance.

Table 4.11.I shows the FTA's groundborne vibration and noise impact criteria. The table shows groundborne vibration and noise level thresholds that would result in community annoyance for each land use category. There are different vibration and noise level thresholds between frequent and infrequent events. A frequent event is defined as more than 70 events per day, and an infrequent event is defined as less than 70 events per day. The frequent and infrequent event criteria are based on a community response equivalent. Typically a frequent event at lower levels would evoke the same response as an infrequent event at higher levels. For example, as shown in Table 4.11.I, frequent vibration events at 72 VdB would generate the same community response as infrequent vibration events at 80 VdB for residential land uses.

Table 4.11.I – Groundborne Vibration and Noise Impact Criteria

Land Use Category	Groundborne Vibration Impact Levels (VdB re 1 micro inch/sec)			Groundborne Noise Impact Levels (dB re 20 micro Pascals)		
	Frequent ¹ Events	Occasional ² Events	Infrequent ³ Events	Frequent ¹ Events	Occasional ² Events	Infrequent ³ Events
Category 1: Buildings where low ambient vibration is essential for interior operations	65 VdB ⁴	65 VdB ⁴	65 VdB ⁴	N/A ⁵	N/A ⁴	N/A ⁴
Category 2: Residences and buildings where people normally sleep	72 VdB	75 VdB	80 VdB	35 dBA	38 dBA	43 dBA

Table 4.11.I – Groundborne Vibration and Noise Impact Criteria

Land Use Category	Groundborne Vibration Impact Levels (VdB re 1 micro inch/sec)			Groundborne Noise Impact Levels (dB re 20 micro Pascals)		
	Frequent ¹ Events	Occasional ² Events	Infrequent ³ Events	Frequent ¹ Events	Occasional ² Events	Infrequent ³ Events
Category 3: Institutional land uses with primarily daytime use	75 VdB	78 VdB	83 VdB	40 dBA	43 dBA	48 dBA

¹ "Frequent Events" is defined as more than 70 vibration events of the same source per day. Most rapid transit project fall into this category.

² "Occasional Events" is defined as between 30 and 70 vibration events of the same source per day. Most commuter trunk line have this many operations.

³ "Infrequent Events" is defined as fewer than 30 vibration events of the same kind per day. This category includes most commuter rail branch lines.

⁴ This criterion limit is based on levels that are acceptable for most moderately sensitive equipment, such as optical microscopes. Vibration-sensitive manufacturing or research will require detailed evaluation to define the acceptable vibration levels. Ensuring lower vibration levels in a building often requires special design of the HVAC systems and stiffened floors.

⁵ Vibration-sensitive equipment is not sensitive to groundborne vibration.

Source: Federal Transit Administration, *Transit Noise And Vibration Impact Assessment*, May 2006.

4.11.4 Impacts Analysis and Mitigation Measures

Evaluation of noise impacts associated with a proposed project typically includes the following:

- Determine the short-term construction noise impacts on off-site noise-sensitive uses.
- Determine the long-term noise impacts, including vehicular traffic, on off-site noise-sensitive uses.
- Determine the required mitigation measures to reduce significant long-term noise impacts from all sources.

4.11.4.1 Private Airstrip Noise Impacts

Threshold	For a project within the vicinity of a private airstrip, would the project expose people residing or working in the Planning Area to excessive noise levels?
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Because there are no private airstrips located within the vicinity of the Planning Area, there would be no impacts to the any of the nine components of the Planning Area associated with exposure of people residing or working in the Planning Area to excessive noise levels from private aircraft. No mitigation measures are required.

Cumulative. Cumulatively, the activities of the proposed project would not expose people to private airstrip noise as there are no private airstrips located within the vicinity of the Planning Area. Development of other cumulative projects within the Planning Area would also not expose people to private airstrip noise. Therefore, the proposed project in conjunction with other identified cumulative projects would have no cumulative impacts on the exposure of people to private airstrip noise.

4.11.4.2 Construction Noise Impacts

Thresholds	Would the proposed project result in a substantial temporary, periodic, and/or permanent increase in ambient noise levels in the project vicinity above levels existing without the project?
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Would the proposed project result in the exposure to or generation of noise levels in excess of standards established in the City of Highland General Plan Update, City of Highland Municipal Code, City of Redlands 1995 General Plan, City of Redlands Municipal Code, or standards of other agencies?
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Water Conservation Operations/Maintenance Activities of the District

As described in Section 3.6.1, a reduction of approximately ~~514~~ 520 acres of water conservation activities would result from implementation of the Planning Area. The District would continue to operate and maintain the facilities currently existing within the Planning Area. Any noise impacts that may occur as a result of future activities will be determined at the time that specific facilities and their locations can be determined. The continued operations of the District would not result in short-term noise impacts associated with construction. Therefore, construction noise impacts would be less than significant, and no mitigation measures are required.

Cumulative. Cumulatively, the continuation of water conservation activities of the District would not result in short-term noise impacts within the Planning Area. Development of other projects, including future water conservation operations, may result short-term noise impacts; however, these projects would be required to identify, analyze, and mitigate the project's potential for these impacts. Therefore, the water conservation component in conjunction with other identified cumulative projects would have a less than significant cumulative impact on short-term construction noise.

Flood Control Operations/Maintenance Activities of the SBCFCD

The SBCFCD would continue to operate and maintain the facilities currently existing within the Planning Area. No new SBCFCD facilities or activities are planned as part of the proposed project. As this component of the proposed project would not require construction, it would not result in short-term noise impacts associated with construction. Therefore, construction noise impacts would be less than significant, and no mitigation measures are required.

Cumulative. Cumulatively, flood control activities would not result in short-term noise impacts within the Planning Area. Development of other projects, including future flood control operations, may result in short-term noise impacts; however, these projects would be required to identify, analyze, and mitigate the project's potential for these impacts. Therefore, the flood control component in conjunction with other identified cumulative projects would have a less than significant cumulative impact on short-term construction noise.

Water Production Operations/Maintenance Activities of the EVWD and the RMUD

The EVWD and the RMUD would continue to operate and maintain the facilities currently existing within the Planning Area. No new EVWD or RMUD facilities or activities are planned as part of the proposed project. As this component of the proposed project would not require construction, it would not result in short-term noise impacts associated with construction. Therefore, construction noise impacts would be less than significant, and no mitigation measures are required.

Cumulative. Cumulatively, the continuation of water production activities would not result in short-term noise impacts within the Planning Area. Development of other projects within the Planning Area may result short-term noise impacts; however, these projects would be required to identify, analyze, and mitigate the project's potential for these impacts. Therefore, the water production component in conjunction with other identified cumulative projects would have a less than significant cumulative impact on short-term construction noise.

Aggregate Mining

The proposed project may require future construction for the relocation of mining facilities. Those aggregate processing facilities may, over time, be relocated to take advantage of potential mining excavation opportunities within their present sites. At this point, it is unknown whether such facilities will ever be relocated, and if so, to where. As such, any environmental analysis of such relocation would at this point be speculative. To the extent that such relocation may require supplemental environmental review, such review will tier off of this EIR, if and when any such relocation is proposed.

The new facilities would be less permanent in nature and would be constructed within a mining pit existing at that time. The location of the potential new mining facility has not yet been determined. The construction of the mine within a mining pit would create some short-term noise; however, the construction would occur within a mining pit that would create a barrier to noise receptors.

As a part of the proposed project related to mining activities, portions of the existing haul roads within the project will be paved. The construction equipment used during the paving of the haul road would create a temporary noise source. The paving equipment is not expected to create a significant amount of noise. In addition the haul road to be paved is located away from sensitive noise receptors. Noise created by the construction to occur related to aggregate mining would not be in excess of the activities currently taking place within the mining area. Therefore, construction noise impacts would be less than significant, and no mitigation measures are required.

Cumulative. Cumulatively, aggregate mining activities would create some short-term noise; however, the construction would occur within a mining pit that would create a barrier to noise receptors. Development of other projects may result short-term noise impacts; however, these projects would be required to identify, analyze, and mitigate the project's potential for these impacts. Therefore, the aggregate mining component in conjunction with other identified cumulative projects would have a less than significant cumulative impact on short-term construction noise.

Adoption of General Plan Amendments

The General Plans of the Cities of Highland and Redlands will need to be amended in order to implement the components of the Planning Area. Each of the project components that could occur as a result of these General Plan Amendments is analyzed separately within this section. For each component, appropriate mitigation is provided where necessary to ensure that a less than significant construction noise impact would occur. Therefore, a less than significant impact would result from the adoption of the General Plan Amendments.

Cumulative. Cumulatively, the adoption of General Plan Amendments would not result in short-term noise impacts within the Planning Area as this component is considered an administrative process. Development of other projects within the Planning Area may result in short-term noise impacts; however, these projects would be required to identify, analyze, and mitigate the project's potential for these impacts. Therefore, the adoption of General Plan Amendments in conjunction with other identified cumulative projects would have a less than significant cumulative impact on short-term construction noise.

Roadway/Bridge Rights-of-Way

The project includes the setting aside of rights-of-way for subsequent improvements to Greenspot Road and the Greenspot Road Bridge, Alabama Street, and Orange Street-Boulder Avenue. In addition, project-specific environmental analysis and review will be required for each project that could occur as a result of right-of-way ~~dedication~~ designation. Subsequent environmental documentation would be required to mitigate any project-specific construction impacts to a level that is less than significant. Therefore, a less than significant impact would occur as a result of the ~~dedication~~ designation of rights-of-way.

Additionally, a new truck access road is proposed that will connect with 5th Street between Church Avenue and SR-30. The construction of this roadway will create some short-term noise impacts from grading, hauling, paving and other road construction activities. Construction-related short-term noise levels would be higher than existing ambient noise levels in the project area today, but would no longer occur once construction of the project is completed.

Two types of short-term noise impacts could occur during the construction of the new road. First, construction crew commutes and the transport of construction equipment and materials to the site for the new road would incrementally increase noise levels on access roads leading to the site. Although there would be a relatively high single-event noise exposure potential causing intermittent noise nuisance (passing trucks at 50 ft would generate up to a maximum of 87 dBA L_{max}), the effect on longer term (hourly or daily) ambient noise levels would be small. Therefore, short-term construction-related impacts associated with worker commute and equipment transport to the project site would be less than significant.

The second type of short-term noise impact is related to noise generated during grading and roadway construction on the project site. Construction is completed in discrete steps, each of which has its own mix of equipment, and consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated on the site, and therefore, the noise levels surrounding the site as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. Table 4.11.J lists typical construction equipment noise levels recommended for noise impact assessments, based on a distance of 50 ft between the equipment and a noise receptor. Typical noise levels range up to 91 dBA L_{max} at 50 ft during the noisiest construction phases. The site preparation phase, which includes excavation and grading of the site, tends to generate the highest noise levels, because the noisiest construction equipment is earthmoving equipment. Earthmoving equipment includes excavating machinery such as backfillers, bulldozers, draglines, and front loaders. Earthmoving and compacting equipment includes compactors, scrapers, and graders. Typical operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three or four minutes at lower power settings.

Table 4.11.J – Typical Off-Road Equipment and Other Construction Noise Levels

Type of Equipment	Range of Maximum Sound Levels Measured (dBA at 50 feet)	Suggested Maximum Sound Levels for Analysis (dBA at 50 feet)
Pile drivers, 12,000 to 18,000 ft-lb./blow	81–96	93
Rock drills	83–99	96
Jackhammers	75–85	82
Pneumatic tools	78–88	85
Pumps	74–84	80
Dozers	77–90	85
Scrapers	83–91	87
Haul trucks	83–94	88
Cranes	79–86	82
Portable generators	71–87	80
Rollers	75–82	80
Tractors	77–82	80
Front-end loaders	77–90	86
Hydraulic backhoe	81–90	86
Hydraulic excavators	81–90	86
Graders	79–89	86
Air compressors	76–89	86

Table 4.11.J – Typical Off-Road Equipment and Other Construction Noise Levels

Type of Equipment	Range of Maximum Sound Levels Measured (dBA at 50 feet)	Suggested Maximum Sound Levels for Analysis (dBA at 50 feet)
Concrete batch plants	80–85	83
Vibratory conveyors	70–80	77
Concrete vibrators	68–81	78
Trucks	81–87	86
Blasting	93–94	94

Source: *Noise Control for Buildings and Manufacturing Plants*, Bolt, Beranek & Newman 1987.

Construction of the proposed roadway is expected to require the use of earthmoving equipment such as dozers, haul trucks, front-end loaders, and water and pickup trucks. This equipment would be used on the project site. Based on the information in Table 4.11.J, the maximum noise level generated by each scraper on the proposed project site is assumed to be 87 dBA L_{max} at 50 ft from the scraper. Each dozer would generate 85 dBA L_{max} at 50 ft from the dozer. Each doubling of the sound sources with equal strength increases the noise level by 3 dBA. Assuming that each piece of construction equipment operates at some distance from the other equipment, the worst-case combined noise level during this phase of construction would be 91 dBA L_{max} at a distance of 50 ft from the active construction area. The nearest sensitive receptor are residences on Powell Drive, approximately 600 feet from the closest point of the proposed roadway. At this distance the 91 dBA L_{max} would be reduced to less than 70 dBA L_{max} . This is less than the City of Highland's 75 dBA L_{max} exterior noise standard, so there would be no significant impact.

Cumulative. Cumulatively, the ~~dedication~~ designation of additional roadway/bridge rights-of-way would not result in short-term noise impacts within the Planning Area as this component is considered to be an administrative process. The ultimate expansion of these roadways and bridges as well as development of other projects within the Planning Area may result short-term noise impacts; however, these projects would be required to identify, analyze, and mitigate the project's potential for these impacts in separate environmental documents. Therefore, the ~~dedication~~ designation of additional roadway/bridge rights-of-way in conjunction with other identified cumulative projects would have a less than significant cumulative impact on short-term construction noise.

Recreational Trail Rights-of-Way

The trail rights-of-way will be located in existing streets, access roads, and railroad rights-of-way and will not require construction activities, except for potential placement of baseline-consistent barriers or signage. As the trail rights-of-way would not require construction, this component of the project would not result in short-term noise impacts associated with construction. Therefore, construction noise impacts would be less than significant, and no mitigation measures are required.

Cumulative. Cumulatively, the ~~dedication~~ designation of recreational trail rights-of-way would not result in short-term noise impacts within the Planning Area as this component is considered to be an administrative process. The ultimate use of these recreational trails would not require construction and would not generate short-term noise. Development of other projects within the Planning Area may result in short-term noise impacts; however, these projects would be required to identify, analyze, and mitigate the project's potential for these impacts. Therefore, the ~~dedication~~ designation of recreational trail rights-of-way in conjunction with other identified cumulative projects would have a less than significant cumulative impact on short-term construction noise.

Land Exchange between the District and the BLM

This land exchange would facilitate aggregate mining, whose impacts are analyzed above. The remaining aspects of the land exchange are to facilitate managed habitat preservation areas, and potential future

water conservation facilities. The management of habitat preservation areas will not result in any expected increases in ambient noise. Any short-term construction impacts from potential future water conservation facilities will have to await the determination of the need, type, design, location, and timing of such facilities. Such aspects will have to be analyzed in a project-specific environmental review when such facilities are proposed. Based on present knowledge, however, construction noise impacts resulting from activities facilitated by the land exchange would be less than significant, and no mitigation measures are required.

Cumulative. Cumulatively, the land exchange between the District and the BLM would not result in short-term noise impacts within the Planning Area as this component is considered an administrative process. Development of other projects within the Planning Area may result short-term noise impacts; however, these projects would be required to identify, analyze, and mitigate the project's potential for these impacts. Therefore, the land exchange between the District and the BLM in conjunction with other identified cumulative projects would have a less than significant cumulative impact on short-term construction noise.

Land Exchange between the SBCFCD and Robertson's

The land exchange will set aside land for habitat preservation and mining uses. Areas to be designated as habitat conservation would not require construction and would not result in short-term noise impacts associated with construction. The mining portion of the land exchange will have short-term construction impacts similar to those discussed under *Aggregate Mining*, for which a less than significant impact was identified. Therefore, construction noise impacts would be less than significant, and no mitigation measures are required.

Cumulative. Cumulatively, the land exchange between the SCFCD and Robertson's would not result in short-term noise impacts within the Planning Area as this component is considered an administrative process. Development of other projects within the Planning Area may result short-term noise impacts; however, these projects would be required to identify, analyze, and mitigate the project's potential for these impacts. Therefore, the land exchange between the SBCFCD and Robertson's in conjunction with other identified cumulative projects would have a less than significant cumulative impact on short-term construction noise.

4.11.4.3 Mobile Source Noise Impacts to Sensitive Receptors

Threshold	<p>Would the proposed project result in a substantial temporary, periodic, and/or permanent increase in ambient noise levels in the project vicinity above levels existing without the project?</p> <p>Would the proposed project result in the exposure to or generation of noise levels in excess of standards established in the City of Highland General Plan Update, City of Highland Municipal Code, City of Redlands 1995 General Plan, City of Redlands Municipal Code, or standards of other agencies?</p>
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Water Conservation Operations/Maintenance Activities of the District

Water Conservation operation and maintenance activities of the District would not change as a result of the proposed project. Mobile noise sources generated as part of the current activities are from trucks and other vehicles traveling to and from the Planning Area. Vehicular traffic would not increase over the current baseline as a result of this activity. Therefore, this component of the proposed project would not contribute to increased noise in the project vicinity. A less than significant impact associated with this component of the project would occur and no mitigation is required.

Cumulative. Cumulatively, the continuation of water conservation activities of the District would not result in an increase over current mobile baseline noise conditions within the Planning Area. Development of other projects, including future water conservation operations, could conceivably create an increase of mobile noise over current baseline noise conditions; however, these projects would be required to identify,

analyze, and mitigate the project's potential for these impacts. Therefore, the water conservation component in conjunction with other identified cumulative projects would have a less than significant cumulative impact on mobile ambient noise levels.

Flood Control Operations/Maintenance Activities of the SBCFCD

As described in Section 3.6.2, there is a ~~6-acre~~ 8-acre reduction in the amount of land used for flood control, and there will be no change to the operations and maintenance of those lands with the proposed project. The SBCFCD will not require additional construction work associated with the Santa Ana River, Mill Creek, Plunge Creek, or City Creek as a result of the proposed project. Operation and maintenance activities of the SBCFCD would continue to occur as currently implemented. Therefore, this component of the project would not contribute to increased mobile source noise in the project vicinity. A less than significant impact associated with this activity would occur and no mitigation is required.

Cumulative. Cumulatively, flood control activities would not result in an increase of mobile noise over existing baseline conditions within the Planning Area. Development of other projects may result in an increase in mobile noise levels; however, these projects would be required to identify, analyze, and mitigate the project's potential for these impacts. Therefore, the flood control component in conjunction with other identified cumulative projects would have a less than significant cumulative impact on mobile ambient noise levels.

Water Production Operations/Maintenance Activities of the EVWD and the RMUD

Operation and maintenance activities of the EVWD and RMUD would not change as a result of the proposed project. Vehicular traffic would not increase as a result of this activity. Therefore, this component of the project would not contribute to increased mobile source noise in the project vicinity. A less than significant impact associated with this activity would occur and no mitigation is required.

Cumulative. Cumulatively, the continuation of water production activities would not result in an increase of mobile noise over existing baseline conditions within the Planning Area. Development of other projects within the Planning Area may result in an increase of mobile noise over existing baseline conditions; however, these projects would be required to identify, analyze, and mitigate the project's potential for these impacts. Therefore, the water production component in conjunction with other identified cumulative projects would have a less than significant cumulative impact on mobile ambient noise levels.

Aggregate Mining

Vehicular traffic noise associated with the expansion of mining activities would potentially impact off-site noise-sensitive land uses. With the expansion of the mining activities, mobile noise sources would include truck traffic both within the project and on adjacent roads and the operation of heavy mobile equipment within the Planning Area. The expansion of the mining activities is anticipated to increase the amount of activity within the project boundary and the number of trucks on the local roadways.

The FHWA highway traffic noise prediction model (FHWA RD-77-108) was used to evaluate traffic-related noise conditions in the project vicinity. As previously noted, this model requires various parameters, including traffic volumes, vehicle mix, vehicle speed, and roadway geometry to compute typical equivalent noise levels during daytime, evening, and nighttime hours. Modeling parameters for the future 2008 and 2030 ADT volumes, vehicle speed, and roadway geometry were obtained from the *Traffic Study* prepared for the project (LSA, January 26, 2007). The following lists the parameters used for each roadway:

- **5th Street.** 5th Street was modeled as a four-lane roadway (two lanes in each direction) with vehicle speeds at 50 mph.
- **Alabama Street.** Alabama Street was modeled as a two- to four-lane roadway (varying from one to two lanes in each direction) with vehicle speeds at 45 mph.

- **Boulder Avenue.** Boulder Avenue was modeled a two-lane roadway (one lane in each direction) with vehicle speeds at 40 mph.
- **Truck Access Road at 5th Street.** A proposed truck access road connected to 5th Street east of Church Avenue was modeled as a two-lane roadway (one lane in each direction) with vehicle speeds at 40 mph.

The vehicle mix was assumed to be 97.42 percent automobiles, 1.84 percent medium trucks, and 0.74 percent heavy trucks. The resultant noise levels are weighted and summed over 24-hour periods to determine the CNEL values.

Table 4.11.K shows the 2008 baseline traffic noise levels. Table 4.11.L shows the 2008 with-project (mining expansion) noise levels. Table 4.11.M shows the 2030 baseline traffic noise levels. Table 4.11.N shows the 2030 with-project (mining expansion) noise levels. These noise levels represent the worst-case scenario, which assumes that no shielding is provided between the traffic and the location where the noise contours are drawn. The specific assumptions used in developing these noise levels and model printouts are provided in Appendix I of this EIR.

Table 4.11.K– 2008 Baseline Traffic Noise Levels

Roadway Segment	ADT	Centerline to 70 CNEL (feet)	Centerline to 65 CNEL (feet)	Centerline to 60 CNEL (feet)	CNEL (dBA) 50 feet from Outermost Lane
5th Street					
West of Alabama Street	10,870	< 50*	97	203	66.9
Between Alabama Street and Church Avenue	21,665	73	150	320	69.9
Between Church Avenue and State Route 30 westbound ramp	22,905	75	156	332	70.1
Between State Route 30 westbound ramp and State Route 30 eastbound ramp	23,620	77	159	339	70.3
Between State Route 30 eastbound ramp and Boulder Avenue	22,965	75	156	333	70.1
East of Boulder Avenue	18,760	67	137	291	69.3
Alabama Street					
North of 5 th Street	9,330	< 50	75	154	65.1
Between 5 th Street and 3 rd Street	17,365	< 50	110	232	67.8
Between 3 rd Street and Robertson's Access	12,685	< 50	87	188	67.9
Between Robertson's Access and Cemex Access	11,870	< 50	84	180	67.6
South of Cemex Access	11,450	< 50	82	175	67.5
Boulder Avenue					
North of Greenspot Road	8,390	< 50	55	117	64.9
South of Greenspot Road	10,890	< 50	65	140	66.0
North of Cemex Access	16,840	< 50	87	187	67.9
South of Cemex Access	16,870	< 50	87	187	67.9

* Traffic noise within 50 feet of the roadway centerline should be evaluated with site-specific information.

Source: LSA Associates, Inc., February 2007.

Table 4.11.L – 2008 With-Project (Mining Expansion)Traffic Noise Levels

Roadway Segment	ADT	Center-line to 70 CNEL (feet)	Center-line to 65 CNEL (feet)	Center-line to 60 CNEL (feet)	CNEL (dBA) 50 Feet from Centerline of Outermost Lane	Increase from Baseline Conditions
5th Street						
West of Alabama Street	10,880	< 50*	97	203	66.9	0.0
Between Alabama Street and Church Avenue	13,565	56	111	235	67.9	-2.0
Between Church Avenue and Truck Access	22,435	74	154	328	70.0	-0.1
Between Truck Access and State Route 30	23,140	76	157	334	70.2	0.1
Between State Route 30 westbound ramp and State Route 30 eastbound ramp	23,640	77	159	339	70.3	0.0
Between State Route 30 and Boulder Avenue	22,805	75	155	331	70.1	0.0
East of Boulder Avenue	18,750	67	137	291	69.3	0.0
Alabama Street						
North of 5 th Street	9,330	< 50	75	154	65.1	0.0
Between 5 th Street and 3 rd Street	9,275	< 50	75	154	65.1	-2.7
Between 3 rd Street and Robertson's Access	12,195	< 50	85	183	67.7	-0.2
Between Robertson's Access and Cemex Access	11,920	< 50	84	180	67.6	0.0
South of Cemex Access	11,450	< 50	82	175	67.5	0.0
Boulder Avenue						
North of Greenspot Road	8,390	< 50	55	117	64.9	0.0
South of Greenspot Road	10,740	< 50	64	138	65.9	-0.1
North of Cemex Access	16,690	< 50	86	185	67.8	-0.1
South of Cemex Access	16,870	< 50	87	187	67.9	0.0
Truck Access Road at 5 th Street	800	< 50	70	150	66.4	N/A

* Traffic noise within 50 feet of the roadway centerline should be evaluated with site-specific information.

Source: LSA Associates, Inc., February 2007.

Table 4.11.M – 2030 Baseline Traffic Noise Levels

Roadway Segment	ADT	Centerline to 70 CNEL (feet)	Centerline to 65 CNEL (feet)	Centerline to 60 CNEL (feet)	CNEL (dBA) 50 feet from Outermost Lane
5th Street					
West of Alabama Street	19,310	68	139	297	69.4
Between Alabama Street and Church Avenue	34,500	97	203	436	71.9
Between Church Avenue and State Route 30 westbound ramp	35,095	98	206	441	72.0

Table 4.11.M – 2030 Baseline Traffic Noise Levels

Roadway Segment	ADT	Centerline to 70 CNEL (feet)	Centerline to 65 CNEL (feet)	Centerline to 60 CNEL (feet)	CNEL (dBA) 50 feet from Outermost Lane
Between State Route 30 westbound ramp and State Route 30 eastbound ramp	31,710	92	193	412	71.5
Between State Route 30 eastbound ramp and Boulder Avenue	27,870	85	177	378	71.0
East of Boulder Avenue	16,520	62	126	267	68.7
Alabama Street					
North of 5 th Street	16,280	< 50*	105	222	67.5
Between 5 th Street and 3 rd Street	37,160	86	180	384	71.1
Between 3 rd Street and Robertson's Access	34,670	79	170	367	72.3
Between Robertson's Access and Cemex Access	33,840	78	168	361	72.2
South of Cemex Access	33,420	77	166	358	72.1
Boulder Avenue					
North of Greenspot Road	23,340	< 50	108	232	69.3
South of Greenspot Road	29,820	59	127	273	70.4
North of Cemex Access	36,690	68	146	313	71.3
South of Cemex Access	36,690	68	146	313	71.3

* Traffic noise within 50 feet of the roadway centerline should be evaluated with site-specific information.

Source: LSA Associates, Inc., February 2007.

Table 4.11.N – 2030 With-Project (Mining Expansion) Traffic Noise Levels

Roadway Segment	ADT	Center-line to 70 CNEL (feet)	Center-line to 65 CNEL (feet)	Center-line to 60 CNEL (feet)	CNEL (dBA) 50 Feet from Centerline of Outermost Lane	Increase from Baseline Conditions
5th Street						
West of Alabama Street	19,320	68	139	297	69.4	0.0
Between Alabama Street and Church Avenue	19,500	68	140	299	69.4	-2.5
Between Church Avenue and Truck Access	34,590	97	204	437	71.9	-0.1
Between Truck Access and State Route 30	35,325	98	207	443	72.0	0.0
Between State Route 30 westbound ramp and State Route 30 eastbound ramp	31,730	92	193	412	71.5	0.0
Between State Route 30 and Boulder Avenue	27,710	85	176	377	71.0	0.0
East of Boulder Avenue	16,510	62	126	267	68.7	0.0
Alabama Street						
North of 5 th Street	16,280	< 50*	105	222	67.5	0.0

Table 4.11.N – 2030 With-Project (Mining Expansion) Traffic Noise Levels

Roadway Segment	ADT	Center-line to 70 CNEL (feet)	Center-line to 65 CNEL (feet)	Center-line to 60 CNEL (feet)	CNEL (dBA) 50 Feet from Centerline of Outermost Lane	Increase from Baseline Conditions
Between 5 th Street and 3 rd Street	22,170	63	128	273	68.8	-2.3
Between 3 rd Street and Robertson's Access	34,180	79	169	363	72.2	-0.1
Between Robertson's Access and Cemex Access	33,890	78	168	361	72.2	0.0
South of Cemex Access	33,420	77	166	358	72.1	0.0
Boulder Avenue						
North of Greenspot Road	23,340	< 50	108	232	69.3	0.0
South of Greenspot Road	29,670	59	126	272	70.3	-0.1
North of Cemex Access	36,510	68	145	312	71.2	-0.1
South of Cemex Access	36,690	68	146	313	71.3	0.0
Truck Access Road at 5 th Street	800	< 50	70	150	66.4	N/A

* Traffic noise within 50 feet of the roadway centerline should be evaluated with site-specific information.

Source: LSA Associates, Inc., February 2007.

Tables 4.11.L and 4.11.N show the 2008 and 2030 with-project (Mining Expansion) traffic noise levels would continue to be moderate to high. As shown in Tables 4.11.L and 4.11.N, the 2008 and 2030 with-project (Mining Expansion) scenarios would have a traffic noise increase of up to 0.1 dBA. As changes in noise levels of 3 dBA or less are not perceptible to the human ear in an outdoor environment, these noise level increases would be considered less than significant. The noise from the heavy-duty truck traffic on the new truck access road at 5th Street between Church Avenue and SR-30 would not cause a significant noise impact to the nearest sensitive receptors approximately 500 feet to the north on Powell Drive. No mitigation measures are required.

Cumulative. The cumulative area for traffic noise impacts includes roadway segments listed in Tables 4.11.K through 4.11.N. As shown in Table 4.11.L and Table 4.11.N, traffic noise associated with the mining expansion would incrementally contribute to the cumulative noise increase of 0.1 dBA. As changes in noise levels of 3 dBA or less are not perceptible to the human ear in an outdoor environment, these noise level increases would be considered less than significant. Development of other projects may result in an increase in mobile noise over existing baseline conditions; however, these projects would be required to identify, analyze, and mitigate the project's potential for these impacts. Therefore, the aggregate mining component in conjunction with other identified cumulative projects would have a less than significant cumulative impact on mobile ambient noise levels.

Adoption of General Plan Amendments

In order for the proposed project to be implemented the Cities of Highland and Redlands would need to adopt General Plan Amendments. The General Plan Amendments would allow the changes in land use proposed by the project to occur as described in Section 3.6. Each of the components that would require General Plan Amendments is analyzed as part of this section and mitigation is provided where it is necessary to reduce impacts to a level that is less than significant. A less than significant impact associated with this activity would occur as a result of the adoption of General Plan Amendments and no mitigation is required.

Cumulative. Cumulatively, the adoption of the General Plan Amendments would not result in an increase of mobile noise over existing baseline conditions as this component is considered to be an administrative

process. Development of other projects within the Planning Area may result in an increase in mobile noise over existing baseline conditions; however, these projects would be required to identify, analyze, and mitigate the project's potential for these impacts. Therefore, the adoption of the General Plan Amendments in conjunction with other identified cumulative projects would have a less than significant cumulative impact on mobile ambient noise levels.

Roadway/Bridge Rights-of-Way

This component of the proposed project only includes the ~~dedication~~ designation of the rights-of-way and not the construction of roadway improvements. Rights-of-way are proposed for improvements to Greenspot Road and the Greenspot Road Bridge include a realignment (smoothing of the existing "S" curve) to accommodate a 65 mph design speed, widening, and new bridge with sidewalks. Improvements to Alabama Street and Orange Street-Boulder Avenue include widening to their ultimate widths as identified in the General Plans of the Cities of Highland and Redlands. Subsequent project-specific environmental analysis and design-level construction drawings for these roadways will be prepared at a later date. A less than significant impact related to this issue would occur.

Cumulative. Cumulatively, the ~~dedication~~ designation of roadway/bridge rights-of-way would not result in an increase of mobile noise over existing baseline conditions as this component only includes the reservation of the rights-of-way and not the construction of roadway improvements. Development of other projects within the Planning Area may result an increase of mobile noise over existing baseline conditions; however, these projects would be required to identify, analyze, and mitigate the project's potential for these impacts. Therefore, the ~~dedication~~ designation of roadway/bridge rights-of-way in conjunction with other identified cumulative projects would have a less than significant cumulative impact on mobile ambient noise levels.

Recreational Trail Rights-of-Way

Motorized vehicles would not be allowed on the recreational trail rights of way that are proposed for the interior portion of the planning area. The trail rights-of-way as part of this project would allow primarily pedestrian and biking uses that would not create noise. Therefore, this component of the project would not contribute to increased mobile source noise in the project vicinity. A less than significant impact associated with this activity would occur and no mitigation is required.

Cumulative. Cumulatively, the ~~dedication~~ designation of recreational trail rights-of-way would not result in an increase of mobile noise over existing baseline conditions as this component would result in pedestrian and biking uses on existing roadways. Development of other projects within the Planning Area may result an increase of mobile noise over existing baseline conditions; however, these projects would be required to identify, analyze, and mitigate the project's potential for these impacts. Therefore, the ~~dedication~~ designation of recreational trail rights-of-way in conjunction with other identified cumulative projects would have a less than significant cumulative impact on mobile ambient noise levels.

Land Exchange between the District and the BLM

The Land Exchange between the District and the BLM is designed to facilitate aggregate mining, creation of managed habitat preserve areas, and potential future water conservation. The impacts of aggregate mining are addressed above. The establishment of managed habitat preservation areas is not expected to result in any noise impacts above existing baseline, and as such, no mitigation would be required. The use of portions of the land exchange area for potential future water conservation cannot at this time be assessed for noise impacts, because the specific design, location, need, and timing of the facilities at this time is unknown. Noise impacts from any specific proposed facility will have to be made on a project-level analysis at such time as specific facilities are proposed. A less than significant impact associated with this activity would therefore occur, and no mitigation is required.

Cumulative. Cumulatively, the land exchange between the District and the BLM would not result in an increase of mobile noise over existing baseline conditions as this component is considered an administrative process. Development of other projects within the Planning Area may result in increases in mobile noise over existing baseline conditions; however, these projects would be required to identify, analyze, and mitigate the project's potential for these impacts. Therefore, the land exchange between the District and the BLM in conjunction with other identified cumulative projects would have a less than significant cumulative impact on mobile ambient noise levels.

Land Exchange between the SCFCD and Robertson's

A portion of the land included as part of this land exchange would be dedicated to habitat conservation. Other portions would allow the possibility of future mining activities to take place. The mining activities that could take place as a result would have a similar impact to those discussed under the aggregate mining portion of discussion under this threshold. Therefore, this component of the project would not contribute to increased mobile source noise in the project vicinity. A less than significant impact associated with this activity would occur and no mitigation is required.

Cumulative. Cumulatively, the land exchange between the SBCFCD and Robertson's would not result in an increase of mobile noise over existing baseline conditions as this component is considered an administrative process. Development of other projects within the Planning Area may result in increases in mobile noise over existing baseline conditions; however, these projects would be required to identify, analyze, and mitigate the project's potential for these impacts. Therefore, the land exchange between the SBCFCD and Robertson's in conjunction with other identified cumulative projects would have a less than significant cumulative impact on mobile ambient noise levels.

4.11.4.4 Stationary Source Noise Impacts to Sensitive Receptors

Threshold	<p>Would the proposed project result in a substantial temporary, periodic, and/or permanent increase in ambient noise levels in the project vicinity above levels existing without the project?</p> <p>Would the proposed project result in the exposure to or generation of noise levels in excess of standards established in the City of Highland General Plan Update, City of Highland Municipal Code, City of Redlands 1995 General Plan, City of Redlands Municipal Code, or standards of other agencies?</p>
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Water Conservation Operations/Maintenance Activities of the District

The District will continue to operate, maintain, and repair its water conservation facilities (access roads, canals, culverts, dikes, basins, and diversion structures) within the Planning Area in the same manner as existing conditions. As described in Section 3.6.1, while there is the potential for future water conservation facilities to be built within the Planning Area, at this point in time, the specific location, size, and type of facilities are unknown. Aside from this EIR's programmatic evaluation of impacts to biological resources associated with any potential future water conservation facilities, these facilities will be required to undergo project-specific environmental analysis prior to their construction and implementation. Stationary sources of noise associated with the water conservation activities include site-specific work operations and maintenance. Any noise impacts that may occur as a result of future activities will be determined at the time that specific facilities and their locations can be determined. Therefore, the operation and maintenance of the District's facilities within the Planning Area would have a less than significant impact in relation to this issue. No mitigation is necessary.

Cumulative. Cumulatively, the continuation of water conservation activities of the District would not result in an increase over baseline stationary noise conditions within the Planning Area. Development of other projects, including future water conservation operations, may result in an increase of mobile noise over current stationary noise conditions; however, these projects would be required to identify, analyze, and mitigate the project's potential for these impacts. Therefore, the water conservation component in

conjunction with other identified cumulative projects would have a less than significant cumulative impact on ambient stationary noise levels.

Flood Control Operations/Maintenance Activities of the SBCFCD

The operations and maintenance activities of the SBCFCD would remain unchanged by the implementation of the proposed project. No new construction or new operation of any stationary noise sources would occur. The SBCFCD would continue to operate and maintain its facilities as it presently does and no increase in noise impacts would be created. These operations are considered to be the baseline for the project and there would be no increase in noise levels; therefore, the operation and maintenance of SBCFCD facilities within the Planning Area would have a less than significant impact in relation to this issue.

Cumulative. Cumulatively, flood control activities would not result in an increase of stationary noise over existing noise conditions within the Planning Area. Development of other projects may result in an increase in stationary noise levels; however, these projects would be required to identify, analyze, and mitigate the project's potential for these impacts. Therefore, the flood control component in conjunction with other identified cumulative projects would have a less than significant cumulative impact on ambient stationary noise levels.

Water Production Operations/Maintenance Activities of the EVWD and the RMUD

No new construction or operation of new stationary noise sources would occur as a part of the operation and maintenance of the EVWD and RMUD facilities. The EVWD and RMUD would continue operate and maintain their facilities as they presently do and no increase in noise impacts would be created. Therefore the operation and maintenance of EVWD and RMUD facilities within the Planning Area would have a less than significant impact in relation to this issue. No mitigation would be necessary.

Cumulative. Cumulatively, the continuation of water production activities would not result in an increase of stationary noise over existing baseline conditions within the Planning Area. Development of other projects within the Planning Area may result in an increase of stationary noise over existing baseline conditions; however, these projects would be required to identify, analyze, and mitigate the project's potential for these impacts. Therefore, the water production component in conjunction with other identified cumulative projects would have a less than significant cumulative impact on ambient stationary noise levels.

Aggregate Mining

The mining operations would potentially result in noise impacts on noise-sensitive land uses adjacent to the Planning Area. Mining operations include excavation, transporting, and processing of materials in the Planning Area. Each mining operation and its potential stationary noise impacts is described below.

Excavation. Excavation equipment would include excavators, haul trucks, and water trucks. Excavation equipment would remain the same as existing conditions. Table 4.11.O lists the types of equipment for the Robertson's and Cemex plants, the amount of equipment and number of vehicles, the range of maximum noise levels measured, and the suggested maximum sound levels at 50 feet.

Table 4.11.O – Existing Robertson’s Ready Mix and Cemex Mining Equipment

Equipment	Quantity	Range of Maximum Noise Levels Measured (dBA at 50 feet)	Suggested Maximum Noise Levels for each Piece of Equipment (dBA at 50 feet)
Robertson’s Mining Operations (Old Webster Quarry)			
RH120 shovel (excavator) used 8 hours per day	1	81–90	86
16G blade (excavator) used 2.5 hours per day	1	81–90	86
Cat 777 haul truck used 8 hours per day	3	83–94	88
Water truck used 8 hours per day	1	81–87	86
Robertson’s Processing Operations			
Cat 996F yard loader used 8 hours per day	1	77–90	86
Cat 988F loader used 24 hours per day	1	77–90	86
Cat 966F forklift used 1 hour per day	1	79–86	82
Manlift used 8 hours per day	1	79–86	82
Rock crushing plant used 8 hours per day	3	87–103	95
Cemex’s Mining Operations			
Trackhoe	1	81–90	86
D10N dozer	1	77–90	85
992C loader	1	77–90	86
988F loader	1	77–90	86
777B haul truck	3	83–94	88
Cemex’s Processing Operations			
996 loader	1	77–90	86
980G loader	1	77–90	86
Kawasaki loader	2	77–90	86
Skidsteer	1	77–90	86
Volvo Articulating truck	1	83–94	88
Cat Articulating truck	1	81–87	86
Water truck	2	81–87	86
Rock crushing plant (Type D-1)	1	87–103	95

Sources: *Noise Control for Buildings and Manufacturing Plants*, Bolt, Beranek & Newman, 1987; Equipment list for Robertson’s provided via fax dated January 7, 2005. *Noise Control for Buildings and Manufacturing Plants*, Bolt, Beranek & Newman 1987; Equipment list for Cemex provided via fax dated January 13, 2005.

Previously referenced Table 4.11.J lists typical off-road equipment maximum noise levels recommended for noise impact assessments, based on a distance of 50 feet between the equipment and a noise receptor. The excavation phase tends to generate the highest noise levels because the noisiest equipment is excavating equipment. Typical operating cycles for these types of equipment may involve one or two minutes of full-power operation followed by three or four minutes at lower power settings.

On-site operations require the use of excavators, haul trucks, and water trucks. Based on the information in Tables 4.11.J and 4.11.O, the maximum noise level generated by excavators on-site is assumed to be 86 dBA L_{max} at 50 feet from the excavator. Haul trucks would generate a maximum noise level of 88 dBA L_{max} at 50 feet, and water trucks would generate a maximum noise level of 86 dBA L_{max} at 50 feet from these vehicles. The excavation area at the East Basin (East Quarry South) is the closest to residences to the south side of the Planning Area. Two excavators, three haul trucks, and one water truck are currently active in the East Quarry South mining area and would remain the same for the proposed project. Assuming that each piece of equipment operates at some distance

from the other equipment, the worst-case combined noise levels during this phase of aggregate mining would be 95 dBA L_{max} at a distance of 50 feet from the active mining area.

The closest existing residence is located approximately 1,690 feet from the aggregate mining area and would experience maximum noise levels up to 67 dBA L_{max} . Also, the closest future planned residence is located approximately ~~4,300~~ 1,700 feet from the aggregate mining area and would experience maximum noise levels up to 64 dBA L_{max} . The Cities of Highland and Redland Municipal Codes limit noise levels for over a specified duration in any hour. Maximum noise levels generated by excavation equipment in the mining area would involve 1 or 2 minutes and would not exceed the Cities' 30-, 15-, 10-, 5-, or 1-minute noise standards. The Cities of Highland and Redlands also have daytime and nighttime maximum noise level limits. The City of Highland has a daytime maximum noise level of 80 dBA L_{max} and a nighttime maximum noise level of 75 dBA L_{max} , and the City of Redlands has a daytime maximum noise level of 80 dBA L_{max} and a nighttime maximum noise level of 70 dBA L_{max} . Noise levels generated by excavation equipment measured outside of the Planning Area would be below the Cities' daytime and nighttime maximum noise levels. Therefore, a less than significant impact would occur with the on-site excavation of aggregate materials, and no mitigation measures are required.

On-Site Transport of Excavated Materials. Transporting equipment, such as haul trucks, transport excavated materials from the mining area to the processing plants. Water trucks are used to spray haul routes with water to control fugitive dust. As shown in Tables 4.11.J and 4.11.O, haul trucks would generate a maximum noise level of 88 dBA L_{max} at 50 feet and water trucks would generate maximum noise level of 86 dBA L_{max} at 50 feet from these vehicles. The processing plant at the East Basin is the closest facility to residences located in the northwest of the Planning Area. Three rock crushers are currently located at the processing facility in the East Basin Pant and would remain the same for the proposed project. Assuming that each rock crusher operates at some distance from the other rock crushers, the worst-case combined noise level during this phase of aggregate mining would be 100 dBA L_{max} at a distance of 50 feet from the active mining area. Haul trucks and water trucks operating at the same time, as a worst-case scenario, would generate a maximum noise level of 90 dBA L_{max} at 50 feet.

The nearest residence to water truck and haul truck transport routes is located approximately 2,540 feet away and would experience noise levels up to 56 dBA L_{max} . Noise levels generated by water trucks and haul trucks would not exceed the Cities' 30-, 15-, 10-, 5-, or 1-minute noise standards. The maximum noise level of 56 dBA L_{max} would also be below the Cities' daytime and nighttime maximum noise levels. Therefore, no significant noise impacts would occur with the on-site transport of excavated materials, and no mitigation measures are required.

Back-Up Alarms. Based on manufacturing specifications, back-up alarms for mining vehicles can generate a maximum noise level of 112 dBA L_{max} at a distance of 1 foot as a worst-case scenario. It is assumed that back-up alarms from mining vehicles would not last for more than one minute. Existing residences located approximately 1,690 feet from mining activities would experience a maximum noise level of 47 dBA L_{max} . These noise levels would not exceed the Cities' 30-, 15-, 10-, 5-, 1-minute, or maximum daytime and nighttime noise level standards.

Processing of Aggregate Materials. Equipment used to process the aggregate materials consists of rock crushers, conveyors, aggregate screens, stackers, water trucks, and haul trucks. Aggregate materials are transported to the processing plants using haul trucks. Excavated materials are initially crushed and moved to a surge pile using conveyors. Materials are then processed through a vibrating screen to isolate oversized materials for reduction by a secondary cone crusher. Materials are then further reduced in size and conveyed for further screening by tertiary crushers. The completed sizing of the aggregate material is then conveyed to dry finished product screens (asphalt materials) or

washed finished products (concrete materials). A fourth-stage crusher and screens are sometimes used for improved particle shape.

The rock crusher is the noisiest equipment during the processing of aggregate materials. Based on previously referenced Tables 4.11.J and 4.11.O, the maximum noise level generated by one rock crusher is assumed to be 95 dBA L_{max} at 50 feet. The East Basin processing plant is the closest facility to residences in the northwest of the Planning Area. Three rock crushers are currently located at the Robertson's East Basin processing facility and five rock crushers are currently located at the Cemex processing plant. These would remain there for the proposed project. Assuming that each rock crusher operates at some distance from the other rock crushers, the worst-case combined noise level during this phase of aggregate mining would be 100 dBA L_{max} at a distance of 50 feet from the active mining area.

The nearest existing residence to the aggregate processing site is located approximately 1,690 feet away and would experience noise levels up to 65 dBA L_{max} . Residences adjacent to the Planning Area have intervening residential structures or barriers protecting their backyards from the Planning Area. Residential structures and backyard barriers would provide a minimum of a 5 dBA noise reduction. Therefore, with intervening structures and barriers, residences would experience a noise level of up to 60 dBA L_{max} in their backyards. The maximum noise level of 60 dBA L_{max} would not exceed the Cities' 30-, 15-, 10-, 5-, and 1-minute noise standards. Also, noise levels generated by the aggregate processing operations would be below the Cities' daytime and nighttime maximum noise levels. Therefore, no significant noise impacts would occur with the on-site processing of aggregate materials, and no mitigation measures are required.

Cumulative. Mining activities are the primary source of stationary noise within the Planning Area. The cumulative area for the mining operation is located within the Planning Area. Noise generated from mining operations includes wheel-tractor scrapers, loaders, backhoes, haul trucks, rock crushers, conveyors, aggregate screens, and material stackers. Noise generated from mining operations is considered a local point source. Sensitive land uses would not experience noise levels that exceed the Cities of Highland and Redlands noise standards. Mining operations would not contribute significantly to the ambient noise environment. Development of other projects may result in an increase in stationary noise levels over existing baseline conditions; however, these projects would be required to identify, analyze, and mitigate the project's potential for these impacts. Therefore, the aggregate mining component in conjunction with other identified cumulative projects would have a less than significant cumulative impact on stationary noise levels.

Adoption of General Plan Amendments

The adoption of General Plan Amendments is necessary for the proposed project to be consistent with the General Plans of the Cities of Highland and Redlands. The adopted General Plan Amendments will allow the components discussed within this section to take place. Each of the components is analyzed separately and mitigation is provided where it is necessary to reduce impacts to a level that are less than significant. A less than significant impact associated with this activity would occur and no mitigation is required.

Cumulative. Cumulatively, the adoption of the General Plan Amendments would not result in an increase of stationary noise over existing baseline conditions as this component is considered to be an administrative process. Development of other projects within the Planning Area may result in an increase in stationary noise over existing baseline conditions; however, these projects would be required to identify, analyze, and mitigate the project's potential for these impacts. Therefore, the adoption of the General Plan Amendments in conjunction with other identified cumulative projects would have a less than significant cumulative impact on ambient stationary noise levels.

Roadway/Bridge Rights-of-Way

This component of the proposed project only includes the reservation of the rights-of-way and not the construction of roadway improvements. Subsequent project-specific environmental impact analysis and design-level construction drawings for these roadways will be prepared at a later date. A less than significant impact related to this issue would occur and no mitigation would be necessary.

Cumulative. Cumulatively, the ~~dedication~~ designation of roadway/bridge rights-of-way would not result in an increase of stationary noise over existing baseline conditions as this component only includes the ~~dedication~~ designation of the rights-of-way and not the construction of roadway improvements. Construction of the actual roadways may be expected to result in both short-term construction impacts, and long-term potential increases in noise related to expanded roadway operations. Nevertheless, it is anticipated that prior to approval of construction-level plans, both short-term and long-term impacts on noise generation would be examined by the party constructing the roadway, and would be mitigated to a level of non-significance, using standard construction and roadway operation noise mitigation measures. As such, it is not anticipated that the construction of roadways on the ~~dedicated~~ designated right of way would result in long-term cumulative significant adverse noise impacts. Development of other projects within the Planning Area may result an increase of stationary noise over existing baseline conditions; however, these projects would be required to identify, analyze, and mitigate the project's potential for these impacts. Therefore, the ~~dedication~~ designation of roadway/bridge rights-of-way in conjunction with other identified cumulative projects would have a less than significant cumulative impact on ambient stationary noise levels.

Recreational Trail Rights-of-Way

The trail rights-of-way are intended for the recreational use of bike riders and pedestrians. The pedestrian use of these trails is not anticipated to create a significant amount of noise. No stationary sources of noise will be present within the trail area and a less than significant impact would result. No mitigation is necessary.

Cumulative. Cumulatively, the ~~dedication~~ designation of recreational trail rights-of-way would not result in an increase of stationary noise over existing baseline conditions as this component would result in biking and pedestrian uses on existing roadways. Development of other projects within the Planning Area may result an increase of stationary noise over existing baseline conditions; however, these projects would be required to identify, analyze, and mitigate the project's potential for these impacts. Therefore, the ~~dedication~~ designation of recreational trail rights-of-way in conjunction with other identified cumulative projects would have a less than significant cumulative impact on ambient stationary noise levels.

Land Exchange between the District and the BLM

The Land Exchange between the District and the BLM is designed to facilitate aggregate mining, creation of managed habitat preserve areas, and potential future water conservation. The impacts of aggregate mining are addressed above. The establishment of managed habitat preservation areas is not expected to result in any noise impacts above existing baseline, and as such, no mitigation would be required. The use of portions of the land exchange area for potential future water conservation cannot at this time be assessed for noise impacts, because the specific design, location, need, and timing of the facilities at this time is unknown. Noise impacts from any specific proposed facility will have to be made on a project-level analysis at such time as specific facilities are proposed. A less than significant impact associated with this activity would therefore occur, and no mitigation is required.

Cumulative. Cumulatively, the land exchange between the District and the BLM would not result in an increase of stationary noise over existing baseline conditions as this component is considered an administrative process. Development of other projects within the Planning Area may result in increases in stationary noise over existing baseline conditions; however, these projects would be required to identify, analyze, and mitigate the project's potential for these impacts. Therefore, the land exchange between the

District and the BLM in conjunction with other identified cumulative projects would have a less than significant cumulative impact on ambient stationary noise levels.

Land Exchange between the SBCFCD and Robertson's

The Land Exchange between the SBCFCD and Robertson's is designed to facilitate aggregate mining, creation of managed habitat preserve areas, and flood control. The impacts of aggregate mining are addressed above. The establishment of managed habitat preservation areas is not expected to result in any groundborne noise or vibration above existing baseline, and as such, no mitigation would be required. The use of portions of the land exchange area for flood control is not expected to result in any groundborne noise or vibration above existing baseline, and as such, no mitigation would be required. Groundborne noise or vibration impacts from any specific proposed facility will have to be made on a project-level analysis at such time as specific facilities are proposed. A less than significant impact associated with this activity would therefore occur, and no mitigation is required.

Cumulative. Cumulatively, the land exchange between the SBCFCD and Robertson's would not result in an increase of stationary noise over existing baseline conditions as this component is considered an administrative process. Development of other projects within the Planning Area may result in increases in stationary noise over existing baseline conditions; however, these projects would be required to identify, analyze, and mitigate the project's potential for these impacts. Therefore, the land exchange between the SBCFCD and Robertson's in conjunction with other identified cumulative projects would have a less than significant cumulative impact on ambient stationary noise levels.

4.11.4.5 Groundborne Vibration or Groundborne Noise Level Impacts

Threshold	Would the proposed project result in the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels above the 65 VdB level of human perception?
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Water Conservation Operations/Maintenance Activities of the District

The District will continue to operate, maintain, and repair its water conservation facilities (access roads, canals, culverts, dikes, basins, and diversion structures) within the Planning Area in the same manner as existing conditions. As described in Section 3.6.1, while there is the potential for future water conservation facilities to be built within the Planning Area, at this point in time, the specific location, size, and type of facilities are unknown. Aside from this EIR's programmatic evaluation of impacts to biological resources associated with any potential future water conservation facilities, these facilities will be required to undergo project-specific environmental analysis prior to their construction and implementation. Water conservation operations and maintenance will not create new sources of groundborne noise. A less than significant impact associated with this component of the project would occur and no mitigation is necessary.

Cumulative. Cumulatively, the continuation of water conservation activities would not result in new sources of groundborne noise or vibration. Development of other projects, including future water conservation activities within the Planning Area may result in the generation of groundborne noise or vibration; however, these projects would be required to identify, analyze, and mitigate the project's potential for these impacts. Therefore, the water conservation component in conjunction with other identified cumulative projects would have a less than significant cumulative impact on groundborne noise or vibration.

Flood Control Operations/Maintenance Activities of the SBCFCD.

Similar to the discussion for water conservation, flood control activities would not increase, and additional operations and maintenance are not proposed. Consequently, a less than significant impact associated with this activity would occur and no mitigation is required.

Cumulative. Cumulatively, the continuation of flood control activities would not result in new sources of groundborne noise or vibration. Development of other projects within the Planning Area may result in the generation of groundborne noise or vibration; however, these projects would be required to identify, analyze, and mitigate the project's potential for these impacts. Therefore, the flood control component in conjunction with other identified cumulative projects would have a less than significant cumulative impact on groundborne noise or vibration.

Water Production Operations/Maintenance Activities of the EVWD and the RMUD

Similar to the discussion of flood control activities, there is no change associated with water production operations/maintenance of the EVWD and the RMUD. Existing water supply wells, tanks, and pipelines of the EVWD and RMUD are expected to remain and would not be affected by the proposed project. As there is no change, a less than significant impact associated with this activity would occur and no mitigation is required.

Cumulative. Cumulatively, water production operations would not result in new sources of groundborne noise or vibration. Development of other projects within the Planning Area may result in the generation of groundborne noise or vibration; however, these projects would be required to identify, analyze, and mitigate the project's potential for these impacts. Therefore, the water production component in conjunction with other identified cumulative projects would have a less than significant cumulative impact on groundborne noise or vibration.

Aggregate Mining

Groundborne vibrations generated from excavation and processing activities would potentially impact sensitive receptors in the project vicinity. Conventional aggregate mining practices common to the industry include excavating loose material with bulldozers and loaders and loading rock and sand onto haul trucks for transport from the mine quarry to the primary crusher. Equipment used in the excavation process generally includes a shovel and/or front-end loader, end-dump trucks, dozers, and water trucks. Raw materials from the quarries are generally hauled in large bottom-dump truck-trailers directly to the plant facilities located at the Orange Street Plant and the East Basin Plant between Alabama Street and State Route 30 at the project boundary. Processing at the crusher facilities consists of primary, secondary, and tertiary crushing and wet and dry screening to produce specification-quality and size concrete and asphalt aggregate, sands, and road-base material. The proposed project would excavate raw materials using standard open pit mining techniques. Equipment used would not differ (other than as a result of technological advancements or replacement equipment) from the current mining operations in the Planning Area.

Based on data contained in the FTA's *Transit Noise and Vibration Impact Assessment* (FTA, May 2006), bulldozers and other heavy tracked equipment operating in the proposed Planning Area would generate approximately 92 VdB at a distance of 50 feet from the source. According to Caltrans,¹ every doubling of distance from 50 feet results in the reduction of the vibration level by 6 VdB. In other words, the vibration level at 100 feet is approximately 6 VdB lower than the vibration level at 50 feet, and vibration at 200 feet from the source is approximately 6 VdB lower than the vibration level at 100 feet. Thus, sensitive receptors at 100 and 200 feet from the construction activity may be exposed to groundborne vibration up to 86 and 80 VdB, respectively. The closest residences are located approximately 1,690 feet and 1,300 feet from the closest excavation site at East Quarry South and the aggregate processing plant, respectively. The closest residences would be exposed to vibration levels of 62 VdB and 57 VdB. These vibration levels are below the threshold of human perception.

Haul road and access roads constructed as part of the mining activities within the proposed project would generate groundborne vibrations. It is expected that the groundborne vibrations generated by vehicles using these roads would be less than those generated in the example above. Vehicle traffic on the haul

¹ Caltrans, *Transportation-Related Earthborne Vibration, Technical Advisory*, prepared by Rudy Hendricks, July 24, 1992.

roads will consist of trucks with rubber tires and the improved roads will have a smoother finish than what exists on the haul roads currently. This combined with the distance to sensitive receptors will result in a less than perceivable amount of groundborne vibration. Vibration levels generated by haul roads, excavation and processing operations would be less than the perceivable level and result in a less than significant impact. No mitigation measures are required.

Cumulative. Cumulatively, aggregate mining activities would generate some groundborne vibration. However, because of the conditions of existing infrastructure and the distance from the active mining areas to the nearest sensitive receptor, mining operations would not cumulatively contribute significantly to the ambient noise environment. Development of other projects within the Planning Area may result in the generation of groundborne noise; however, these projects would be required to identify, analyze, and mitigate the project's potential for these impacts. Therefore, the aggregate mining component in conjunction with other identified cumulative projects would have a less than significant cumulative impact on groundborne noise.

Adoption of General Plan Amendments

In order for the proposed project to be implemented, the Cities of Highland and Redlands would need to adopt General Plan Amendments to be consistent with the proposed project. The General Plan Amendments would allow the changes in land use by the project to occur as described in Section 3.6. Each of the project components is analyzed separately within this section. The analysis and mitigation provided for the other activities will ensure that a less than significant impact in relation to groundborne vibration occurs. No mitigation measures are required.

Cumulative. Cumulatively, the adoption of the General Plan Amendments would not result in new sources of groundborne noise as this component is considered to be an administrative process. Development of other projects within the Planning Area may result in the generation of groundborne noise; however, these projects would be required to identify, analyze, and mitigate the project's potential for these impacts. Therefore, the adoption of the General Plan Amendments in conjunction with other identified cumulative projects would have a less than significant cumulative impact on groundborne noise.

Roadway/Bridge Rights-of-Way

This component of the proposed project only includes the ~~dedication~~ designation of the rights-of-way and not the construction of roadway improvements. Construction of the actual roadways may be expected to result in both short-term construction impacts, and long-term potential increases in noise related to expanded roadway operations. Nevertheless, it is anticipated that prior to approval of construction-level plans, both short-term and long-term impacts on noise generation would be examined by the party constructing the roadway, and would be mitigated to a level of non-significance, using standard construction and roadway operation noise mitigation measures. As such, it is not anticipated that the construction of roadways on the dedicated right of way would result in long-term cumulative significant adverse noise impacts. Subsequent project-specific environmental impact analysis and design-level construction drawings for these roadways will be prepared at a later date. A less than significant impact related to this issue would occur and no mitigation is necessary.

Cumulative. Cumulatively, the ~~dedication~~ designation of roadway/bridge rights-of-way would not result in new sources of groundborne noise as this component only includes the ~~dedication~~ designation of the rights-of-way and not the construction of roadway improvements. Development of other projects within the Planning Area may result in the generation of groundborne noise; however, these projects would be required to identify, analyze, and mitigate the project's potential for these impacts. Therefore, the ~~dedication~~ designation of roadway/bridge rights-of-way in conjunction with other identified cumulative projects would have a less than significant cumulative impact on groundborne noise.

Recreational Trail Rights-of-Way

The recreational trail rights-of-way will not cause groundborne vibration. No construction is proposed and the use of the trails following their dedication designation will not create groundborne vibration. A less than significant impact associated with this activity would occur and no mitigation is required.

Cumulative. Cumulatively, the dedication designation of recreational trail rights-of-way would not result in new sources of groundborne noise as this component would result in biking and pedestrian uses on existing roadways, which would not generate groundborne vibration. Development of other projects within the Planning Area may result in the generation of groundborne noise; however, these projects would be required to identify, analyze, and mitigate the project's potential for these impacts. Therefore, the dedication designation of recreational trail rights-of-way in conjunction with other identified cumulative projects would have a less than significant cumulative impact on groundborne noise.

Land Exchange between the District and the BLM

The Land Exchange between the District and the BLM is designed to facilitate aggregate mining, creation of managed habitat preserve areas, and potential future water conservation. The impacts of aggregate mining are addressed above. The establishment of managed habitat preservation areas is not expected to result in any groundborne noise or vibration impacts above existing baseline, and as such, no mitigation would be required. The use of portions of the land exchange area for potential future water conservation cannot at this time be assessed for noise impacts, because the specific design, location, need, and timing of the facilities at this time is unknown. Groundborne noise or vibration impacts from any specific proposed facility will have to be made on a project-level analysis at such time as specific facilities are proposed. A less than significant impact associated with this activity would therefore occur, and no mitigation is required.

Cumulative. Cumulatively, the land exchange between the District and the BLM would not result in new sources of groundborne vibration or noise as this component is considered an administrative process. Development of other projects within the Planning Area may result in the generation of groundborne noise; however, these projects would be required to identify, analyze, and mitigate the project's potential for these impacts. Therefore, the land exchange between the District and the BLM in conjunction with other identified cumulative projects would have a less than significant cumulative impact on groundborne noise.

Land Exchange between the SBCFCD and Robertson's

One portion of the land included in this land exchange would be designated for habitat conservation. The other would be designated for mining related activities. There will be no change in the activity within the area dedicated for habitat conservation. Due to the lack of activity within the habitat conservation area, no groundborne vibration would be produced. The mining-related activities and impacts were discussed previously under this threshold. A less than significant impact associated with this activity would occur and no mitigation is required.

Cumulative. Cumulatively, the land exchange between the SBCFCD and Robertson's would not result in new sources of groundborne vibration or noise as this component is considered an administrative process. Development of other projects within the Planning Area may result in the generation of groundborne noise; however, these projects would be required to identify, analyze, and mitigate the project's potential for these impacts. Therefore, the land exchange between the SBCFCD and the BLM in conjunction with other identified cumulative projects would have a less than significant cumulative impact on groundborne noise.

4.11.4.6 Public Airport Noise Impacts

Threshold	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the Planning Area to excessive noise levels?
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The Redlands Municipal Airport is located immediately south of the Planning Area, and the San Bernardino International Airport is located immediately west of the Santa Ana River Planning Area. Areas surrounding both airports, which include the Planning Area, are exposed to aircraft noise. As none of the nine major components of the proposed project contain noise-sensitive receptors (e.g., educational facilities, residences, or hospitals), aircraft noise would have a less than significant impact on the all of the uses proposed and no mitigation measures are required.

Cumulative. Cumulatively, the proposed project would not expose people to public airport noise as there are no existing or proposed sensitive receptors located within the Planning Area. Development of other projects may result in exposure of people to public airport noise; however, these projects would be required to identify, analyze, and mitigate the project's potential for these impacts. Therefore, the proposed project in conjunction with other identified cumulative projects would have a less than significant cumulative impact on exposure of people to public airport noise.

4.12 POPULATION AND HOUSING

This section identifies existing housing and population conditions as well as the impacts associated with development of the proposed project within the Cities of Highland and Redlands and the San Bernardino County Community of Mentone. The demographics in these cities and community provide the baseline for the analysis of the affected environment related to population and housing. Sources of demographic information include the United States Census Bureau (Census), the Southern California Association of Governments (SCAG), the California Employment Development Department, and the State of California Department of Finance (DOF).

4.12.1 Existing Setting

The Planning Area is located in a region that has experienced considerable population growth during the past two decades, with growth expected to continue through the next decade. This subsection discusses existing population, housing characteristics, and employment.

Population

The population in the region surrounding the Planning Area has grown steadily over the past decade. As shown in Table 4.12.A, the City of Highland had a population of approximately 44,668 in 2000 and is projected to have a population of approximately 50,167 in 2010, an increase of a little over 12 percent. By 2070, the City of Highland is projected to increase its population by over 86 percent (83,161 residents).

Table 4.12.A – Population Characteristics in Project Vicinity, 2000 to 2070

Jurisdiction	2000	2005	2010	2040	2070	Percentage Increase
Highland	44,668	48,458	50,167	66,664	83,161	86.2%
Redlands	63,875	69,288	72,036	96,519	121,002	89.4%
Mentone	7,803	8,512	9,220	13,471	17,722	127.1%
San Bernardino County	1,718,311	1,919,215	2,059,420	3,082,747	4,106,074	139.0%

Sources: Southern California Association of Governments, *Growth Forecasting: City Projections*, <http://www.scag.ca.gov/forecast/downloads/2004GF.xls>, 2004. U.S. Census Bureau, *Census 2000 Summary File 1*, Community of Mentone, accessed January 18, 2007.

The City of Redlands had a population of approximately 63,875 in 2000 and is projected to have a population of approximately 72,036 in 2010, which would be an increase of almost 13 percent. Its population is expected to increase to 121,002 by 2070, an increase of almost 90 percent.

The Community of Mentone¹ had a population of approximately 7,803 in 2000 and in 2010 is projected to have a population of approximately 9,220. By 2070, its population is projected to grow by more than double (around 127%). The Community of Mentone makes up approximately 0.45 percent of the total population for San Bernardino County based on year 1990 and 2000 population data. This percentage factor was applied to San Bernardino County population estimates for future years (2005, 2010, 2040, and 2070) to obtain estimated population figures for the Community of Mentone in those years.

¹ The Community of Mentone is a Census designated place, which is a statistical entity defined for each decennial census according to Census Bureau guidelines, comprising a densely settled concentration of population that is not within an incorporated place, but is locally identified by a name. CDPs are delineated cooperatively by State and local officials and the Census Bureau, following Census Bureau guidelines. http://factfinder.census.gov/home/en/epss/glossary_a.html.

The San Bernardino County population in 2000 was approximately 1,718,311, and the total County projected population for 2010 is approximately 2,059,420, an almost 20 percent increase in population. By 2070 the total population is expected to increase by 139 percent.

Housing

According to the 2000 U.S. Census, as shown in Table 4.12.B, there were approximately 15,000 housing units¹ in the City of Highland, 25,000 in the City of Redlands, and almost 3,000 in the Community of Mentone. The average household size ranged from a low of 2.61 persons per household in the City of Redlands to a high of 3.29 in the City of Highland. The average household size for the County of San Bernardino was 3.15 persons. The homeowner vacancy rates for the City of Highland and the Community of Mentone were similar (3.7% and 3.6%, respectively), and the vacancy rate for the County of San Bernardino was 3.1 percent. The City of Redlands, at 2.2 percent, had the lowest homeowner vacancy rate.

Table 4.12.B – Household and Housing Characteristics in the Project Vicinity

Jurisdiction	Total Housing Units	Average Household Size	Occupied Housing Units	Vacant Housing Units	Homeowner Vacancy Rate (%)
City of Highland	14,858	3.29	13,478	1,380	3.7
City of Redlands	24,790	2.61	23,593	1,197	2.2
Mentone	2,946	2.77	2,757	189	3.6
San Bernardino County	601,369	3.15	528,594	72,775	3.1

Sources: U.S. Census Bureau, Census 2000 (Fact Sheets for the City of Highland, City of Redlands, Community of Mentone, and San Bernardino County), accessed February 10, 2007.

The housing needs assessment, shown in Table 4.12.C, is completed periodically by the SCAG and its counterparts in other parts of the State, as mandated by State law. More than 2,000 housing units are required in the Cities of Highland and Redlands, and almost 44,000 units are required for the unincorporated areas of San Bernardino County (which includes Mentone). The planning period is 7.5 years, according to the SCAG.

Table 4.12.C – Housing Needs by Income in the Project Vicinity within 7.5 Years

Jurisdiction	Very Low Income	Low Income	Moderate Income	Above Moderate Income	Total Housing Needed
City of Highland	24%	17%	21%	38%	2,202
City of Redlands	18%	15%	20%	47%	2,099
Unincorporated San Bernardino County	24%	16%	20%	40%	43,635

Note: The percentages, when applied to the total housing need for that jurisdiction, indicates the number of housing units required for a particular income level.

Source: Southern California Association of Governments, Regional Housing Needs Assessment, <http://api.ucla.edu/rhna/RegionalHousingNeedsAssessment/RHNACalculator/Frame.htm>, accessed February 10, 2007.

4.12.2 Existing Policies and Regulations

The following discussion of policies and regulations includes those from the following general plans:

¹ A housing unit is a house, an apartment, a mobile home or trailer, a group of rooms, or a single room occupied as separate living quarters, or if vacant, intended for occupancy as separate living quarters.

- *City of Highland General Plan Update*.¹ Economic Development Element; and
- *City of Redlands 1995 General Plan*.² Growth Management Element.

City of Highland General Plan Update: Economic Development Element

The following goals and policies from the City of Highland General Plan apply to the proposed project with respect to population, housing, and employment.

Goal 9.3

Continually monitor and enhance Highland's business promotion and economic development activities and programs.

Policies

- 1) Establish, maintain, use, and update a list of targeted industries and professional organizations for business promotion and location/relocation in Highland.

Goal 9.5

Develop one of the Inland Empire's most sought after and successful industrial and business park districts along the 5th Street corridor.

Policies

- 1) Promote light industrial and business park uses along 5th Street.
- 5) Limit nonconforming development that might compromise the integrity of the area as an industrial/business park center.

City of Redlands General Plan: Growth Management Element

The following goals and policies from the City of Redlands 1995 General Plan apply to the proposed project with respect to population, housing, and employment.

The policy for growth management as it relates to population and housing is listed here.

Policy 2.0b Provide for expansion of housing and employment opportunities while avoiding deterioration of the quality of life associated with rapid growth.

Southern California Association of Governments Growth Projections

SCAG growth projections are used by the SCAG's Modeling Section to forecast travel demand and air quality for planning activities such as the Regional Transportation Plan (RTP), the Air Quality Management Plan (AQMP), the Regional Transportation Improvement Program (RTIP), and the Regional Housing Plan.

The SCAG's Forecasting Section is responsible for producing socioeconomic projections and developing, refining and maintaining the SCAG's regional and small area forecasting models. Using the base year socioeconomic forecasts, the Forecasting Section develops future forecasts in 5-year intervals. The Forecasting Section works closely with the Plans and Programs Technical Advisory Committee, the Department of Finance (DOF), sub-regions, local jurisdictions, the public, and other major stakeholders.

¹ *City of Highland General Plan Update*, The Planning Network, adopted March 14, 2006.

² *City of Redlands General Plan*, prepared by City of Redlands Community Development Department, effective October 19, 1995.

Relevant growth projections for the Cities are identified in Section 4.12.1.

Regional Housing Needs Assessment (RHNA)

State law mandates local communities to provide for their portion of the regional demand for housing units. The number of units to be accommodated, or a local jurisdiction's portion of the regional demand, is determined by the SCAG. The RHNA is not a mandate to construct the full number of housing units assigned a region; rather, the RHNA allocation process establishes short-term construction needs and the fair distribution of housing needs among income groups. The housing construction "targets" identified in the RHNA obligate jurisdictions to take steps to (1) provide an adequate amount of residential land to accommodate RHNA housing needs; (2) maintain a Zoning Ordinance that is permissive enough to allow the development of a variety of housing to meet the special needs of the population; (3) focus housing resources to meet the needs of very-low and low-income housing needs; and (4) exercise authority to remove barriers or legal constraints to the construction of affordable housing.

The City of Highland's assigned allocation for new housing during the 2006–2014 planning period was 2,156 units. Of these, 502 and 355 units (respectively) were identified as necessary for very-low and low-income categories. The City of Redlands' assigned allocation for new housing during the 2006–2014 planning period was 2,845 units. Of these, 682 and 469 units (respectively) were identified as necessary for very-low and low-income categories. RHNA data is not available for the Community of Mentone.

4.12.3 Thresholds of Significance

The proposed project would result in significant population and housing impacts if it would result in 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; and/or
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

The impact area used to assess potential cumulative population and housing impacts is the City of Highland and the City of Redlands. Residential projects located outside the limits of the City were not utilized in the discussion of cumulative population and housing impacts.

4.12.4 Impacts Analysis

4.12.4.1 Population Growth Inducement

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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Water Conservation Operations/Maintenance Activities of the District

Activities performed by the District would not induce population growth, as residential or commercial development would not occur. There would be no direct or indirect population growth inducement associated with the provision of new homes and businesses or extension of roads or other infrastructure, because additional housing would not be required by the proposed project. The

District's continuation of its water conservation activities is similarly not anticipated to induce population or other growth. As explained in the District's water rights EIR, long-term water spreading by the District is expected to occur at or below historical levels, while long-term demand for water is increasing. Therefore, the water that the District would spread under its own right will not generate additional population or induce growth. For these reasons, no impact from population growth inducement is anticipated and no mitigation is necessary.

Cumulative. Cumulatively, the water conservation activities of the District would not induce population growth as residential or commercial development would not occur. Development of other projects in the Cities of Highland and Redlands may result in population growth; however, all cities and counties are required to prepare and maintain a comprehensive, long-term general plan for the physical development of the county or city that identifies land uses that would contribute to population growth. Thus, it is the responsibility of cities and counties to define the availability of land for future development in terms of the permitted location and intensity of residential, commercial, industrial, and other types of development. Moreover, any additional water conservation facilities, or water management decisions that might be made pursuant to the Seven Oaks Accord, Integrated Regional Water Management Plan, or similar deliberative water management process that might increase the long-term supply of water that might induce population or other growth, would be examined on a project-specific basis, when the specific facilities or management strategies are developed. At this juncture, such impacts are too speculative to admit to reasonable assessment. Therefore, the water conservation component in conjunction with other identified cumulative projects would have a less than significant cumulative impact on population growth.

Flood Control Operations/Maintenance Activities of the SBCFCD

The continued operations and maintenance activities of the SBCFCD within the Planning Area and streams adjacent to or leading into the Planning Area (Mill Creek, Plunge Creek, and City Creek) would not create a significant impact upon population growth inducement. These activities would not result in the development of residential or commercial development that would induce population growth. There would be no direct or indirect substantial population growth inducement within the Planning Area because no proposed hosing or commercial development is proposed or required. For these reasons, no impact to population growth inducement is anticipated and no mitigation is necessary.

Cumulative. Cumulatively, flood control activities would not induce population growth as residential or commercial development would not occur. Development of other projects in the Cities of Highland and Redlands may result in population growth; however, all cities and counties are required to prepare and maintain a comprehensive, long-term general plan for the physical development of the county or city that identifies land uses that would contribute to population growth. Thus, it is the responsibility of cities and counties to define the availability of land for future development in terms of the permitted location and intensity of residential, commercial, industrial, and other types of development. Therefore, the flood control component in conjunction with other identified cumulative projects would have a less than significant cumulative impact on growth inducement.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

The continued water production operations and maintenance activities of the EVWD and the RMUD would not create significant impacts upon population growth. The EVWD currently operates four facilities within the Planning Area; water tanks and wells with boosters. Three facilities are located off Greenspot Road and the remaining facility is located off Cone Camp Road. The RMUD maintains two water wells near the entrance to the Cemex plant off Orange Street-Boulder Avenue, which provides a portion of the water needed to serve the residents and businesses in the City. Activities conducted include operation and maintenance of wells and pumps. These production operations and maintenance activities of the EVWD and RMUD would not directly or indirectly induce population growth. The existing levels of service would continue to be adequate for the activities performed.

There would be no direct or indirect inducement of population growth within the Planning Area because no housing or commercial development is proposed as part of the proposed project. No impacts to population growth inducement are anticipated and no mitigation is necessary.

Cumulative. Cumulatively, water production activities would not result in population growth as residential or commercial development would not occur. Development of other projects in the Cities of Highland and Redlands may result in population growth; however, all cities and counties are required to prepare and maintain a comprehensive, long-term general plan for the physical development of the county or city that identifies land uses that would contribute to population growth. Thus, it is the responsibility of cities and counties to define the availability of land for future development in terms of the permitted location and intensity of residential, commercial, industrial, and other types of development. Therefore, the water production component in conjunction with other identified cumulative projects would have a less than significant cumulative impact on growth inducement.

Aggregate Mining

Aggregate mining activities on the areas designated for mining, including construction of haul roads, an access road from the mining area to 5th Street in Highland, and reclamation of the mine pits at the end of mining operations would not create a significant impact from population growth inducement. With the implementation of the proposed project, an additional 363 acres would be devoted to mining uses, bringing the total mining area to approximately 1,195 acres. Because the Planning Area does not include a residential component, there would be no substantial population increase other than an additional eight employees. Population growth inducement involves a physical change to the environment, and the only real physical change to the Planning Area would be the expansion of the Aggregate Mining area.

In addition, the availability of aggregate for concrete, asphalt, and other building materials to construct new buildings, homes, and infrastructure at a competitive price is a key element of the local economy. The Planning Area has extensive natural sand and gravel resources for highway and building construction necessary to support the expanding economy of the Inland Empire. In 1987, the State of California Department of Conservation, Division of Mines and Geology (CDMG Special Report 143, 1987) identified the high quantity and quality of aggregate resources in the Planning Area as one of the best aggregate deposits in the State. It was also noted that adjacent regions in Orange, Los Angeles, and Riverside Counties had lesser reserves and would likely need to import aggregates from the San Bernardino Valley to meet their local needs, adding to the extended regional importance of aggregate resources in the Inland Empire. According to the report "Aggregate Availability in California" (Department of Conservation, California Geological Society, 2006), the San Bernardino production-consumption region has permitted aggregate reserves of 262 million tons as compared to the 50-year demand of 1,148 million tons. This equates to a 12-year supply of permitted aggregate reserves or only 24 percent of the estimated 50-year demand. This demand is based on population forecast data prepared by the California Department of Finance using U.S. census data and shows that the demand for aggregate is higher than the actual supply; therefore, increased mining production addresses growth rather than inducing it. Thus, impacts related to population growth inducement would be less than significant and no mitigation would be necessary.

Cumulative. Cumulatively, the proposed project would limit the mining companies' combined aggregate production to 6 million tons per year. This tonnage is slightly higher than the tonnage currently being extracted (existing output is approximately 4.53 million tons per year). With the rapid growth occurring in the Inland Empire (Riverside and San Bernardino Counties), it is assumed that the need for building (particularly housing, commercial, and industrial land uses) and roadway materials would likewise continue to grow. The tonnage proposed by the proposed project would not induce significant population growth; it is, rather, addressing population growth. Development of other projects in the Cities of Highland and Redlands may result in population growth; however, all cities and counties are required to prepare and maintain a comprehensive, long-term general plan for the physical development of the county or city that identifies land uses that would contribute to population

growth. Thus, it is the responsibility of cities and counties to define the availability of land for future development in terms of the permitted location and intensity of residential, commercial, industrial, and other types of development. Therefore, the aggregate mining component in conjunction with other identified cumulative projects would have a less than significant cumulative impact on growth inducement.

Adoption of General Plan Amendments

The Adoption of General Plan Amendments by the Cities of Highland and Redlands for land use designations and trails would not create a significant impact from population growth inducement. With implementation of the proposed project, the adoption of General Plan Amendments would occur within the City of Highland and the City of Redlands. With the adoption of the General Plan Amendments, the different project components analyzed in this section would occur. It is anticipated that each of the project components would have a less than significant impact associated with implementation of the proposed project. Therefore, no mitigation measures would be required.

Cumulative. Cumulatively, adoption of the General Plan Amendments would not result in population growth as residential or commercial development would not occur. Development of other projects in the Cities of Highland and Redlands may result in population growth; however, all cities and counties are required to prepare and maintain a comprehensive, long-term general plan for the physical development of the county or city that identifies land uses that would contribute to population growth. Thus, it is the responsibility of cities and counties to define the availability of land for future development in terms of the permitted location and intensity of residential, commercial, industrial, and other types of development. Therefore, the adoption of the General Plan Amendments in conjunction with other identified cumulative projects would have a less than significant cumulative impact on growth inducement.

Roadway/Bridge Rights-of-Way

With the implementation of the proposed project, the ~~dedication~~ designation of additional rights-of-way for three streets, Alabama Street, Orange Street-Boulder Avenue, and Greenspot Road, would occur. The setting aside of rights-of-way and widening of roadways would not induce population growth, as the roadways would not be located adjacent to land zoned for residential uses nor would the proposed project permit residential uses within the Planning Area. No mitigation would be required.

The land adjacent to the widening of Greenspot Road has a designation for Agricultural/Equestrian use in the *City of Highland General Plan*. The widening of Greenspot Road would not increase the intensity of housing permitted under this land use designation. The same principle applies to the land adjacent to the western limits of Alabama Street, which is in the City of San Bernardino. This land is designated for airport use, which does not permit housing. The widening of Alabama Street would not change that land use designation. Therefore, widening of roadways would not induce population growth, as the roadways would not be located adjacent to land zoned for residential uses nor would the proposed project permit residential uses within the Planning Area.

When constructed, the roadways would accommodate a higher number of vehicles in direct relationship to the growth projected in the Highland and Redland's General Plans. However, the increase in capacity of a roadway does not necessarily trigger a related increase in population. For population growth to occur due to a man-made catalyst (a roadway widening), an increase in housing opportunities must be available. The Wash Plan offers no opportunity for new housing. In the case of Alabama Street and Orange Street-Boulder Avenue, the widening of these roadways is proposed to serve or accommodate approved growth as determined by the *City of Redlands General Plan*. The widening and realignment of Greenspot Road, plus the addition of a new bridge, is also proposed by the City of Highland to serve or accommodate planned growth and to improve safety conditions. As part of the proposed project, a new 5th Street access road would be constructed. This connection

would provide direct access for traffic related to the mining operations and would help to improve circulation in this area by removing part of the mining related traffic off of the public street system. The roadway would not provide a catalyst for population growth since the only users of the roadway will be the mining operators. No significant impacts to cumulative population growth would be anticipated from the addition of the new access road.

Development of other projects in the Cities of Highland and Redlands may result in population growth; however, all cities and counties are required to prepare and maintain a comprehensive, long-term general plan for the physical development of the county or city that identifies land uses that would contribute to population growth. Thus, it is the responsibility of cities and counties to define the availability of land for future development in terms of the permitted location and intensity of residential, commercial, industrial, and other types of development. Therefore, the ~~dedication~~ designation of roadway/bridge rights-of-way in conjunction with other identified cumulative projects would have a less than significant cumulative impact on growth inducement.

Recreational Trail Rights-of-Way

~~Dedication~~ Designation of rights-of-way for and management of recreational trails in the Planning Area would not create a significant impact from growth population inducement. The ~~dedication~~ designation of trails within the Planning Area would occur along existing maintenance roads, rights-of-way, and old rail lines. Since these features currently exist, the ~~dedication~~ designation of trails would not result in population growth inducement. Therefore, impacts associated with this issue are considered to be less than significant and no mitigation is required.

Cumulative. Cumulatively, recreational trail rights-of-way would not result in population growth as residential or commercial development would not occur. Development of other projects in the Cities of Highland and Redlands may result in population growth; however, all cities and counties are required to prepare and maintain a comprehensive, long-term general plan for the physical development of the county or city that identifies land uses that would contribute to population growth. Thus, it is the responsibility of cities and counties to define the availability of land for future development in terms of the permitted location and intensity of residential, commercial, industrial, and other types of development. Therefore, the ~~dedication~~ designation of recreational trail rights-of-way in conjunction with other identified cumulative projects would have a less than significant cumulative impact on growth inducement.

Land Exchange between the District and the BLM

The land exchange between the District and the BLM is intended to facilitate aggregate mining, the creation of a managed habitat preservation area, and potential future water conservation. The impacts of aggregate mining and potential future water conservation facilities are discussed in detail above. The portions of the land exchange properties which are intended to become managed habitat preservation areas will not induce growth, because no housing or other habitable structures are proposed for these areas. Therefore, impacts are less than significant and no mitigation is required.

Cumulative. Cumulatively, land exchanges would not result in population growth as residential or commercial development would not occur. Development of other projects in the Cities of Highland and Redlands may result in population growth; however, all cities and counties are required to prepare and maintain a comprehensive, long-term general plan for the physical development of the county or city that identifies land uses that would contribute to population growth. Thus, it is the responsibility of cities and counties to define the availability of land for future development in terms of the permitted location and intensity of residential, commercial, industrial, and other types of development. Therefore, the land exchange between the District and BLM in conjunction with other identified cumulative projects would have a less than significant cumulative impact on growth inducement.

Land Exchange between the SBCFCD and Robertson's

A land exchange between the SBCFCD and Robertson's would not create a significant impact from population growth inducement. The SBCFCD land exchange with Robertson's will allow mining activities to take place on property currently owned by the SBCFCD and habitat preservation to occur on land that is currently owned by Robertson's. There will be no changes associated with the property to become habitat. However, since this land would be set aside for habitat conservation, restrictions on aggregate mining would occur due to the presence of sensitive habitat. Because the Planning Area does not include a residential component, there would be no substantial population increase other than an additional eight employees, no impacts from population growth inducement would be anticipated, and no mitigation would be required.

Cumulative. Cumulatively, land exchanges would not result in population growth as residential or commercial development would not occur. Development of other projects in the Cities of Highland and Redlands may result in population growth; however, all cities and counties are required to prepare and maintain a comprehensive, long-term general plan for the physical development of the county or city that identifies land uses that would contribute to population growth. Thus, it is the responsibility of cities and counties to define the availability of land for future development in terms of the permitted location and intensity of residential, commercial, industrial, and other types of development. Therefore, the land exchange between the SBCFCD and Robertson's in conjunction with other identified cumulative projects would have a less than significant cumulative impact on growth inducement.

4.12.4.2 Displacement of Housing and People and Construction of New Housing

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

Water Conservation Operations/Maintenance Activities of the District

Activities performed by the District would not displace existing housing stock, nor would these activities displace substantial numbers of people necessitating the construction of replacement housing elsewhere because no residential use is currently located within the Planning Area boundaries. Since no houses or people would be displaced by water conservation operations, no impacts associated with this issue would occur and no mitigation would be required.

Cumulative. Cumulatively, the water conservation activities of the District would not displace existing housing or people as no housing currently exists or is proposed for the Planning Area. Development of other projects within the Cities of Highland and Redlands may result in the displacement of housing and people; however, these projects would be required to identify, analyze, and mitigate the project's potential for these impacts. Therefore, the water conservation component in conjunction with other identified cumulative projects would have a less than significant cumulative impact on the displacement of housing or people.

Flood Control Operations/Maintenance Activities of the SBCFCD

The continued operations and maintenance activities of the SBCFCD within the Planning Area and streams adjacent to or leading into the Planning area (Mill Creek, Plunge Creek, and City Creek) would not create a significant impact upon the displacement of the existing housing stock nor would it displace people. Flood control activities currently occur within the Planning Area and are anticipated to continue with implementation of the proposed project. Since there would be no change to flood control activities within the Planning Area and no residential uses are currently located within the

limits of the Planning Area plan, no impacts associated with this issue would occur and no mitigation is required.

Cumulative. Cumulatively, flood control activities would not displace existing housing or people as no housing currently exists or is proposed for the Planning Area. Development of other projects within the Cities of Highland and Redlands may result in the displacement of housing and people; however, these projects would be required to identify, analyze, and mitigate the project's potential for these impacts. Therefore, the flood control component in conjunction with other identified cumulative projects would have a less than significant cumulative impact on the displacement of housing or people.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Water production activities currently occur within the Planning Area. Implementation of the proposed project would not change existing water production activities. Therefore, impacts associated with the displacement of housing stock or the displacement of people would be less than significant as existing baseline conditions would remain in effect. No mitigation would be required.

Cumulative. Cumulatively, water production activities of the District would not displace existing housing or people as no housing currently exists or is proposed for the Planning Area. Development of other projects within the Cities of Highland and Redlands may result in the displacement of housing and people; however, these projects would be required to identify, analyze, and mitigate the project's potential for these impacts. Therefore, the water production component in conjunction with other identified cumulative projects would have a less than significant cumulative impact on the displacement of housing or people.

Aggregate Mining

Aggregate mining activities on the areas designated for mining, including construction of haul roads, an access road from the mining area to 5th Street in Highland and reclamation of the mine pits at the end of mining operations would not create a significant impact upon population growth inducement. The existing mining footprint covers approximately 832 acres. With the proposed project, the combined footprint of Cemex and Robertson's quarries and associated facilities would total 1,195 acres, an approximately 43.6 percent increase in acreage. Since the project plan would be the continuation of existing operations and because no residential uses are currently located within the Planning Area boundaries, no houses or people would be displaced. No impact related to this issue would occur and no mitigations would be required.

Cumulative. Cumulatively, aggregate mining operations would not result in displacement of housing or people as there currently is no housing within the Planning Area and no residential component is planned for the Planning Area. Development of other projects in the Cities of Highland and Redlands may result in the displacement of housing and people that may necessitate construction of new housing; however, these projects would be required to identify, analyze, and mitigate the project's potential for these impacts. Therefore, the aggregate mining component in conjunction with other identified cumulative projects would have a less than significant cumulative impact on the displacement of housing or people.

Adoption of General Plan Amendments

The Adoption of General Plan Amendments by the Cities of Highland and Redlands for land use designations and trails would not create a significant impact upon the displacement of the existing housing stock nor would it displace people. With the adoption of the General Plan Amendments, the different project components analyzed in this section would occur. It is anticipated that each of the

project components would have a less than significant impact associated with implementation of the proposed project. Therefore, no mitigation measures would be required.

Cumulative. Cumulatively, the adoption of the General Plan Amendments would not result in the displacement of housing or people as there is no housing currently existing or proposed in the Planning Area. Development of other projects in the Cities of Highland and Redlands may result in the displacement of housing and people that may necessitate construction of new housing; however, these projects would be required to identify, analyze, and mitigate the project's potential for these impacts. Therefore, the adoption of the General Plan Amendments in conjunction with other identified cumulative projects would have a less than significant cumulative impact on the displacement of housing or people.

Roadway/Bridge Rights-of-Way

With the implementation of the proposed project, the ~~dedication~~ designation of additional rights-of-way for three streets, Alabama Street, Orange Street-Boulder Avenue, and Greenspot Road, would occur. The setting aside of rights-of-way of the three streets would have no impact on the displacement of the existing housing stock nor would it displace people, because no residential uses are currently located within the Rights-of-way. No mitigation would be required.

Cumulative. Cumulatively, the ~~dedication~~ designation of roadway/bridge rights-of-way would not result in the displacement of housing or people as the Wash Plan offers no opportunity for new housing in the Planning Area. Development of other projects in the Cities of Highland and Redlands may result in the displacement of housing and people that may necessitate construction of new housing; however, these projects would be required to identify, analyze, and mitigate the project's potential for these impacts. Therefore, the ~~dedication~~ designation of roadway/bridge rights-of-way in conjunction with other identified cumulative projects would have a less than significant cumulative impact on the displacement of housing or people.

Recreational Trail Rights-of-Way

~~Dedication~~ Designation of rights-of-way for and management of recreational trails in the Planning Area would not create a significant impact upon the displacement of the existing housing stock or add to the future housing stock, nor would it displace people. The ~~dedication~~ designation of trails within the Planning Area would occur along existing maintenance roads, rights of way, and old rail lines. Since these features currently exist and because no residences are currently within the boundaries of the Planning Area no houses or people would be displaced. Therefore, impacts associated with this issue are considered to be less than significant and no mitigation is required.

Cumulative. Cumulatively, the ~~dedication~~ designation of trail rights-of-way would not result in displacement of housing or people as the ~~dedication~~ designation of trail rights-of-way would occur on existing roadways. Development of other projects in the Cities of Highland and Redlands may result in the displacement of housing and people that may necessitate construction of new housing; however, these projects would be required to identify, analyze, and mitigate the project's potential for these impacts. Therefore, the ~~dedication~~ designation of trail rights-of-way in conjunction with other identified cumulative projects would have a less than significant cumulative impact on the displacement of housing or people.

Land Exchange between the District and the BLM

The land exchange between the District and the BLM is intended to facilitate aggregate mining, the creation of a managed habitat preservation area, and potential future water conservation. The impacts of aggregate mining and potential future water conservation facilities are discussed in detail above. The portions of the land exchange properties which are intended to become managed habitat

preservation areas will not induce growth, because no housing or other habitable structures are proposed for these areas. Therefore, impacts are less than significant and no mitigation is required.

Cumulative. Cumulatively, the land exchange between the District and BLM would not result in displacement of housing or people as there currently is no housing within the Planning Area and no residential component is planned for the Planning Area. Development of other projects in the Cities of Highland and Redlands may result in the displacement of housing and people that may necessitate construction of new housing; however, these projects would be required to identify, analyze, and mitigate the project's potential for these impacts. Therefore, the land exchange between the District and BLM in conjunction with other identified cumulative projects would have a less than significant cumulative impact on the displacement of housing or people.

Land Exchange between the SBCFCD and Robertson's

A land exchange between the SBCFCD and Robertson's would not create a significant impact upon the displacement of the existing housing stock or add to the future housing stock, nor would it displace people. The SBCFCD land exchange with Robertson's will allow mining activities to take place on property currently owned by the SBCFCD and habitat preservation to occur on land that is currently owned by Robertson's. There will be no changes associated with the property to become habitat. However, since this land would be set aside for habitat conservation, restrictions on aggregate mining would occur due to the presence of sensitive habitat. Since the project would be the continuation of existing operations and because no residential uses are currently located within the Planning Area boundaries, no houses or people would be displaced. No impact related to this issue would occur and no mitigation would be required.

Cumulative. Cumulatively, the land exchange between the SBCFCD and Robertson's would not result in displacement of housing or people as there currently is no housing within the Planning Area and no residential component is planned for the Planning Area. Development of other projects in the Cities of Highland and Redlands may result in the displacement of housing and people that may necessitate construction of new housing; however, these projects would be required to identify, analyze, and mitigate the project's potential for these impacts. Therefore, the land exchange between the SBCFCD and Robertson's in conjunction with other identified cumulative projects would have a less than significant cumulative impact on the displacement of housing or people.

4.13 PUBLIC SERVICES

This section evaluates public services (fire, police, and schools) for the proposed project with respect to their existing setting, policies and regulations, thresholds of significance, and potential impacts.

4.13.1 Existing Setting

Fire Protection

The proposed project receives fire protection services from the Highland Fire Department, the Redlands Fire Department, and the San Bernardino County Fire Department, depending on jurisdictional boundaries. The Highland Fire Department serves the northern section of the Planning Area, the City of Redlands provides services for most of the southern portion of the Planning Area, and the San Bernardino County Fire District serves the small portion in the south that is located in the unincorporated community of Mentone.

Highland Fire Department. The Highland Fire Department has three fire stations (Fire Station 541, Fire Station 542, and Fire Station 543) staffed with volunteer and paid firefighters.¹ The Highland Fire Department contracts with the California Department of Forestry and Fire Protection and also has automatic aid agreements² with the City of Redlands, City of Yucaipa, and U.S. Forest Service. In addition, it participates in the Statewide Master Mutual Aid Agreement,³ which provides additional assistance from San Bernardino City and County Fire Departments and fire departments throughout California.

Station 541 is located at 26974 Base Line, Station 542 is located at 29507 Base Line, and Station 543 is located at 7469 Sterling Avenue. They are approximately 1.5 to 4.5 miles to the Planning Area with response times averaging 3 to 6 minutes. All Stations have fire vehicles and rescue units, each has three personnel, and each has one State-licensed and locally-accredited paramedic.

City of Redlands Fire Department. The City of Redlands Fire Department provides service from four fire stations staffed by 19 firefighters and paramedics.⁴ The closest fire station to the Planning Area is Station 263, located at 10 West Pennsylvania, approximately 1.5 miles away. The Redlands Fire Department is an all risk, full service fire department, capable of extending emergency services such as:

- Rescue emergency;
- Medical services;
- Fire suppression; and
- Hazardous material mitigation.

Community of Mentone Fire Protection Services. The community of Mentone is provided fire protection services from one station; Mentone Station 9 within the Mountain Division of the County of San Bernardino Fire Department. This station is located approximately 1.3 miles from the Planning Area at 1300 Crafton Avenue.⁵ It is staffed 24 hours with one full-time Captain, one paramedic

¹ California Department of Forestry and Fire Protection, <http://www.fire.ca.gov/>, accessed December 28, 2006.

² An automatic aid agreement provides for simultaneous response from the closest resources on the initial report of emergencies.

³ Mutual aid agreements provide assistance from jurisdictions throughout the State when an incident is beyond the capabilities of the City of Highland.

⁴ City of Redlands, Fire Department, <http://www.ci.redlands.ca.us/fire/index.htm>, accessed December 20, 2006.

⁵ County of San Bernardino Fire Department, Mountain Division, http://www.sbcfire.org/fire_rescue/mountain1.asp, accessed February 12, 2007.

engineer, and one firefighter; in addition, there is a paid-call company based out of this station. Mentone Station 9 assists the City of Redlands, City of Yucaipa, and community of Forest Falls, and responds to fire calls on Highway 38 to assist the U.S Forest Service.

Police Protection

The proposed project is provided police protection services by the Highland Police Department and the Redlands Police Department.

City of Highland Police Department and San Bernardino County Sheriff's Department. Since 1988, the City of Highland Police Department has contracted with the San Bernardino County Sheriff's Department for its law enforcement services. The nearest police station to the Planning Area within the City of Highland is at 26985 East Baseline, approximately 3 miles away. The Highland Police Department included 22 Patrol Deputies in 2006,¹ and using the City of Highland 2006 population of 51,489,² the level of service for patrol deputies is 0.43 deputy for every 1,000 individuals. In 2006, the station activity³ included:

- 36,234 calls for service;
- 7,274 deputy reports;
- 1,192 arrests (adult booking);
- 347 traffic collision investigations; and
- 2,395 traffic citations.

City of Redlands Police Department. The main headquarters of the Redlands Police Department is located at 212 Brookside Avenue. In addition, the Redlands Police Department has Community Policing Officers, who are responsible for "solving problems through non-traditional methods while working with local and regional resources."⁴ There are four Community Policing Stations:

- 1568 North Orange Street
- 1150 Brookside Avenue
- 1381 East Citrus Avenue
- 406 North Orange Street

The Field Services Division of the City of Redlands Police Department consists of 96 sworn personnel, 57 civilian employees, and 65 citizen volunteer members.⁵ The Field Services Division is made up of four bureaus:

- Patrol Services Bureau;
- Crime Intervention Bureau;
- Investigative Service Bureau, and
- University of Redlands, Director of Public Safety.

¹ Annual Report 2006, San Bernardino County Sheriff's Department, <http://www.co-san-bernardino.ca.us/Sheriff/Documents/Annual2006.pdf>, accessed August 30, 2007.

² Southern California Association of Governments, *Growth Forecasting: City Projections*, <http://www.scaq.ca.gov/forecast/downloads/2004GF.xls>, 2004.

³ Annual Report 2005, San Bernardino County Sheriff's Department, www.sbcounty.gov/sheriff, accessed December 20, 2006; and City of Highland Police Department, Sergeant Dave Phelps, personal correspondence, December 21, 2006.

⁴ City of Redlands Community Policing, http://www.ci.redlands.ca.us/police/community_policing.htm, accessed February 11, 2007.

⁵ Redlands Police Department Annual Community Report 2005, <http://www.ci.redlands.ca.us/police/PDFs/2005AnnualReport.pdf>, page 5, accessed February 11, 2007.

The 2005 population for the City of Redlands was 69,288,¹ and with 96 sworn personnel, the level of service was 1.4 per 1,000 population. Calls for service totaled 59,322, with the majority of calls (51.4%) for commercial. Almost 40 percent were from single-family dwellings, and a little over 8 percent were from apartments, condominiums, and townhouses.²

Schools

The Planning Area is within the Redlands Unified School District (District), which has a service area of 147 square miles and serves the City of Redlands and the City of Loma Linda; the community of Mentone and community of Forest Falls; and portions of San Bernardino and Highland.

The current District enrollment in grades K to 12 is 21,170.³ The 14 elementary schools of the District serve K through 5, with four middle schools serving grades 6 through 8. The District has two comprehensive high schools, a continuation high school, and alternative programs for independent and home-school study. The Planning Area is within the attendance boundary for the following schools:

- Highland Grove Elementary School
- Arroyo Verde Elementary School
- Cram Elementary School
- Kingsbury Elementary School
- Lugonia Elementary School
- Judson & Brown Elementary School
- Mentone Elementary School
- Beattie Middle School
- Clemet Middle School
- Moore Middle School
- Redlands High School
- Redlands East Valley High School

4.13.2 Policies and Regulations

This subsection includes existing policies and regulations with respect to fire protection, police protection, and schools from the following documents:

- *City of Highland General Plan Update*,⁴ and
- *City of Redlands 1995 General Plan*.⁵

City of Highland General Plan Update

Police protection and fire protection goals and policies that are relevant to the proposed project are included in the following paragraphs.

Police Protection. Goal 4.7 and its related policies are standard requirements for police protection.

Goal 4.7 Ensure the provision of adequate law enforcement and police protection services and facilities.

¹ Southern California Association of Governments, *Growth Forecasting: City Projections*, <http://www.scag.ca.gov/forecast/downloads/2004GF.xls>, 2004.

² *Redlands Police Department Annual Community Report* 2005, <http://www.ci.redlands.ca.us/police/PDFs/2005AnnualReport.pdf>, page 6, accessed February 11, 2007.

³ Redlands Unified School District, <http://www.redlands.k12.ca.us/>, accessed August 30, 2007.

⁴ *City of Highland General Plan Update*, City of Highland, updated March 14, 2006.

⁵ *City of Redlands 1995 General Plan*, City of Redlands, as amended on December 12, 1997.

- Policy 1** Ensure that police services, response times, equipment, and the number of police personnel keep pace with growth and the changing needs of the community.
- Policy 2** Maintain and expand crime prevention and other public education programs.
- Policy 3** Encourage the use of urban design strategies to help prevent crime, when feasible.
- Policy 4** Ensure law enforcement services are involved in the development review process.

Fire Protection. Goal 4.8 would apply to the project with respect to fire protection service levels.

Goal 4.8 Ensure the provision of adequate staffing, equipment and facilities to support effective fire protection and emergency medical services that keep pace with growth.

- Policy 1** Work with the fire department to ensure that response time standards and a high level of service are maintained.
- Policy 2** Ensure the City has adequate fire training facilities, equipment and programs for firefighters and inspection personnel, and education programs for the general public.

City of Redlands General Plan

Fire Hazards. Fire hazard Goal 8.30a and its related Policy 8.30f would apply to the Planning Area with respect to wildland fires. This goal and policy is further discussed in Section 4.7, *Hazards and Hazardous Materials*.

Goal 8.30a Work to prevent wildland and urban fire, and protect lives, property, and watershed from fire dangers.

Policy 8.30f Consult the San Bernardino County Fire Safety Overlay Ordinance (July, 1989 Development Code) for possible appropriate implementation measures for development in the foothills area.

4.13.3 Thresholds of Significance

The project would result in substantial physical environmental impacts if it were associated with the provision of or need for new or physically altered fire protection, police protection, and/or schools facilities, the construction of which would cause significant environmental impacts, to maintain acceptable service ratios, response times or other performance objectives.

As stated above, the emphasis for significance is on whether the project would cause the construction of new or physically altered facilities, creating substantial physical environmental impacts, which would, in turn, be a significant environmental impact.

4.13.4 Impact Analysis

4.13.4.1 Fire Protection

Threshold	Would the proposed project result in substantial adverse physical impacts associated with the provision of or need for new or physically altered fire protection?
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Potential impacts related to wildland fires and its effect on fire protection is identified in Section 4.7 Hazards and Hazardous Materials.

Water Conservation Operations/Maintenance Activities of the District

Activities performed by the District would not increase the demand for fire protection services, as residential or commercial development would not occur. There would be no substantial physical environmental impacts associated with the provision of new or physically altered fire stations, because additional fire protection services would not be required. The existing fire response levels of service would continue to be adequate. For these reasons, no impacts to fire protection services are anticipated and no mitigation is necessary for this activity.

Cumulative. Cumulatively, the activities of the District would not increase the demand for fire protection services in conjunction with other identified projects in the Planning Area. Development of other projects outside of the Planning Area may result in an increase in demand for fire protection services; however, increases in demand are routinely assessed by these agencies as part of the annual monitoring and budgeting process. New development within the service areas would be required to adhere to conditions established by fire services and pay the applicable fees to ensure adequate staffing and equipment levels cumulative impacts to a less than significant level. Therefore, the water conservation component in conjunction with other identified cumulative projects would have a less than significant cumulative impact on fire protection services.

Flood Control Operations/Maintenance Activities of the SBCFCD

Flood control activities include the continuation of an existing flood control program related to the Santa Ana River and its tributaries. These activities would not result in the development of residential or commercial development that would require additional fire protection services. There would be no substantial physical environmental impacts associated with the provision of new or physically altered fire stations, because additional fire protection services would not be required. The existing fire response levels of service would continue to be adequate. For these reasons, no impacts to fire protection services are anticipated and no mitigation is necessary for this activity.

Cumulative. Cumulatively, flood control activities would not increase the demand for fire protection services in conjunction with other identified projects in the Planning Area. Development of other projects outside of the Planning Area may result in an increase in demand for fire protection services; however, increases in demand are routinely assessed by these agencies as part of the annual monitoring and budgeting process. New development within the service areas would be required to adhere to conditions established by fire services and pay the applicable fees to ensure adequate staffing and equipment levels cumulative impacts to a less than significant level. Therefore, the flood control component in conjunction with other identified cumulative projects would have a less than significant cumulative impact on fire protection services.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Activities conducted include operation and maintenance of wells and pumps. These types of activities would not induce development of residential or commercial uses and, therefore, would not generate the demand for additional fire protection services. The existing fire response levels of service would continue to be adequate for the activities performed. There would be no substantial physical environmental impacts associated with the provision of new or physically altered fire stations, because additional fire protection services would not be required. For these reasons, no impacts to fire protection services are anticipated and no mitigation is necessary for this activity.

Cumulative. Cumulatively, water production activities would not increase the demand for fire protection services in conjunction with other identified projects in the Planning Area. Development of other projects outside of the Planning Area may result in an increase in demand for fire protection services; however, increases in demand are routinely assessed by these agencies as part of the annual monitoring and budgeting process. New development within the service areas would be required to adhere to conditions established by fire services and pay the applicable fees to ensure

adequate staffing and equipment levels cumulative impacts to a less than significant level. Therefore, the water production component in conjunction with other identified cumulative projects would have a less than significant cumulative impact on fire protection services.

Aggregate Mining

Mining activities would be expanded from an existing mining footprint of 832 acres to 1,195 acres; this is an additional 363 acres that would be devoted to mining uses. Although the mining footprint would increase, there would be no need for expansion of plant facilities. Therefore, existing levels of service that would be required for current mining facilities would be adequate. In addition, the development of the proposed project would not increase the demand for fire protection services, as residential or commercial development would not occur. There would be no substantial physical environmental impacts associated with the provision of new or physically altered fire stations, because additional fire protection services would not be required. For these reasons, impacts to fire protection services are considered to be less than significant. No mitigation is necessary.

Cumulative. Cumulatively, aggregate mining operations would not increase the demand for fire protection services in conjunction with other identified projects in the Planning Area. Development of other projects outside of the Planning Area may result in an increase in demand for fire protection services; however, increases in demand are routinely assessed by these agencies as part of the annual monitoring and budgeting process. New development within the service areas would be required to adhere to conditions established by fire services and pay the applicable fees to ensure adequate staffing and equipment levels cumulative impacts to a less than significant level. Therefore, the aggregate mining component in conjunction with other identified cumulative projects would have a less than significant cumulative impact on fire protection services.

Adoption of General Plan Amendments

This component would not result in the development of residential and commercial uses that would require additional fire protection services. Although, the General Plan Amendments would potentially increase the presence of the public within the planning area and along public trails, this increase in usage would be minimal and would not require additional police services. The existing fire response levels of service would be able to accommodate this particular component of the proposed project. In addition, discussion of hazards of wildland fire in accordance to the public health and safety is addressed within Section 4.7. There would be no substantial physical environmental impacts associated with the provision of new or physically altered fire stations, because additional fire protection services would not be required. For these reasons, impacts to fire protection services are considered to be less than significant. No mitigation is necessary.

Cumulative. Cumulatively, the adoption of the General Plan Amendments would not increase the demand for fire protection services in conjunction with other identified projects in the Planning Area. Development of other projects outside of the Planning Area may result in an increase in demand for fire protection services; however, increases in demand are routinely assessed by these agencies as part of the annual monitoring and budgeting process. New development within the service areas would be required to adhere to conditions established by fire services and pay the applicable fees to ensure adequate staffing and equipment levels cumulative impacts to a less than significant level. Therefore, the adoption of the General Plan Amendment in conjunction with other identified cumulative projects would have a less than significant cumulative impact on fire protection services.

Roadway/Bridge Rights-of-Way

The widened and realigned roadways would provide a beneficial impact for fire service access. The expansion of roadways and bridges would promote fire service access. Because the proposed project does not include development that would require additional services such as residential and

commercial, there would be no substantial physical environmental impacts associated with the provision of new or physically altered fire stations. The existing fire response levels of service would continue to be adequate. For these reasons, impacts to fire protection services are considered to be less than significant. No mitigation is necessary.

Cumulative. Cumulatively, the ~~dedication~~ designation of roadway/bridge rights-of-way would not increase the demand for fire protection services in conjunction with other identified projects in the Planning Area. Development of other projects outside of the Planning Area may result in an increase in demand for fire protection services; however, increases in demand are routinely assessed by these agencies as part of the annual monitoring and budgeting process. New development within the service areas would be required to adhere to conditions established by fire services and pay the applicable fees to ensure adequate staffing and equipment levels cumulative impacts to a less than significant level. Therefore, the ~~dedication~~ designation of roadway/bridge rights-of-way in conjunction with other identified cumulative projects would have a less than significant cumulative impact on fire protection services.

Recreational Trail Rights-of-Way

All trails would be located on existing service roads, utility easements, and old railroad beds, such that there would be no construction activities associated with trails. In addition, off-road vehicles and equestrian uses would not be permissible trail activities. There would be no substantial physical environmental impacts associated with the provision of new or physically altered fire stations, because additional fire protection services would not be required. The existing fire response levels of service would continue to be adequate. For these reasons, no impacts to fire protection services are anticipated and no mitigation is necessary.

Cumulative. Cumulatively, the ~~dedication~~ designation of trail rights-of-way would not increase the demand for fire protection services in conjunction with other identified projects in the Planning Area. Development of other projects outside of the Planning Area may result in an increase in demand for fire protection services; however, increases in demand are routinely assessed by these agencies as part of the annual monitoring and budgeting process. New development within the service areas would be required to adhere to conditions established by fire services and pay the applicable fees to ensure adequate staffing and equipment levels cumulative impacts to a less than significant level. Therefore, the ~~dedication~~ designation of trails rights-of-way in conjunction with other identified cumulative projects would have a less than significant cumulative impact on fire protection services.

Land Exchange between the District and BLM

The development of the proposed project would not increase the demand for fire protection services, as residential or commercial development would not occur. There would be no substantial physical environmental impacts associated with the provision of new or physically altered fire stations, because additional fire protection services would not be required. The existing fire response levels of service would continue to be adequate. For these reasons, no impacts to fire protection services are anticipated and no mitigation is necessary for this activity.

Cumulative. Cumulatively, land exchanges would not increase the demand for fire protection services in conjunction with other identified projects in the Planning Area. Development of other projects outside of the Planning Area may result in an increase in demand for fire protection services; however, increases in demand are routinely assessed by these agencies as part of the annual monitoring and budgeting process. New development within the service areas would be required to adhere to conditions established by fire services and pay the applicable fees to ensure adequate staffing and equipment levels cumulative impacts to a less than significant level. Therefore, the land exchange between the District and BLM in conjunction with other identified cumulative projects would have a less than significant cumulative impact on fire protection services.

Land Exchange between the SBCFCD and Robertson's

The development of the proposed project would not increase the demand for fire protection services, as residential or commercial development would not occur. There would be no substantial physical environmental impacts associated with the provision of new or physically altered fire stations, because additional fire protection services would not be required. The existing fire response levels of service would continue to be adequate. For these reasons, no impacts to fire protection services are anticipated and no mitigation is necessary for this activity.

Cumulative. Cumulatively, land exchanges would not increase the demand for fire protection services in conjunction with other identified projects in the Planning Area. Development of other projects outside of the Planning Area may result in an increase in demand for fire protection services; however, increases in demand are routinely assessed by these agencies as part of the annual monitoring and budgeting process. New development within the service areas would be required to adhere to conditions established by fire services and pay the applicable fees to ensure adequate staffing and equipment levels cumulative impacts to a less than significant level. Therefore, the land exchange between the SBCFCD and Robertson's in conjunction with other identified cumulative projects would have a less than significant cumulative impact on fire protection services.

4.13.4.2 Police Protection

Threshold	Would the proposed project result in substantial adverse physical impacts associated with the provision of or need for new or physically altered police protection?
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Water Conservation Operations/Maintenance Activities of the District

Activities performed by the District would not increase the demand for fire protection services, as residential or commercial development would not occur. Because this activity does not include a residential component and therefore population increase, it would not require additional police services to maintain existing levels of service. The activity would not introduce uses that would require additional police and/or patrolling services and, therefore, would not result in substantial physical environmental impact associated with the provision of new or physically altered police stations. No impact to police protection would occur. No mitigation is necessary.

Cumulative. Cumulatively, the activities of the District would not increase the demand for police protection services in conjunction with other identified projects in the Planning Area. Development of other projects outside of the Planning Area may result in an increase in demand for police protection services; however, increases in demand are routinely assessed by these agencies as part of the annual monitoring and budgeting process. New development within the service areas would be required to adhere to conditions established by police services and pay the applicable fees to ensure adequate staffing and equipment levels cumulative impacts to a less than significant level. Therefore, the water conservation component in conjunction with other identified cumulative projects would have a less than significant cumulative impact on police protection services.

Flood Control Operations/Maintenance Activities of the SBCFCD

Flood control activities include the continuation of an existing flood control program related to the Santa Ana River and its tributaries. These activities would not result in the development of residential or commercial development that would require additional police and/or patrolling services and, therefore, would not result in substantial physical environmental impact associated with the provision of new or physically altered police stations. No impact to police protection would occur. No mitigation is necessary.

Cumulative. Cumulatively, flood control activities would not increase the demand for police protection services in conjunction with other identified projects in the Planning Area. Development of other projects outside of the Planning Area may result in an increase in demand for police protection services; however, increases in demand are routinely assessed by these agencies as part of the annual monitoring and budgeting process. New development within the service areas would be required to adhere to conditions established by police services and pay the applicable fees to ensure adequate staffing and equipment levels cumulative impacts to a less than significant level. Therefore, the flood control component in conjunction with other identified cumulative projects would have a less than significant cumulative impact on police protection services.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Activities conducted include operation and maintenance of wells and pumps. These types of activities would not induce development of residential or commercial uses and, therefore, would not generate the demand for additional police protection services. The existing police response levels of service would continue to be adequate for the activities performed. There would be no substantial physical environmental impacts associated with the provision of new or physically altered police stations, because additional police protection services would not be required. For these reasons, no impacts to police protection services are anticipated and no mitigation is necessary.

Cumulative. Cumulatively, water production activities would not increase the demand for police protection services in conjunction with other identified projects in the Planning Area. Development of other projects outside of the Planning Area may result in an increase in demand for police protection services; however, increases in demand are routinely assessed by these agencies as part of the annual monitoring and budgeting process. New development within the service areas would be required to adhere to conditions established by police services and pay the applicable fees to ensure adequate staffing and equipment levels cumulative impacts to a less than significant level. Therefore, the water production component in conjunction with other identified cumulative projects would have a less than significant cumulative impact on police protection services.

Aggregate Mining

Because the Planning Area does not include a residential component and therefore population increase, it would not require additional police services to maintain existing police response levels of service, as there would be no substantial population increase other than an additional eight employees for the aggregate mining land use. The proposed project would not introduce uses that would require additional police and/or patrolling services. The proposed project would not result in substantial physical environmental impacts associated with the provision of new or physically altered police stations; therefore, the impact to police protection is considered to be less than significant. No mitigation is necessary.

Cumulative. Cumulatively, aggregate mining operations would not increase the demand for police protection services in conjunction with other identified projects in the Planning Area. Development of other projects outside of the Planning Area may result in an increase in demand for police protection services; however, increases in demand are routinely assessed by these agencies as part of the annual monitoring and budgeting process. New development within the service areas would be required to adhere to conditions established by police services and pay the applicable fees to ensure adequate staffing and equipment levels cumulative impacts to a less than significant level. Therefore, the aggregate mining component in conjunction with other identified cumulative projects would have a less than significant cumulative impact on police protection services.

Adoption of General Plan Amendments

Although the General Plan Amendments would potentially increase the presence of the public within the Planning Area and along public trails, this increase in usage would be minimal and would not require additional patrolling services above and beyond existing levels. For these reasons, impacts to police protection services are considered to be less than significant. No mitigation is necessary.

Cumulative. Cumulatively, the adoption of the General Plan Amendments would not increase the demand for police protection services in conjunction with other identified projects in the Planning Area. Development of other projects outside of the Planning Area may result in an increase in demand for police protection services; however, increases in demand are routinely assessed by these agencies as part of the annual monitoring and budgeting process. New development within the service areas would be required to adhere to conditions established by police services and pay the applicable fees to ensure adequate staffing and equipment levels cumulative impacts to a less than significant level. Therefore, the adoption of the General Plan Amendment in conjunction with other identified cumulative projects would have a less than significant cumulative impact on police protection services.

Roadway/Bridge Rights-of-Way

The expansion of roadways and bridges would allow if necessary police and patrolling service access to areas currently inaccessible. Because the proposed project does not include development that would require additional services such as residential and commercial, there would be no substantial physical environmental impacts associated with the provision of new or physically altered police stations. The existing police response levels of service would continue to be adequate. For these reasons, impacts to police protection services are considered to be less than significant. No mitigation is necessary.

Cumulative. Cumulatively, the ~~dedication~~ designation of roadway/bridge rights-of-way would not increase the demand for police protection services in conjunction with other identified projects in the Planning Area. Development of other projects outside of the Planning Area may result in an increase in demand for police protection services; however, increases in demand are routinely assessed by these agencies as part of the annual monitoring and budgeting process. New development within the service areas would be required to adhere to conditions established by police services and pay the applicable fees to ensure adequate staffing and equipment levels cumulative impacts to a less than significant level. Therefore, the ~~dedication~~ designation of roadway/bridge rights-of-way in conjunction with other identified cumulative projects would have a less than significant cumulative impact on police protection services.

Recreational Trail Rights-of-Way

All trails would be located on existing service roads, utility easements, and old railroad beds. There would be no substantial physical environmental impacts associated with the provision of new or physically altered police stations, because additional police protection services would not be required. The existing police response levels of service would continue to be adequate. For these reasons, no impacts to police protection services are anticipate and no mitigation is necessary.

Cumulative. Cumulatively, the ~~dedication~~ designation of trail rights-of-way would not increase the demand for police protection services in conjunction with other identified projects in the Planning Area. Development of other projects outside of the Planning Area may result in an increase in demand for police protection services; however, increases in demand are routinely assessed by these agencies as part of the annual monitoring and budgeting process. New development within the service areas would be required to adhere to conditions established by police services and pay the applicable fees to ensure adequate staffing and equipment levels cumulative impacts to a less than significant level. Therefore, the ~~dedication~~ designation of trails rights-of-way in conjunction with other

identified cumulative projects would have a less than significant cumulative impact on police protection services.

Land Exchange between the District and BLM

Because the land exchange between the District and BLM does not include the development of residential uses and therefore no population increase, it would not require additional police services to maintain existing police response levels of service. This land exchange would not introduce uses that would require additional police and/or patrolling services and, therefore, would not result in substantial physical environmental impacts associated with the provision of new or physically altered police stations. No impact to police protection would occur. No mitigation is necessary.

Cumulative. Cumulatively, land exchanges would not increase the demand for police protection services in conjunction with other identified projects in the Planning Area. Development of other projects outside of the Planning Area may result in an increase in demand for police protection services; however, increases in demand are routinely assessed by these agencies as part of the annual monitoring and budgeting process. New development within the service areas would be required to adhere to conditions established by police services and pay the applicable fees to ensure adequate staffing and equipment levels cumulative impacts to a less than significant level. Therefore, the land exchange between the District and BLM in conjunction with other identified cumulative projects would have a less than significant cumulative impact on police protection services.

Land Exchange between the SBCFCD and Robertson's

Because the project component does not include the development of residential uses and therefore no population increase, it would not require additional police services to maintain existing levels of service. This land exchange would not introduce uses that would require additional police and/or patrolling services and, therefore, would not result in substantial physical environmental impacts associated with the provision of new or physically altered police stations. No impact to police protection would occur. No mitigation is necessary.

Cumulative. Cumulatively, land exchanges would not increase the demand for police protection services in conjunction with other identified projects in the Planning Area. Development of other projects outside of the Planning Area may result in an increase in demand for police protection services; however, increases in demand are routinely assessed by these agencies as part of the annual monitoring and budgeting process. New development within the service areas would be required to adhere to conditions established by police services and pay the applicable fees to ensure adequate staffing and equipment levels cumulative impacts to a less than significant level. Therefore, the land exchange between the SBCFCD and Robertson's in conjunction with other identified cumulative projects would have a less than significant cumulative impact on police protection services.

4.13.4.3 School Facilities

Threshold	Would the proposed project result in substantial adverse physical impacts associated with the provision of or need for new or physically altered school facilities?
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Water Conservation Operations/Maintenance Activities of the District

Activities performed by the District would not increase the demand for school services, as residential or commercial development would not occur. Because this activity does not include a residential component, it would not result in an increase in population, and would not result in the need for additional school services. There would be no substantial physical environmental impacts associated

with the provision of new or physically altered school facilities, because additional school facilities would not be required. No impacts to school services would occur. No mitigation is necessary.

Cumulative. Cumulatively, water conservation activities would not increase the demand for school services in conjunction with other identified projects in the Planning Area. Development of other projects outside of the Planning Area may result in an increase in demand for school services; however, payment of user fees would reduce cumulative impacts to a less than significant level. Therefore, the water conservation component in conjunction with other identified cumulative projects would have a less than significant cumulative impact on school services and facilities.

Flood Control Operations/Maintenance Activities of the SBCFCD

Flood control activities include the continuation of an existing flood control program related to the Santa Ana River and its tributaries. These activities would not result in the development of residential or commercial development that would further result in a population increase requiring additional school services. There would be no substantial physical environmental impacts associated with the provision of new or physically altered school facilities, because additional school facilities would not be required. No impact to school services would occur. No mitigation is necessary.

Cumulative. Cumulatively, flood control activities would not increase the demand for school services in conjunction with other identified projects in the Planning Area. Development of other projects outside of the Planning Area may result in an increase in demand for school services; however, payment of user fees would reduce cumulative impacts to a less than significant level. Therefore, the flood control component in conjunction with other identified cumulative projects would have a less than significant cumulative impact on school services and facilities.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Activities conducted include operation and maintenance of wells and pumps; therefore, these activities would not increase the population or generate the demand for additional school services. There would be no substantial physical environmental impacts associated with the provision of new or physically altered school facilities, because additional school facilities would not be required. No impact to school services would occur. No mitigation is necessary.

Cumulative. Cumulatively, water production activities would not increase the demand for school services in conjunction with other identified projects in the Planning Area. Development of other projects outside of the Planning Area may result in an increase in demand for school services; however, payment of user fees would reduce cumulative impacts to a less than significant level. Therefore, the water production component in conjunction with other identified cumulative projects would have a less than significant cumulative impact on school services and facilities.

Aggregate Mining

Mining activities would be expanded from an existing mining footprint of 832 acres to 1,195 acres; this is an additional 363 acres. However, this expansion would not result in an increase in population. In addition, the availability of aggregate for concrete, asphalt, and other building materials to construct new buildings, homes, and infrastructure at a competitive price is a key element of the local economy. The Planning Area has extensive natural sand and gravel resources for highway and building construction necessary to support the expanding economy of the Inland Empire. In 1987, the State of California Department of Conservation, Division of Mines and Geology (CDMG Special Report 143, 1987) identified the high quantity and quality of aggregate resources in the Planning Area as one of the best aggregate deposits in the State. It was also noted that adjacent regions in Orange, Los Angeles, and Riverside Counties had lesser reserves and would likely need to import aggregates from the San Bernardino Valley to meet their local needs, adding to the extended regional importance

of aggregate resources in the Inland Empire. According to the report “Aggregate Availability in California” (Department of Conservation, California Geological Society, 2006), the San Bernardino production-consumption region has permitted aggregate reserves of 262 million tons as compared to the 50-year demand of 1,148 million tons. This equates to a 12-year supply of permitted aggregate reserves or only 24 percent of the estimated 50-year demand. This demand is based on population forecast data prepared by the California Department of Finance using U.S. census data and shows that the demand for aggregate is higher than the actual supply; therefore, increased mining production addresses growth rather than inducing it. Because the proposed project would not result in an increase in population it would not result in the need for additional school services. There would be no substantial physical environmental impacts associated with the provision of new or physically altered school facilities, because additional school facilities would not be required. No impact to school services would occur. No mitigation is necessary.

Cumulative. Cumulatively, aggregate mining operations would not increase the demand for school services in conjunction with other identified projects in the Planning Area. Development of other projects outside of the Planning Area may result in an increase in demand for school services; however, payment of user fees would reduce cumulative impacts to a less than significant level. Therefore, the aggregate mining component in conjunction with other identified cumulative projects would have a less than significant cumulative impact on school services and facilities.

Adoption of General Plan Amendments

The Adoption of General Plan Amendments by the Cities of Highland and Redlands for land use designations and trails would not create a significant impact upon school facilities. This component would not result in an increase of population that would require additional school services. Although the General Plan Amendments would potentially increase the presence of the public within the planning area and along public trails, this increase in usage would not affect the demand on school services. There would be no substantial physical environmental impacts associated with the provision of new or physically altered school facilities, because additional school facilities would not be required. No impact to school services would occur. No mitigation is necessary.

Cumulative. Cumulatively, the adoption of the General Plan Amendments would not increase the demand for school services in conjunction with other identified projects in the Planning Area. Development of other projects outside of the Planning Area may result in an increase in demand for school services; however, payment of user fees would reduce cumulative impacts to a less than significant level. Therefore, the adoption of the General Plan Amendment in conjunction with other identified cumulative projects would have a less than significant cumulative impact on school services and facilities.

Roadway/Bridge Rights-of-Way

Under this project component, the expansion of roadway rights-of-ways would not result in a direct increase in population and, therefore, would not result in a significant impact upon school facilities. There would be no substantial physical environmental impacts associated with the provision of new or physically altered school facilities, because additional school facilities would not be required. Impacts to school services are considered to be less than significant. No mitigation is necessary.

Cumulative. Cumulatively, the dedication designation of roadway/bridge rights-of-way would not increase the demand for school services in conjunction with other identified projects in the Planning Area. Development of other projects outside of the Planning Area may result in an increase in demand for school services; however, payment of user fees would reduce cumulative impacts to a less than significant level. Therefore, the dedication designation of roadway/bridge rights-of-way in conjunction with other identified cumulative projects would have a less than significant cumulative impact on school services and facilities.

Recreational Trail Rights-of-Way

To result in a significant impact upon school facilities, this project component would need to result with a population increase. Because the proposed project does not result in an increase in population, it would not result in the need for additional school services. There would be no substantial physical environmental impacts associated with the provision of new or physically altered school facilities, because additional school facilities would not be required. No impacts to school services would occur. No mitigation is necessary.

Cumulative. Cumulatively, the ~~dedication~~ designation of trail rights-of-way would not increase the demand for school services in conjunction with other identified projects in the Planning Area. Development of other projects outside of the Planning Area may result in an increase in demand for school services; however, payment of user fees would reduce cumulative impacts to a less than significant level. Therefore, the ~~dedication~~ designation of trails rights-of-way in conjunction with other identified cumulative projects would have a less than significant cumulative impact on school services and facilities.

Land Exchange between the District and BLM

This land exchange would not result an increase in population. Typical uses that result in an increase in population include the development of residential and/or employment-generating uses such as office and commercial uses. Because this component of the proposed project does not include these types of uses, it would not result in an increase in population and, therefore, would not result in the need for additional school services. There would be no substantial physical environmental impacts associated with the provision of new or physically altered school facilities, because additional school facilities would not be required. No impacts to school services would occur. No mitigation is necessary.

Cumulative. Cumulatively, land exchanges would not increase the demand for school services in conjunction with other identified projects in the Planning Area. Development of other projects outside of the Planning Area may result in an increase in demand for school services; however, payment of user fees would reduce cumulative impacts to a less than significant level. Therefore, the land exchange between the District and BLM in conjunction with other identified cumulative projects would have a less than significant cumulative impact on school services and facilities.

Land Exchange between the SBCFCD and Robertson's

This land exchange would not result in a direct increase in population. Typical uses that result in an increase in population include the development of residential and/or employment-generating uses such as office and commercial uses. Because this component of the proposed project does not include these types of uses, it would not result in an increase in population and, therefore, would not result in the need for additional school services. There would be no substantial physical environmental impacts associated with the provision of new or physically altered school facilities, because additional school facilities would not be required. No impacts to school services would occur. No mitigation is necessary.

Cumulative. Cumulatively, land exchanges would not increase the demand for school services in conjunction with other identified projects in the Planning Area. Development of other projects outside of the Planning Area may result in an increase in demand for school services; however, payment of user fees would reduce cumulative impacts to a less than significant level. Therefore, the land exchange between the SBCFCD and Robertson's in conjunction with other identified cumulative projects would have a less than significant cumulative impact on school services and facilities.

4.14 RECREATION AND PARKS

This section analyzes the existing setting, policies and regulations, thresholds of significance, impacts and mitigation measures (if necessary), and cumulative impacts of the Planning Area with respect to recreation and parks.

4.14.1 Existing Setting

The existing setting for recreation and parks discussed in this subsection includes the following:

- Planning Area recreation activities;
- City of Highland local parks;
- City of Redlands local parks;
- Regional parks; and
- Trails.

Existing Recreation Activities

The Planning Area is gated at access roads and is generally accessible to the public only with permission. Within the portions of land that are used for flood control operations, there is no legal access for trail users if there is no executed Common Use Agreement in place. The Bureau of Land Management (BLM) managed Area of Critical Environmental Concern (ACEC) and Research Natural Area is closed to motorized vehicle use; however, this area can be viewed from the service roads while hiking or jogging. Various water courses traverse the Planning Area, including the Santa Ana River to the south, Plunge Creek to the north, City Creek off the Planning Area to the northwest, and the confluence of Mill Creek and the Santa Ana River at the extreme easterly boundary of the Planning Area.

The Miniature Aircraft Radio Kontrol Society holds an access permit to use a portion of the borrow pit, located within the eastern portion of the Planning Area, for maintenance and operation of model radio-controlled airplanes.¹ Within the borrow pit area, a 600-foot by 65-foot area is used to take off, fly, and land the miniature aircraft. A maximum of 70 persons in no more than 20 automobiles, trucks, or other vehicles may participate at any one time and only during daylight hours. The Miniature Aircraft Radio Kontrol Society gives at least 24 hours notice before entry.

Trails Day, sponsored by the City of Highland takes place every year to promote the use of City trails. Approximately 50 to 70 participants participate in the annual event. The Trails Day is a multi-use event (walkers, bicyclists, and equestrians). In the past, when weather conditions were good, the maintenance roads in the Planning Area (with permission from the District) have been utilized for this event.

City of Highland Local Parks

The City of Highland owns and operates four parks located outside the Planning Area; these are listed with their acreages, locations, and features, in Table 4.14.A. The City of Highland Public Works Department coordinates and schedules the use of the parks, rental facilities, and fields.

¹ San Bernardino Valley Water Conservation District, *San Bernardino Valley Water Conservation District Access Permit*, January 15, 2008.

Table 4.14.A – Parks Located Within the City of Highland Outside the Boundary of the Planning Area

Park	Acres	Location	Features
Aurantia Park	12	29700 Greenspot Road	Neighborhood park with a dog park, the old Plunge Creek Bridge, trails, and playground.
Canyon Oaks Park	2	South of Summertrail Place and east of City Creek	Neighborhood park with picnic areas and playground facilities.
Cunningham Park	2	7400 Cunningham Street	Neighborhood park.
Highland Community Park	17	27003 Hibiscus Street	Recreation park with a baseball field, and picnic and playground facilities. Also includes the Jerry Lewis Community Center, a 30,000-square foot multiuse facility containing a gymnasium, several multi-purpose rooms, a kitchen, and offices.
Total Acres	33		

Sources: *City of Highland General Plan Update*, The Planning Network, March 14, 2006. For Aurantia Park, there were two sources: City of Highland, *Welcome to Highland, California, Calendar of Events*, <http://ci.highland.ca.us/events.htm>, accessed August 30, 2007; and site visit on January 19, 2007.

As depicted in Table 4.14.B, the park ratio established for the City of Highland is 2.0 acres per 1,000 residents.¹ With a 2007 population for the City of Highland of 52,186,² and using the ratio of 2.0 acres of open space per 1,000 residents, the City should provide approximately 104 acres of parks. The City currently provides approximately 33 acres of parks, a shortfall of approximately 71 acres, partially due to a lack of developable space. Park facilities are in short supply within the City of Highland.

Table 4.14.B – Existing Parkland per 1,000 Residents

Factor	City of Highland	City of Redlands
2007 Population	52,186	71,375
Required Parkland Ratio	2.0 acres per 1,000 population	3.0 acres per 1,000 population
Existing Parkland Requirement	104 acres	214 acres
Existing Parkland	33 acres	275.5 acres
Existing Difference	- 71 acres (shortfall)	+ 62 acres (surplus)

Note: It is assumed for the purpose of analysis that similar parkland would exist in 2070 within the City of Highland and the City of Redlands.

Sources: California Department of Finance, *Table E-1: City/County Population Estimates with Percent Change, 2007*, released May 2007, accessed August 30, 2007.

City of Highland General Plan Update, The Planning Network, March 14, 2006.

City of Redlands 1995 General Plan, prepared by City of Redlands Community Development Department, October 19, 1995.

The City of Highland has worked to establish joint-use agreements with the San Bernardino School District and Redlands School District for targeted schools. The agreements provide active recreational space but not passive parkland. The joint-use agreements are severable by local school boards and are not included in the total park acreage for the City.³

¹ *City of Highland General Plan Update*, The Planning Network, March 14, 2006.

² California Department of Finance, *Table E-1: City/County Population Estimates with Percent Change, 2007*, <http://www.dof.ca.gov/HTML/DEMOGRAP/ReportsPapers/Estimates/E1/documents/E-1table.xls>, released May 2007, accessed August 30, 2007.

³ *Conservation and Open Space Element, City of Highland General Plan Update*, The Planning Network, March 14, 2006.

City of Redlands Local Parks

The City of Redlands owns and operates 14 parks, which are listed along with their acreages, locations, and features in Table 4.14.C. The City of Redlands also has one proposed park, the Redlands Sports Park.

Table 4.14.C – Parks Located Within the City of Redlands Outside the Boundaries of the Planning Area

Park	Acres	Location	Features
Brookside Park	9.2	On Brookside Avenue between Terracina Boulevard and Bellevue Avenue	Neighborhood park with picnic areas and playground facilities.
Caroline Park	16.8	Mariposa Drive and Dwight Street	Nature park with trails and open space planted with native California plants and a water conservation garden.
Community Park	18.2	San Bernardino Avenue and Church Street	Recreation park with lighted baseball fields, tennis courts, picnic areas, and playground facilities.
Crafton Park	7.5	Wabash Avenue and Independence Avenue	Neighborhood park with a lighted soccer field, and picnic and playground facilities.
Ed Hales Park	0.7	State Street and Fifth Street	Downtown park with picnic facilities.
Jennie Davis Park	5.2	Redlands Boulevard and New York Street	Neighborhood park with picnic and playground facilities.
Ford Park	27.0	Redlands Boulevard and Ford Street	Two ponds for fishing, lighted tennis courts, and picnic and playground facilities.
Franklin Park	0.6	Garden Street and Franklin Avenue	Natural open space area.
Prospect Park	11.4	Cajon Street and Highland Avenue	Natural park with trails and picnic facilities. Contains Avice Meeker Sewall Theater, an outdoor amphitheater with seating for 407. Home to the Redlands Summer Theater Festival.
San Timoteo Canyon Natural Preserve	40.0	San Timoteo Canyon near Fern Avenue	Natural preserve.
Simond's Parkway	0.9	Garden Street and Rossmont Drive	Neighborhood park.
Smiley Park	9.2	Eureka Street south of Vine Street at the Redlands Civic Center	Home to A.K. Smiley Public Library, the Lincoln Shrine (listed in the National Register of Historic Places) containing the largest collection of Abraham Lincoln memorabilia west of the Mississippi River. Also home to the Redlands Bowl, an outdoor amphitheater with seating for approximately 4,000 where summer concerts are performed each Tuesday and Friday evening during July and August.
Sylvan Park	23.3	Immediately west of the University of Redlands at Colton Avenue and University Street	Softball field, group and individual picnic areas and playground facilities. The historic Mill Creek Zanja flows through the park. Home to Redlands 4 th of July programs.
Texonia Park	10.7	Lugonia Avenue and Texas Street	Neighborhood park with lighted softball field, basketball courts, and picnic and playground facilities.

Table 4.14.C – Parks Located Within the City of Redlands Outside the Boundaries of the Planning Area

Park	Acres	Location	Features
Proposed Redlands Sports Park	95.0	South of Redlands Municipal Airport at San Bernardino Avenue and Wabash Avenue	To include soccer fields, softball fields, picnic facilities, and playground and recreation elements.
Total Acres	275.7		

Source: City of Redlands, *City Parks*, http://ci.redlands.ca.us/works/city_parks.htm, accessed August 30, 2007.

The City of Redlands ~~Public Works Department, Parks and Trees Division~~ Quality of Life Department, and Community services Division of the Police Department coordinates and schedules the use of the parks, rental facilities, and fields and, in addition, provides the following services:¹

- Takes reservations for the gazebo and the covered picnic area in Sylvan Park, the Redlands Bowl in Smiley Park, and the Avice Meeker Sewall theater in Prospect Park; and
- Maintains the grounds surrounding a number of City of Redlands facilities, including the Redlands Civic Center and street medians.

Previously referenced Table 4.14.C shows the existing parkland ratio for the City of Redlands. The 2007 population was approximately 71,375,² and the ratio of parkland required is 3 acres per 1,000 population,³ requiring 214 acres of parkland. With 275.5 acres of parkland, the City of Redlands provides parkland for its residents at a level above its standard.

Regional Parks

The regional parks nearest to the Planning Area are Yucaipa Regional Park, Proposed Colton Regional Park, and San Bernardino National Forest (Table 4.14.D).

Table 4.14.D – Regional Parks and National Forest Near the Planning Area

Regional Parks and/or National Forest	Size (acres)	Distance from Planning Area (miles)
Yucaipa Regional Park	885	5
Proposed Colton Regional Park	150	9
San Bernardino National Forest	820,000	4

Sources: *San Bernardino County Regional Parks*, <http://www.co.san-bernardino.ca.us/parks/yucaipa.htm>, and <http://www.co.san-bernardino.ca.us/parks/ColtonRegional/>, August 30, 2007.
United States Department of Agriculture, Forest Service, *San Bernardino National Forest*, <http://www.fs.fed.us/r5/sanbernardino/about/index.shtml>, website accessed August 30, 2007.

Yucaipa Regional Park. Yucaipa Regional Park⁴ is situated on 885 acres in the foothills of the San Bernardino Mountains at 33900 Oak Glen Road in the City of Yucaipa. Recreational opportunities

¹ City of Redlands, Public Works, Parks and Trees Division, *Welcome to the City of Redlands*, <http://ci.redlands.ca.us/works/index.htm>; City of Redlands, Public Works, Parks and Trees Division, *Parks Reservations*, <http://ci.redlands.ca.us/works/parks.htm>; and City of Redlands, Public Works, Parks and Trees Division, *City Parks*, http://ci.redlands.ca.us/works/city_parks.htm, accessed August 30, 2007.

² California Department of Finance, *Table E-1: City/County Population Estimates with Percent Change, 2007*, <http://www.dof.ca.gov/HTML/DEMOGRAP/ReportsPapers/Estimates/E1/documents/E-1table.xls>, released May 2007, accessed August 30, 2007.

³ *City of Redlands General Plan*, prepared by City of Redlands Community Development Department, effective October 19, 1995. Implementing Policy 7.10j states that when considering only developed parks, there are approximately 3 acres per 1,000 population.

⁴ *San Bernardino County Regional Parks*, <http://www.co.san-bernardino.ca.us/parks/yucaipa.htm>, Web site accessed August 30, 2007.

provided at the park include fishing, swimming, boating, and general recreational activities. Facilities at the park include showers, restrooms, picnic areas, fire pits, a volleyball court, snack bar, bait shop, playground and horseshoe pits. The park also provides designated areas for camping activities.

Proposed Colton Regional Park. In partnership with the San Bernardino County Regional Parks Division, the City of Colton, and The Wildlands Conservancy, the proposed Colton Regional Park¹ would be situated on 150 acres along the north and south banks of the Santa Ana River located about 9 miles southwest from the Planning Area. It would be master planned for minimally active recreation and predominantly native landscaping. Colton Regional Park would include the following uses:

- 25 acres for multi-use fields and parking;
- Landscaped parking and restrooms;
- Picnic shelters with turf areas for family events;
- A 7-acre to 10-acre lake for fishing and habitat mitigation;
- Large areas of native planting along the Santa Ana River corridor with pathways for walking and bicycle riding; and
- Recreational vehicle and tent camping.

As of this writing, the website for the Colton Regional Park indicates that the City of Colton and San Bernardino County are currently reassessing the viability of the project.

San Bernardino National Forest. The lands of the San Bernardino and San Jacinto Mountain Ranges became the San Bernardino National Forest in 1907 and were set aside as public land for the conservation of natural resources such as trees, water, minerals, livestock range, recreation, and wildlife.² Containing 820,000 acres of land, the wilderness areas and road and trail mileages of the National Forest are listed in Table 4.14.E; Table 4.14.F lists facilities and special uses. The Planning Area is located approximately 4.0 miles from the San Bernardino National Forest.

Table 4.14.E – San Bernardino National Forest Areas

Acres in Wilderness Areas		Road and Trail Miles	
Bighorn Mountain	11,800	Wilderness Trails	150
Cucamonga	8,581	Motorized Trails	36
San Gorgonio	56,722	Hiking, Equestrian, and Biking Trails	352
San Jacinto	32,248	Paved Roads	60
Santa Rosa	13,787	Unpaved Roads	1,178
Sheep Mountain	2,401	Total Road and Trail Miles	1,776
Total Acreage of Wilderness Areas	125,539		

Source: United States Department of Agriculture, Forest Service, *San Bernardino National Forest*, <http://www.fs.fed.us/r5/sanbernardino/about/index.shtml>, website accessed August 30, 2007; however, information in this table is current as of February 2004.

¹ *San Bernardino County Regional Parks*, <http://www.co.san-bernardino.ca.us/parks/ColtonRegional/>, website accessed February 20, 2008.

² United States Department of Agriculture, Forest Service, *San Bernardino National Forest*, <http://www.fs.fed.us/r5/sanbernardino/about/index.shtml>, website accessed August 30, 2007.

Table 4.14.F – San Bernardino National Forest Facilities and Special Uses

Number of Facilities		Number of Special Uses	
Visitor Centers	3	Recreation Residences	786
Family Campgrounds	23	Organization Camps	27
Group Campgrounds	21	Motion Picture and Television Locations	13
Primitive Campsites	100	Recreation Events	13
Picnic Areas	13	Dams	7
Equestrian Campgrounds	5	Winter Recreation Resorts	7
Accessible Fishing Piers	2	Target Shooting Ranges	3
Staging Areas for Motorized Trails	2	Airports/Heliports	2
Trailer Sites for Motorized Trails	8	Military Training Area	1
Total Number of Facilities	177	Other Special Uses	475
		Total Number of Special Uses	1,476

Source: United States Department of Agriculture, Forest Service, *San Bernardino National Forest*, <http://www.fs.fed.us/r5/sanbernardino/about/index.shtml>, website accessed August 30, 2007; however, information in this table is current as of February 2004.

Santa Ana River Trails and Local Trails

This subsection describes the existing conditions of the following:

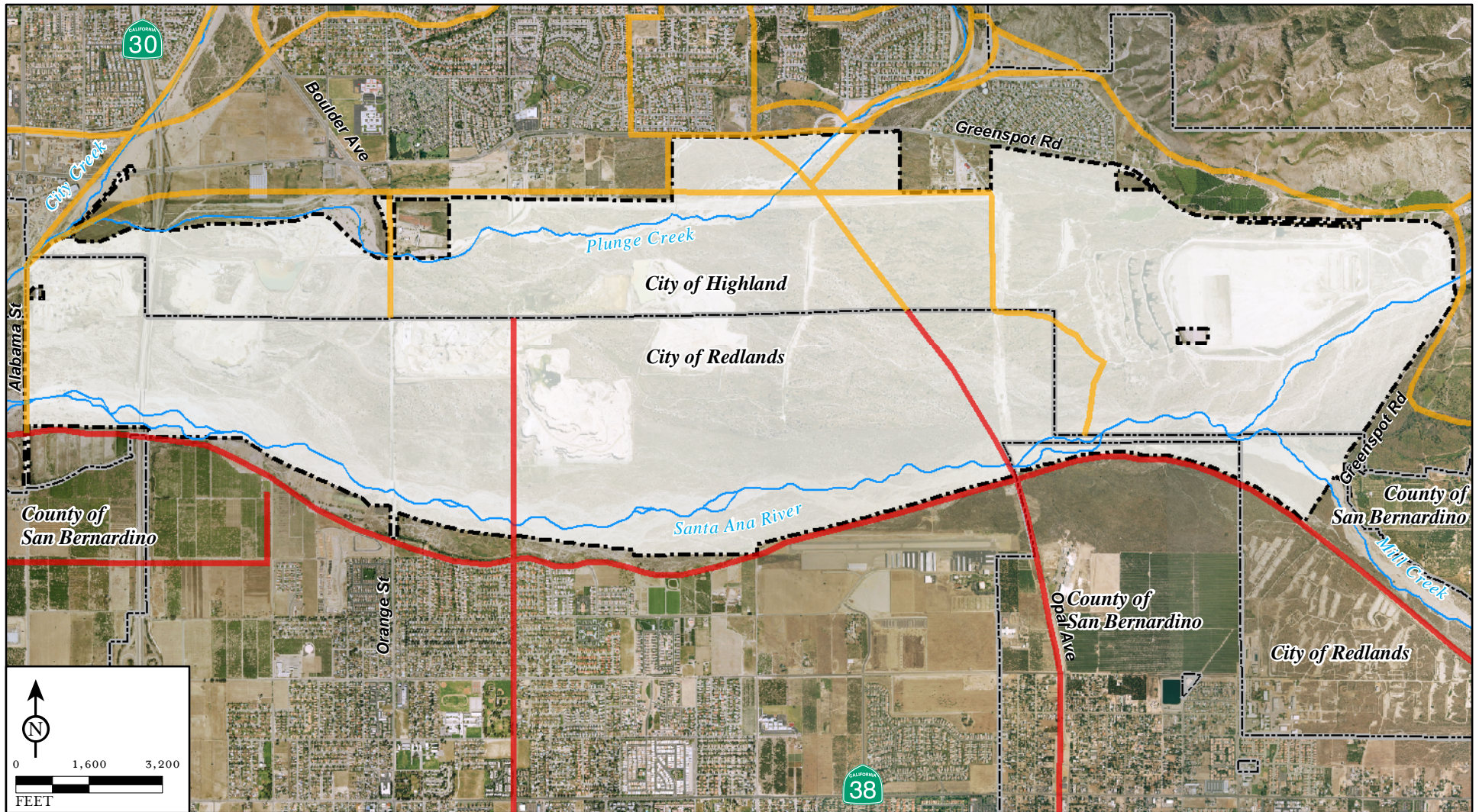
- Santa Ana River Corridor Trails System;
- City of Highland Local Trails; and
- City of Redlands Local Trails.

Santa Ana River Corridor Trails System. The Santa Ana River Trail passes outside the southern border of the Planning Area and is reflected in the General Plans of the City of Highland, City of Redlands, and County of San Bernardino. Although not part of the proposed project, part of the Santa Ana River Corridor Trails System is expected to be constructed primarily on the top of levees already existing along the south side of the Santa Ana River within the City of Redlands and the San Bernardino County unincorporated Community of Mentone. The Santa Ana River Corridor Trails System is planned to be 110 miles and is envisioned to provide bicycling, riding, and hiking from the San Bernardino Mountains to the Pacific Ocean. It would provide recreational and commuting opportunities in three counties (San Bernardino, Riverside, and Orange).¹

City of Highland Local Trails. Shown in Figure 4.14.1, the *City of Highland General Plan Update* (from Figure 5-6 of the General Plan) proposes numerous trails within the Planning Area. These existing General Plan trails, discussed below, are made up of the following:

- Multi-use trails;
- Equestrian/hiking trails;
- Class 1 bikeways (bike paths);
- Class 2 bike lanes; and
- Class 3 bicycle routes.

¹ Santa Ana Watershed Project Authority, *Santa Ana River Trail*, <http://www.sawpa.org/projects/planning/sart.htm>, site accessed August 30, 2007.; and Trails Working Group.



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FIGURE 4.14.1

- PLAN BOUNDARY
- JURISDICTIONAL BOUNDARY
- CITY OF HIGHLAND GENERAL PLAN TRAIL
- CITY OF REDLANDS GENERAL PLAN TRAIL

*Upper Santa Ana River Wash
Land Management Plan
Environmental Impact Report*

SOURCES: San Bernardino Water Conservation District (2006);
City of Highland (2006); City of Redlands (2006); AirPhotoUSA (2007).

Existing General Plan Trails

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According to the *City of Highland General Plan Update*, multiuse trails are combined trails that accommodate hikers, joggers, bicyclists, and equestrians and have improved surfaces of concrete or asphalt for bikes and equestrian uses. Hiking portions of the trail may or may not be improved, depending on the nature of the trail and the surroundings. Minimum width for a bike lane is 8 feet 5 inches for two bikes and 4 to 7 feet for hikers and equestrians, making the minimum standard for a multiuse trail approximately 12 feet 5 inches. Separating medians can be used, especially at major trail nodes (where trail systems begin or where they cross), as well as places where important information needs to be given to users.

Equestrian/hiking trails are wide enough to allow two horses to pass and have a minimum 10-foot width and 10-foot vertical clearance from overhanging branches.

Class 1 bikeways (bike paths) are off-street bicycle facilities provided for corridors not served by streets or highways. They are placed along rivers, channels, and utility rights-of-way or easements. The recommended width for a two-way bike path is 8 feet, 5 inches.

Class 2 bike lanes are striped and signed along roadways in urban settings. Their minimum land width is 4 feet between the gutter or parking lane and the auto travel lane. Class 2 bike lanes are generally used in developed areas with significant bicycle travel demand.

Class 3 bicycle routes connect Class 1 and 2 Bikeways, usually in developed areas. Their length varies depending on access routes.

City of Redlands Local Trails. Shown in previously referenced Figure 4.14.1, the *City of Redlands 1995 General Plan* depicts two proposed community trails within the Planning Area: Regional Trunk Trails and Primary Community Trails.¹ Regional Trunk Trails are trails that pass through the City of Redlands, but originate and terminate outside the City. These trails link cities to regional amenities and have usually been defined by agencies beyond Redlands, such as the County. The Santa Ana River Trail is an example of a regional trunk trail. A Primary Community Trail is a trail that originates within the City of Redlands and terminates at one of the following:

- An entrance to a regional trunk trail (thus giving the community access to regional amenities); or
- A major trail traffic generator (e.g., recreational site, school, park, equestrian center, business district).

4.14.2 Policies and Regulations

The Cities of Highland and Redlands have adopted General Plans that recognize the importance of the Santa Ana River area as a natural resource and have included policies and measures that allow for mining and processing aggregates, managing water resources, protecting habitat, and recreation. The following text lists the General Plan policies that are relevant to recreational resources for the Planning Area.

City of Highland General Plan Update

The specific goals and policies of the *Circulation and Conservation and Open Space Element* of the *City of Highland's General Plan Update*² that are relevant to the proposed project with respect to recreation are as follows:

¹ Figure 7.1 of the *City of Redlands 1995 General Plan*.

² *City of Highland General Plan Update*, The Planning Network, adopted March 14, 2006.

Circulation Element

Goal 3.7 Protect and encourage bicycle travel.

- Policy 1** Develop a system of continuous and convenient bicycle routes to places of employment, shopping centers, schools, and other high activity areas with potential for increased bicycle use.
- Policy 4** Assure that local bicycle routes will complement regional systems and be compatible with routes of neighboring municipalities.
- Policy 5** Provide linkages between bicycle routes and other trails, such as the Santa Ana River Trail, within the City as appropriate.

Conservation and Open Space Element

Goal 5.10 Maintain a high-quality system of parks that meet the needs of all segments of the community.

- Policy 7** Provide handicap access to all parks.
- Policy 9** Provide a variety of activity options, including active and passive uses, within each park.
- Policy 19** Connect newly developed parks, wherever practical, to the existing and future bicycle and recreational trail system.
- Policy 22** Develop recreational opportunities within the Greenspot area.
- Policy 25** Conduct evaluation of park improvements to test for safety compliance, crime prevention, and effective maintenance.
- Policy 29** Locate parks and recreation facilities within convenient walking and biking distance of all neighborhoods.
- Policy 30** Integrate park and recreation facilities with existing and future trail and bikeways, wherever practical.

Goal 5.11 Provide excellent opportunities and facilities for hiking, equestrian and bicycle use through the Multiuse Trail Master Plan.

- Policy 5** Preserve, to the extent possible, existing formal and informal trail routes in the City, in particular routes that provide major north-south and east-west access.
- Policy 8** Where feasible, use active and abandoned roads, flood control, utility and railroad rights-of-way, and other easements for potential sites for expanded trail use.
- Policy 10** Work with local, State, and Federal agencies; adjoining cities and jurisdiction; interest groups; and private landowners, in an effort to promote a Citywide trail system, and to secure trail access through purchase, easement, or by other means.
- Policy 11** Locate trail linkages to minimize conflicts with motorized traffic.

Goal 5.12 Develop and maintain trail and bikeway connections to recreational facilities, schools, existing transportation routes, natural features and regional trail systems.

- Policy 1** Provide trail connections between and/or along the major city and surrounding regional facilities, sites and features indicated on the Multiuse Trails Master Plan.
- Policy 3** Seek to construct or assist in the construction of those portions of the San Bernardino County Regional Trail system that are located within Highland.

Goal 5.13 Ensure the maximum safety and enjoyment of all trail system users.

Policy 2 Access should be provided to the maximum extent feasible to trail users of all abilities and all ages.

Policy 4 Implement two general levels of trail use:

- Low Use and Natural Area: Standards shall apply to sections of the trail where terrain, remoteness, expected low usage, easement, or other restrictions make larger, multiple trails infeasible.

Policy 8 Incorporate, where feasible and without compromising safety, all compatible multiple uses on a single trail.

City of Redlands General Plan

The specific goals and policies of the *Open Space and Conservation Element* of the *City of Redlands 1995 General Plan*¹ that are relevant to the proposed project with respect to recreation are as follows:

Guiding Policies: Parks and Recreational Open Space

7.10b Provide adequate park acreage and recreation facilities conveniently accessible to all present and future residents.

7.10c Enhance the presence of natural and recreational opportunities in the City and increase park use by selecting new, highly accessible locations for parks.

7.10d Identify the needs of special user groups, such as the disabled and elderly, and address these in park and recreation facility development.

7.10f Encourage preservation of natural areas within and outside the Planning Area as regional parks or nature preserves.

Implementing Policies: Parks and Recreational Open Space

7.10q Continue the dedication of land along the Santa Ana bluff for a continuous linear park to be used as picnic and scenic area, and trail.

Guiding Policies: Trails

7.11a Create and maintain a system of trails serving both recreational and emergency access needs. The system is to accommodate walking, hiking, jogging, and equestrian and bicycle use.

7.11b Prepare a Trails Plan depicting regional multi-purpose trails, community trails, local feeder trails, and including design standards.

7.11c It is the intent of the General Plan Trails Component of the Open Space and Conservation Element, and the policy of the implementing agency to work with landowners to develop, acquire, and maintain the trail system.

Implementing Policies: Trails

7.11e Establish guidelines and standards for trails.

7.11f Establish agreement with public agencies and private entities for development and maintenance of trails in rights-of-way and utility corridors.

7.11j Coordinate location of trails to relate to neighboring properties.

7.11m Locate trail rights-of-way with concern for safety, privacy, convenience, preservation of natural vegetation and topography, and work with landowners on development proposals to incorporate and provide for continuous multiuse trail system.

¹ *City of Redlands General Plan*, prepared by City of Redlands Community Development Department, October 19, 1995.

4.14.3 Thresholds of Significance

The proposed project would result in significant recreation resources and park and trails impacts if it would cause any of the following to occur:

- 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 have an adverse physical effect on the environment; and/or
- Result in substantial adverse physical impacts associated with the provision of new or physically altered recreation and park facilities.

As identified in Section 15130(b) of the *CEQA Guidelines*, "...the discussion of cumulative impacts shall ... focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact." For example, if another project contributes only to a cumulative impact upon natural resources, its impacts on public services need not be discussed as part of the cumulative impact analysis. A cumulative discussion has been provided for each component under each threshold of significance analysis.

4.14.4 Impact Analysis

The previously referenced existing General Plan trails for the Cities of Highland and Redlands do not fully match up within the boundaries of the Planning Area. The proposed project seeks to rectify that situation by presenting a suggested plan of integrated trails for the Planning Area that would include the removal and addition of trails to form an interconnecting network. In addition, the reclamation plans for the closure of mining facilities (Cemex and Robertson's) following the completion of mining extraction activities could provide additional recreation space for future use at the time reclamation is estimated to be complete in 2070.

Figure 4.14.2 represents the proposed trail plan with the dotted and hatched lines representing planned trails. Previously referenced Figure 4.14.1 represents the trails as they are currently shown on the General Plans of Highland and Redlands. Trail additions include a portion of the Orange Street-Boulder Avenue Trail, portions of Greenspot Road Trail (east of Plunge Creek to the Historic Iron Bridge), a portion of Old Rail Line Trail (connecting Old Rail Line Trail and Cone Camp Road Trail), and the Borrow Pit South Rim Trail in its entirety. Trail removals include the northernmost portions of the Church Street to Panarama Point Trail and Santa Fe-Mentone Trail in the City Redlands, and minor portions of trails that are in close proximity to the proposed Cone Camp Road Trail and the Pole Line Trail in the City of Highland.

The proposed project would include four categories of trails: Class 1 trails (dedicated bikeways, paved bike paths); Class 2 trails (bikeways in street rights-of-way, paved); Class 3 trails (multiuse, unpaved); and Class 4 trails (multiuse unpaved).

The proposed trails of the Upper Santa Ana River Wash Land Management Plan include the following:

- | | |
|--------------------------------|------------------------------|
| • Alabama Street Trail | • Pole Line Road Trail |
| • Orange Street-Boulder Avenue | • Old Rail Line Trail |
| • Greenspot Road Trail | • Cone Camp Road Trail |
| • Old Greenspot Road Trail | • Borrow Pit South Rim Trail |

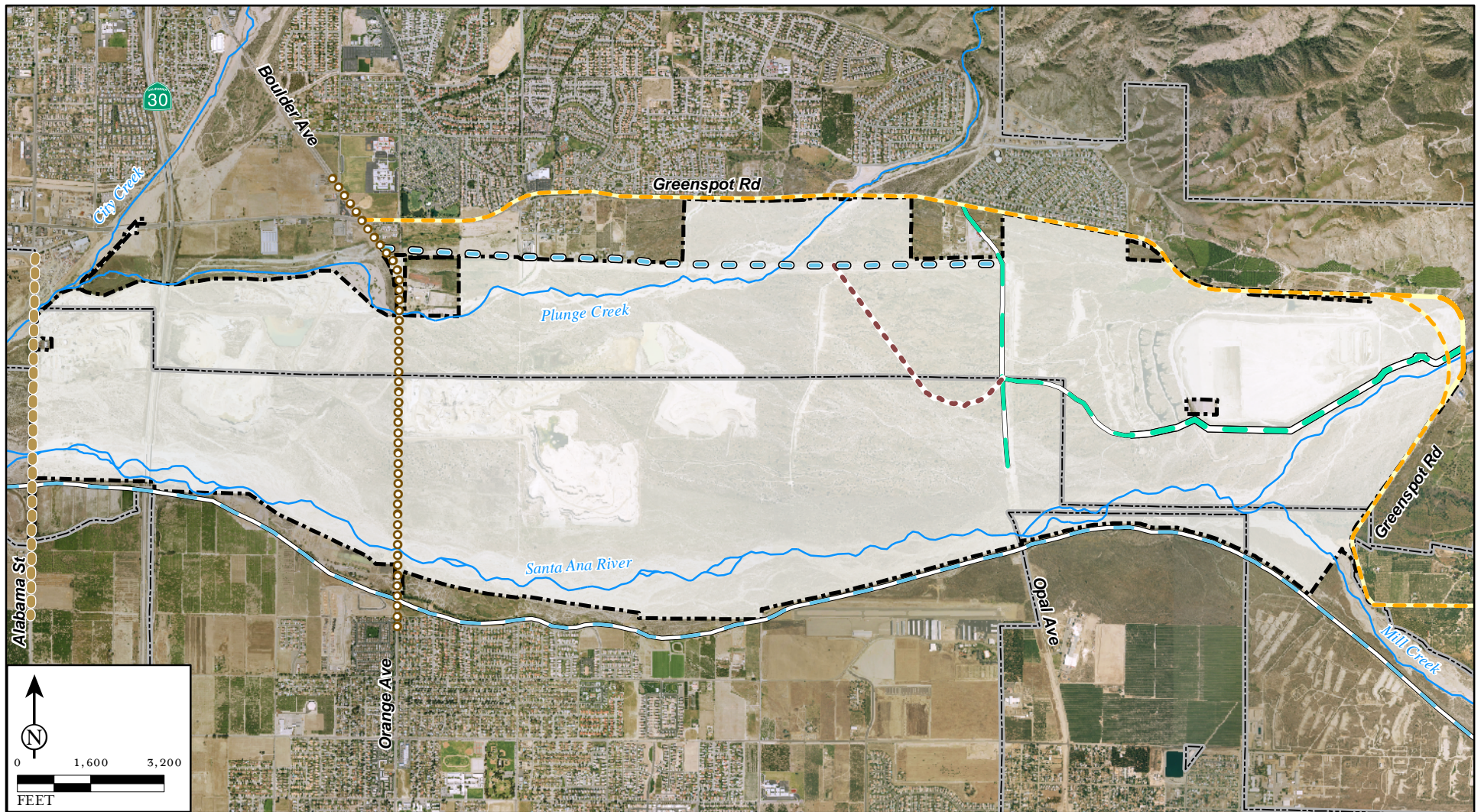


FIGURE 4.14.2

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- | | | |
|-------------------------|------------------------------------|----------------------------|
| PLAN BOUNDARY | ALABAMA STREET TRAIL | OLD RAIL LINE TRAIL |
| JURISDICTIONAL BOUNDARY | ORANGE STREET/BOULDER AVENUE TRAIL | CONE CAMP ROAD TRAIL |
| RIVERS AND CREEKS | GREENSPOT ROAD TRAIL | BORROW PIT SOUTH RIM TRAIL |
| | OLD GREENSPOT ROAD TRAIL | SANTA ANA RIVER TRAIL |
| | POLE LINE TRAIL | |

*Upper Santa Ana River Wash
Land Management Plan
Environmental Impact Report*

SOURCE: San Bernardino Water Conservation District (2006);
City of Highland (2006); City of Redlands (2006); AirPhotoUSA(2006).

Future General Plan Trails

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All trails would be located on existing service roads and old railroad beds. Except for the placement of signs indicating that trails and service roads would serve a dual purpose, there would be no construction activities associated with trails. Off-road vehicles and equestrian uses would not be permissible trail activities. Boulders from the surrounding area or similar barricades may be placed to direct trail users away from habitat conservation, flood control, water conservation, and mining areas. A detailed description of each of the proposed trails is provided in Section 3.6.7 (*Trails*).

The Alabama Street Trail, Orange Street-Boulder Avenue Trail, and the Greenspot Road Trail are identified as Class 2 trails and would be within their respective street rights-of-way. Impacts associated with these trails will be incorporated into the environmental review for the respective roadway improvements and are analyzed in this document at a programmatic level. The interior trails of the Planning Area (Pole Line Road Trail, Old Rail Line Trail, Cone Camp Road Trail, and the Borrow Pit South Rim Trail) require a project-level analysis. To deter encroachment into natural biological areas, the proper planning and maintenance of these trail systems is required. This will be accomplished through the implementation of a Trails Master Plan that would identify design policies, management policies, and maintenance policies that would proactively mitigate impacts. The Old Greenspot Road Trail would result from the conversion of the existing Greenspot Road alignment when the new Greenspot Road Bridge and roadway is constructed. The roadway will be converted to a Class 1 Dedicated Bikeway with connections to the newly realigned Greenspot Road. Because no construction would occur for this trail, a project-level analysis was not done for the Old Greenspot Road Trail.

4.14.4.1 New or Physically Altered Recreation and Park Facilities

Threshold	Would the project result in adverse physical impacts associated with the provision of new or physically altered recreation and park facilities?
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Water Conservation Operations/Maintenance Activities of the District

Activities associated with water conservation operations within the Planning Area would not provide new or physically altered recreation and park facilities. The use of the Borrow Pit for miniature radio-controlled aircraft, an existing recreational activity, may continue to occur per the respective annual permit with the District. However, future planned facilities that are proposed for the Borrow Pit, as described in Section 3.6.1, may result in the elimination or relocation of this activity at a future date. The expansion of additional basins or pipelines within the Borrow Pit is not a part of the Planning Area project description; therefore, it is anticipated that the miniature radio-controlled aircraft activities currently ongoing would continue to occur and would not result in new or physically altered recreational facilities as a result of project implementation. Since the provision of new or physically altered facilities does not apply to water conservation activities, no impacts related to this issue would occur and no mitigation is required.

Cumulative. Cumulatively, the activities of the District would not create or significantly contribute to new or physically altered recreation and park facilities in conjunction with other identified projects in the Planning Area. Development of other projects outside of the Planning Area may result in additional provision of recreational facilities; however, payment of user fees would reduce cumulative impacts to a less than significant level. Therefore, the water conservation component in conjunction with other identified cumulative projects would have a less than significant cumulative impact on the provision of new or altered recreational facilities.

Flood Control Operations/Maintenance Activities of the SBCFCD

With implementation of the proposed project, existing flood control operations would continue to occur and would not change. Flood control activities consist of maintaining existing flood control features such as dikes, basins, and channels and do not involve the provision of new or physically altered

recreation and park facilities. Since the provision of recreational or park facilities does not apply to flood control activities, no impacts related to this issue would occur and no mitigation is required.

Cumulative. Cumulatively, flood control activities would not create or significantly contribute to new or physically altered recreation and park facilities in conjunction with other identified projects in the Planning Area. Development of other projects outside of the Planning Area may result in additional provision of recreational facilities; however, payment of user fees would reduce cumulative impacts to a less than significant level. Therefore, the flood control component in conjunction with other identified cumulative projects would have a less than significant cumulative impact on the provision of new or altered recreational facilities.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Water production activities consist of pumping water from wells and routing the resulting water to existing distribution systems. Since water production operations would remain the same with the implementation of the proposed project, and since water production activities do not provide for new or physically altered recreation and park facilities, no impacts related to this issue would occur and no mitigation is required.

Cumulative. Cumulatively, the water production activities of the EVWD and RMUD would not create or significantly contribute to new or physically altered recreation and park facilities in conjunction with other identified projects in the Planning Area. Development of other projects outside of the Planning Area may result in additional provision of recreational facilities; however, payment of user fees would reduce cumulative impacts to a less than significant level. Therefore, the water production component in conjunction with other identified cumulative projects would have a less than significant cumulative impact on the provision of new or altered recreational facilities.

Aggregate Mining

Activities associated with the operational phase of aggregate mining include the excavation of mineral resources from the land and do not involve the provision of new or physically altered recreation and park facilities. However, during the reclamation phase of aggregate mining, it is anticipated that the Silt Pond Quarry would be gradually filled with settled silts, revegetated with native plants, and be returned to open space or other uses such as recreational uses. Since the reclamation of the Silt Pond Quarry is part of the reclamation plans for aggregate mining activities, the eventual expansion of this area for potential recreational uses would not have an adverse physical effect on the environment as the reclamation process would return the land to its existing condition. Therefore, a less than significant impact associated with this issue would occur and no mitigation would be required.

Cumulative. Cumulatively, aggregate mining activities would not create or significantly contribute to new or physically altered recreation and park facilities in conjunction with other identified projects in the Planning Area. Development of other projects outside of the Planning Area may result in additional provision of recreational facilities; however, payment of user fees would reduce cumulative impacts to a less than significant level. Therefore, the aggregate mining component in conjunction with other identified cumulative projects would have a less than significant cumulative impact on the provision of new or altered recreational facilities.

Adoption of General Plan Amendments

The Alabama Street Trail is currently shown on the *City of Highland General Plan Update Multi-Use Trails Map* where the City's City Creek Trail connects to Alabama Street. The City of Redlands does not currently have a trail shown in its *General Plan Trails Map* for Alabama Street. An amendment to

the City's *General Plan Trails Map* to consider placing a trail on Alabama Street would be evaluated at the time the General Plan is updated.

The Orange Street-Boulder Avenue Trail is shown on the *City of Highland General Plan Update Multi-Use Trails Map*. The City of Redlands' *General Plan Trails Map* currently shows a "north-south" trail, which follows the projected unconstructed Church Street alignment located to the east of Orange Street-Boulder Avenue. The Church Street trail would no longer be feasible with the implementation of the Planning Area, as the Church Street trail would be set aside for mining activities. The City of Redlands will be considering an amendment to its *General Plan Trails Map*, to the trail alignment to utilize Orange Street-Boulder Avenue across the Santa Ana River to link up with the Orange Street-Boulder Avenue Trail proposed by the City of Highland. Additionally, the existing bikeway along Orange Street would require an amendment to reclassify it from a Class 3 bikeway to a Class 2 bikeway/trail.

The Old Rail Line Trail and Cone Camp Road Trail are currently shown on the City of Highland General Plan Update Multi-Use Trails Map where the abandoned rail line currently exists and Cone Camp Road currently exists, respectively. The City of Redlands General Plan Trails Map does not depict a trail connecting the old rail line with Cone Camp Road. The City of Redlands will be considering amendments to its General Plan Trails Map, to include the proposed Old Rail Line Trail alignment to link up with the proposed Cone Camp Road Trail and the Cone Camp Road Trail alignment to link up with the proposed Old Rail Line Trail. Additionally, the City of Redlands General Plan depicts a trail in the vicinity of the proposed Cone Camp Road Trail; the Santa Fe – Mentone Trail. Because the proposed Cone Camp Road Trail would terminate at an existing boulder and pylon barrier turn-around point and not connect with the existing Santa Fe – Mentone Trail, the City of Redlands General Plan would require an amendment to remove the Santa Fe – Mentone Trail.

To maintain an interconnecting trail system between the two cities, the City of Redlands would be required to make amendments to the General Plan for both the Alabama Street Trail and the Church Street Trail to align with the Alabama Street Trail and Orange Street-Boulder Avenue Trail identified by the City of Highland. In both cases, the realignment of the two General Plan trails within the City of Redlands would not create a significant impact because both of the new trail alignments would utilize existing roadways and would be ~~are~~ classified as Class 2 bikeways. Similarly, the City of Redlands would be required to make amendments to the General Plan to remove the existing Santa Fe – Mentone Trail alignment segment and include the alignments of the Old Rail Line Trail and Cone Camp Road Trail segments. These trails identified above would use existing roads, utility easements, and an abandoned railroad bed, which have all been previously disturbed. No significant impact is anticipated to occur with the realignment, removals, and additions of the ~~Alabama Street Trail and Church Street Trail~~ trails and no mitigation would be required.

Cumulative. Cumulatively, the adoption of General Plan Amendments would not significantly contribute to new or physically altered recreation and park facilities as the trails would occur on existing roadways and rail beds. Development of other projects outside of the Planning Area may result in additional provision of recreational facilities; however, payment of user fees would reduce cumulative impacts to a less than significant level. Therefore, the adoption of General Plan Amendments in conjunction with other identified cumulative projects would have a less than significant cumulative impact on the provision of new or altered recreational facilities.

Roadway/Bridge Rights-of-Way

Implementation of the proposed project would result in the ~~dedication~~ designation of additional rights-of-way for Greenspot Road, Greenspot Road Bridge, Alabama Street, and Orange Street-Boulder Avenue. The ~~dedication~~ designation of additional rights-of-way would not directly provide for new or physically altered recreation and park facilities. Therefore, no impacts related to this issue would occur and no mitigation is required.

Cumulative. Cumulatively, the ~~dedication~~ designation of roadway/bridge rights-of-way would not create or significantly contribute to new or physically altered recreation and park facilities in conjunction with other identified projects in the Planning Area. Development of other projects outside of the Planning Area may result in additional provision of recreational facilities; however, payment of user fees would reduce cumulative impacts to a less than significant level. Therefore, the roadway/bridge rights-of-way component in conjunction with other identified cumulative projects would have a less than significant cumulative impact on the provision of new or altered recreational facilities.

Recreational Trail Rights-of-Way

As previously indicated, recreational facilities included in the project would consist solely of an interconnecting trails system. All trails would be located on existing service roads, utility easements, and old railroad beds. Except for the placement of signs indicating that trails and service roads would serve a dual purpose, there would be no construction activities associated with trails. For trails along roadways that would require paving from future roadway improvement projects (Alabama Street Trail, Orange Street-Boulder Avenue Trail, and Greenspot Road Trail), the physical impact associated with the new designation of the trail alignment will be evaluated at a future date concurrent with the environmental review required for the future roadway improvement projects. Because these trails are Class 2 trails, they would be located within the roadway rights-of-way and are included in the ultimate width of the roadway improvements. Boulders or similar barricades may be placed to direct trail users away from habitat conservation, flood control, water conservation, and mining activities. Because the provision of trails would occur on existing service roads, utility easements, and old railroad beds (i.e., previously disturbed areas), there would be no adverse physical impacts associated with the ~~dedication~~ designation of additional recreational trail rights-of-way. Therefore no mitigation would be required.

Cumulative. Cumulatively, the ~~dedication~~ designation of trail rights-of-way would not significantly contribute to new or physically altered recreation and park facilities as the trails would occur on existing roadways and railroad beds. Development of other projects outside of the Planning Area may result in additional provision of recreational facilities; however, payment of user fees would reduce cumulative impacts to a less than significant level. Therefore, the ~~dedication~~ designation of trail rights-of-way in conjunction with other identified cumulative projects would have a less than significant cumulative impact on the provision of new or altered recreational facilities.

Land Exchange between the District and the BLM

None of the aspects of the land exchange between the District and the BLM are anticipated to result in any alterations to park or recreational facilities, apart from the designation of recreational trail rights-of-way discussed above. Therefore, no impacts associated with this issue are anticipated to occur, and no mitigation would be required.

Cumulative. Cumulatively, land exchanges would not create or significantly contribute to new or physically altered recreation and park facilities in conjunction with other identified projects in the Planning Area. Development of other projects outside of the Planning Area may result in additional provision of recreational facilities; however, payment of user fees would reduce cumulative impacts to a less than significant level. Therefore, the land exchange between the District and BLM in conjunction with other identified cumulative projects would have a less than significant cumulative impact on the provision of new or altered recreational facilities.

Land Exchange between the SBCFCD and Robertson's

The portion of Robertson's land that would be exchanged to the SBCFCD would be used for habitat preservation and would not provide for new or physically altered recreation and park facilities due to the sensitive nature of the habitat. The portion of the SBCFCD land that would be exchanged to Robertson's would be used for aggregate mining and would not provide for new or physically altered recreation and park facilities during its operational phase. The potential provision of new or altered recreation and park facilities during the reclamation phase of the aggregate mining would not result in an adverse impact as the area would be restored to its existing condition through the reclamation process. Since the land exchange that would occur between the SBCFCD and Robertson's would not result in adverse physical impacts associated with the provision of new or physically altered recreation and park facilities, a less than significant impact associated with this issue would occur and no mitigation is required.

Cumulative. Cumulatively, land exchanges would not create or significantly contribute to new or physically altered recreation and park facilities in conjunction with other identified projects in the Planning Area. Development of other projects outside of the Planning Area may result in additional provision of recreational facilities; however, payment of user fees would reduce cumulative impacts to a less than significant level. Therefore, the land exchange between SBCFCD and Robertson's in conjunction with other identified cumulative projects would have a less than significant cumulative impact on the provision of new or altered recreational facilities.

4.14.4.2 Increased Use of Existing Recreational Facilities

Threshold	Would the project result in increased use of existing neighborhood and regional parks or other recreational facilities where substantial physical deterioration would occur or be accelerated?
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The Planning Area does not include the construction of habitable structures that would increase the population in the area and thereby affect existing recreational facilities. No additional jobs would be created as a result of project implementation. Therefore, as no increase in population is anticipated in the Planning Area, there would be less than significant impacts to existing recreational facilities. While implementation of the project includes the development of new trails, the use of these trails would not affect the facilities at existing neighborhood and regional parks. The new trails would benefit the public by adding new recreational facilities and by connecting existing trails.

Water Conservation Operations/Maintenance Activities of the District

Activities associated with water conservation operations within the Planning Area such as the maintenance of spreading basins and water conservation infrastructure do not provide for recreation and park facilities. Since the activities themselves do not result in an increase in use of existing neighborhood or regional parks, no impacts associated with this issue would occur and no mitigation is required.

Cumulative. Cumulatively, the activities of the District would not result in the increased use of existing recreational facilities. Development of other cumulative projects may result in an increase of use at recreational facilities; however, payment of user fees would reduce cumulative impacts to a less than significant level. Therefore, the water conservation component in conjunction with other identified cumulative projects would have a less than significant cumulative impact on the use of existing recreational facilities.

Flood Control Operations/Maintenance Activities of the SBCFCD

With implementation of the proposed project, existing flood control operations would continue and would not change. Flood control activities consist of maintaining existing flood control features such as dikes, basins, and channels and do not involve the use of parks or other recreational facilities and would not result in the increased use of such facilities. Since the increased use of recreational or park facilities would not occur as a result of flood control activities, no impacts related to this issue would occur and no mitigation is required.

Cumulative. Cumulatively, flood control activities would not result in the increased use of existing recreational facilities. Development of other cumulative projects may result in an increase of use at recreational facilities; however, payment of user fees would reduce cumulative impacts to a less than significant level. Therefore, the flood control component in conjunction with other identified cumulative projects would have a less than significant cumulative impact on the use of existing recreational facilities.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Water production activities consist of pumping water from wells and routing the resulting water to existing distribution systems. Since water production operations would remain the same with the implementation of the proposed project, and since water production activities do not involve the use of parks or other recreational facilities and would not result in the increased use of such facilities, no impacts related to this issue would occur and no mitigation is required.

Cumulative. Cumulatively, water production activities would not result in the increased use of existing recreational facilities. Development of other cumulative projects may result in an increase of use at recreational facilities; however, payment of user fees would reduce cumulative impacts to a less than significant level. Therefore, the water production component in conjunction with other identified cumulative projects would have a less than significant cumulative impact on the use of existing recreational facilities.

Aggregate Mining

Activities associated with the operational phase of aggregate mining will not involve provision of new or physically altered recreational park facilities, and will not result in population increases that would place additional demand on existing facilities. Consequently, no impacts related to this issue would occur, and no mitigation is required. In 2070, upon completion of the final reclamation plans for the mining sites within the Planning Area, an opportunity exists at the Silt Pond Quarry for increasing dedicated parkland. The reclamation plans¹ indicate that the Silt Pond Quarry would gradually fill with settled silts, be covered with surface material, revegetated with native plants, and returned to open space or other uses.

The Silt Pond Quarry is approximately 90 acres in size. About 60 acres are located in the City of Highland and around 30 acres in the City of Redlands. When the site becomes available for possible future park use (to be determined by the District in consultation with both cities), the portions of the site within each jurisdiction could contribute to the overall amount of parkland, thus increasing their respective parkland per capita ratios.

¹ *Mine and Reclamation Plans for the Upper Santa Ana River Wash Aggregate Lands to be Operated by Cemex Construction Material L.P.*, prepared by Lilburn Corporation, March 2006.
Mine and Reclamation Plans for the Upper Santa Ana River Wash Aggregate Lands to be Operated by Robertson's Ready Mix., prepared by Lilburn Corporation, March 2006.

According to the Southern California Association of Governments, the 2070 populations of the City of Highland and the City of Redlands would be 83,161 and 121,002, respectively.¹ As depicted in Table 4.14.G, the end result would be a decrease in the deficiency of park space for the City of Highland (from an existing shortfall of 133 acres to a shortfall of 73 acres) and the City of Redlands (from an existing shortfall of 88 acres to a shortfall of 58 acres).

Table 4.14.G – Parkland per 1,000 Residents with Silt Pond Quarry Reclamation

Factor	City of Highland	City of Redlands
2070 Population	83,161	121,002
Required Parkland Ratio	2.0 acres per 1,000 population	3.0 acres per 1,000 population
Existing Parkland Requirement	166 acres	363 acres
Existing Parkland	33 acres	275.5 acres
Existing Difference	-133 acres (shortfall)	-88 acres (shortfall)
Potential Additional Parkland with Silt Pond Quarry Reclamation	60 acres	30 acres
Difference in 2070	-73 (shortfall)	-58 (shortfall)

Note: It is assumed for the purpose of analysis that similar parkland would exist in 2070 within the City of Highland and the City of Redlands.

Sources: Southern California Association of Governments, *Growth Forecasting: City Projections*, <http://www.scag.ca.gov/forecast/downloads/2004GF.xls>, 2004.
City of Highland General Plan Update, The Planning Network, March 14, 2006.
City of Redlands General Plan, prepared by City of Redlands Community Development Department, October 19, 1995.
Mine and Reclamation Plans for the Upper Santa Ana River Wash Aggregate Lands to be Operated by Cemex Construction Material L.P., prepared by Lilburn Corporation, March 2006.
Mine and Reclamation Plans for the Upper Santa Ana River Wash Aggregate Lands to be Operated by Robertson's Ready Mix., prepared by Lilburn Corporation, March 2006.

This would be a potentially beneficial impact. Whether the Silt Pond Quarry is ultimately dedicated to parkland or not, however, impacts associated with existing recreational facilities or creation of demand for new park facilities from aggregate mining operations are less than significant and require no mitigation.

Cumulative. Cumulatively, aggregate mining activities would not result in the increased use of existing recreational facilities. Development of other cumulative projects may result in an increase of use at recreational facilities; however, payment of user fees would reduce cumulative impacts to a less than significant level. Therefore, the aggregate mining component in conjunction with other identified cumulative projects would have a less than significant cumulative impact on the use of existing recreational facilities.

Adoption of General Plan Amendments

With the adoption of the General Plan Amendments, the different project components analyzed in this section would occur. It is anticipated that each of the project components would have a less than significant impact associated with the increase in use of existing recreational facilities. Because impacts would be less than significant, no mitigation measures would be required.

Cumulative. Cumulatively, the adoption of General Plan Amendments would not result in the increased use of existing recreational facilities. Development of other cumulative projects may result in an increase of use at recreational facilities; however, payment of user fees would reduce cumulative impacts to a less than significant level. Therefore, the adoption of General Plan Amendments in conjunction with other identified cumulative projects would have a less than significant cumulative impact on the use of existing recreational facilities.

¹ Southern California Association of Governments, *Growth Forecasting: City Projections*, <http://www.scag.ca.gov/forecast/downloads/2004GF.xls>, 2004.

Roadway/Bridge Rights-of-Way

Activities associated with the ~~dedication~~ designation of additional rights-of-way for roadways would not increase the use of existing recreational facilities as the activity is simply the ~~dedication~~ designation of rights-of-way for Greenspot Road, Greenspot Road Bridge, Alabama Street, and Orange Street-Boulder Avenue. Since there would be no increase in use of existing recreational facilities, no impacts related to this issue would occur and no mitigation is required.

Cumulative. Cumulatively, the ~~dedication~~ designation of additional roadway/bridge rights-of-way would not result in the increased use of existing recreational facilities. Development of other cumulative projects may result in an increase of use at recreational facilities; however, payment of user fees would reduce cumulative impacts to a less than significant level. Therefore, the roadway/bridge rights-of-way component in conjunction with other identified cumulative projects would have a less than significant cumulative impact on the use of existing recreational facilities.

Recreational Trail Rights-of-Way

With the ~~dedication~~ designation of recreational trail rights-of-way, the development of an interconnecting trails system within the Planning Area would encourage the use of the trails by residents of the Cities of Highland and Redlands and other residents in the region. Currently, there are no officially designated trails within the Planning Area. The proposed project would result in additional recreational facilities. Although there would potentially be an increase in the use of existing trails outside of the Planning Area due to a rectified trails plan within the Planning Area that would increase pedestrian mobility and thus encourage trail use, the jurisdictions where the segments of the Planning Area trails are located would be responsible for the upkeep and maintenance of the trails. For the Cities of Highland and Redlands, the increase in trail use would be offset through a combination of development impact fees, capital budgeting, and land acquisition agreements. Because these fee structures and programs are in place, impacts associated with the increased use of trails located within the Planning Area would be less than significant. Since there would not be substantial physical deterioration associated with the ~~dedication~~ designation of additional recreational trail rights-of-way, no mitigation would be required.

The removal of portions of existing trails is not anticipated to significantly increase the physical deterioration on additional recreational trail rights-of-way. The removal/realignment of the northernmost portion of the Church Street to Panorama Point Trail in the City of Redlands would be realigned to form the Orange Street-Boulder Avenue Trail as the area in which the trail currently is located would be mined for aggregate materials. The Santa Fe-Mentone Trail in the City of Redlands currently goes through the Santa Ana River Woollystar Preservation Area. The removal of the northernmost portion of this trail would ensure that the Santa Ana River Woollystar Preservation Area would be maintained. Similarly, the minor portions of trails that are in close proximity to the proposed Cone Camp Road Trail and the Pole Line Road Trail in the City of Highland would be removed to provide additional protection of habitat in the area. The removal of these portions of the existing trails would be offset through the addition of and connection of other trails within the Planning Area. These trail additions would occur on existing roads, utility rights-of-way, and old railroad beds and would provide the same recreational opportunities in the area while reducing impacts to sensitive habitat and concern of safety. Therefore, impacts associated with this issue would be less than significant and no mitigation would be required.

Cumulative. Cumulatively, the ~~dedication~~ designation of trail rights-of-way would not result in the increased use of existing recreational facilities. Although these trail additions would occur on existing roads, utility rights-of-way, and old railroad beds, these are currently not considered to be recreational facilities. Development of other cumulative projects may result in an increase of use at recreational facilities; however, payment of user fees would reduce cumulative impacts to a less than significant level. Therefore, the ~~dedication~~ designation of trail rights-of-way in conjunction with other identified

cumulative projects would have a less than significant cumulative impact on the use of existing recreational facilities.

Land Exchange between the District and the BLM

None of the aspects of the land exchange between the District and the BLM are anticipated to result in any alterations to park or recreational facilities, apart from the designation of recreational trail rights-of-way discussed above. Therefore, no impacts associated with this issue are anticipated to occur and no mitigation would be required.

Cumulative. Cumulatively, land exchanges would not result in the increased use of existing recreational facilities. Development of other projects may result in an increase of use at recreational facilities; however, payment of user fees would reduce cumulative impacts to a less than significant level. Therefore, the land exchange between the District and BLM in conjunction with other identified cumulative projects would have a less than significant cumulative impact on the use of existing recreational facilities.

Land Exchange between the SBCFCD and Robertson's

The portion of Robertson's land that would be exchanged to the SBCFCD would be used for habitat preservation and would not result in an increased use of recreational facilities as there would be no recreational facilities within the land designated for habitat preservation. The portion of SBCFCD land that would be exchanged to Robertson's would be used for aggregate mining would also not result in increased use for recreational facilities as the operational phase of aggregate mining does not provide recreational opportunities. Since the land exchange that would occur between the SBCFCD and Robertson's would not result in the increased use of recreational facilities and would not result in substantial physical deterioration, a less than significant impact associated with this issue would occur and no mitigation is required.

Cumulative. Cumulatively, land exchanges would not result in the increase used of existing recreational facilities. Development of other projects may result in the increase of use at existing recreational facilities; however, payment of user fees would reduce cumulative impacts to a less than significant level. Therefore, the land exchange between the SBCFCD and Robertson's in conjunction with other identified cumulative projects would have a less than significant cumulative impact on the use of existing recreational facilities.

4.14.4.3 Construction or Expansion of Recreational Facilities

Threshold	Would the project result in construction or expansion of recreational facilities that would have an adverse physical effect on the environment?
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Water Conservation Operations/Maintenance Activities of the District

Activities associated with water conservation do not include the construction or expansion of recreation facilities. Since the construction or expansion of recreational facilities does not apply to water conservation operations, no impacts related to this issue would occur and no mitigation is required.

Cumulative. Cumulatively, water conservation activities would not result in the construction or expansion of recreational facilities. Development of other projects may result in the need to expand or construct additional recreational facilities; however, impacts associated with these other projects would be analyzed and mitigated in separate environmental documents prepared for the other projects. Therefore, the water conservation component in conjunction with other identified cumulative

projects would have a less than significant cumulative impact on the expansion or construction of recreational facilities.

Flood Control Operations/Maintenance Activities of the SBCFCD

With implementation of the proposed project, existing flood control operations would continue to occur and would not change. Flood control activities consist of maintaining existing flood control features such as dikes, basins, and channels and do not involve the construction or expansion of recreational facilities. Since the construction or expansion of recreational facilities does not apply to flood control activities, no impacts related to this issue would occur and no mitigation is required.

Cumulative. Cumulatively, flood control operations would not result in the construction or expansion of recreational facilities. Development of other projects may result in the need to expand or construct additional recreational facilities; however, impacts associated with these other projects would be analyzed and mitigated in separate environmental documents prepared for the other projects. Therefore, the flood control component in conjunction with other identified cumulative projects would have a less than significant cumulative impact on the expansion or construction of recreational facilities.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Water production activities consist of pumping water from wells and routing the resulting water to existing distribution systems. Since water production operations would remain the same with the implementation of the proposed project, and since water production activities do not involve the construction or expansion of recreational facilities, no impacts related to this issue would occur and no mitigation is required.

Cumulative. Cumulatively, water production activities would not result in the construction or expansion of recreational facilities. Development of other projects may result in the need to expand or construct additional recreational facilities; however, impacts associated with these other projects would be analyzed and mitigated in separate environmental documents prepared for the other projects. Therefore, the water production component in conjunction with other identified cumulative projects would have a less than significant cumulative impact on the expansion or construction of recreational facilities.

Aggregate Mining

Activities associated with the operational phase of aggregate mining include the excavation of mineral resources from the land and do not involve the construction or expansion of recreational facilities. However, during the reclamation phase of aggregate mining, it is anticipated that the Silt Pond Quarry would be gradually filled with settled silts, revegetated with native plants, and be returned to open space or other uses. Since the reclamation of the Silt Pond Quarry is part of the reclamation plans for aggregate mining activities, the potential exists that this area could be dedicated as open space. The potential expansion of this area for recreational uses would not have an adverse physical effect on the environment as the reclamation process would return the land to its existing condition. Therefore, a less than significant impact associated with this issue would occur and no mitigation would be required.

Cumulative. Cumulatively, aggregate mining activities would not result in the construction or expansion of recreational facilities. Development of other projects may result in the need to expand or construct additional recreational facilities; however, impacts associated with these other projects would be analyzed and mitigated in separate environmental documents prepared for the other projects. Therefore, the aggregate mining component in conjunction with other identified cumulative

projects would have a less than significant cumulative impact on the expansion or construction of recreational facilities.

Adoption of General Plan Amendments

With the adoption of the General Plan Amendments, the different project components analyzed in this section would occur. It is anticipated that each of the project components would have a less than significant impact on the construction or expansion of recreational facilities associated with implementation of the proposed project. Therefore, no mitigation measures would be required.

Cumulative. Cumulatively, the adoption of the General Plan Amendments would not result in the construction or expansion of recreational facilities. Development of other projects may result in the need to expand or construct additional recreational facilities; however, impacts associated with these other projects would be analyzed and mitigated in separate environmental documents prepared for the other projects. Therefore, the adoption of the General Plan Amendments in conjunction with other identified cumulative projects would have a less than significant cumulative impact on the expansion or construction of recreational facilities.

Roadway/Bridge Rights-of-Way

Activities associated with the ~~dedication~~ designation of additional rights-of-way for roadways do not include the construction or expansion of recreational facilities. Therefore, no impacts related to this issue would occur and no mitigation is required.

Cumulative. Cumulatively, the ~~dedication~~ designation of roadway/bridge rights-of-way would not result in the construction or expansion of recreational facilities. Development of other projects may result in the need to expand or construct additional recreational facilities; however, impacts associated with these other projects would be analyzed and mitigated in separate environmental documents prepared for the other projects. Therefore, the ~~dedication~~ designation of roadway/bridge rights-of-way in conjunction with other identified cumulative projects would have a less than significant cumulative impact on the expansion or construction of recreational facilities.

Recreational Trail Rights-of-Way

As previously indicated, the Planning Area does not include the construction of any habitable structures nor does it include any construction of recreational facilities. Recreational facilities included in the project would consist solely of an interconnecting trails system. All trails would be located on existing service roads, utility easements, and old railroad beds. Except for the placement of signs indicating that trails and service roads would serve a dual purpose, there would be no construction activities associated with trails. Boulders or similar barricades may be placed to direct trail users away from habitat conservation, flood control, water conservation, and mining activities.

The Alabama Street Trail, Orange Street-Boulder Avenue Trail, and Greenspot Road Trail would be Class 2 bikeways characterized as on-road bicycle trails (lanes) along the side of and within the paved cross-section of the roadway. The Old Greenspot Road Trail would be a Class 1 bikeway that could also be used for hiking, as there would be no vehicular traffic from the local street system. The Borrow Pit South Rim Trail would be a Class 3 trail able to accommodate hiking and non-motorized off-road bicycle activities, as well as maintenance vehicles. These trails would use existing rights-of-way along their respective streets with the exception of the Borrow Pit South Rim Trail, which would run along the existing partially-paved maintenance road.

All other trails would stay on existing service roads and old railroad beds and would remain in their existing state. With the designation of additional trails within the Planning Area, the potential exists for

an increase in pollutants resulting from the increased use of recreational facilities. As previously discussed, passive recreational trail uses typically generate three types of pollutants:

- Sediment (from poor management of trails and associated erosion);
- Trash and debris (from users of the trails); and
- Pathogens (from the deposit of fecal material on the trail).

Impact 4.14.1 The proposed recreational trail rights-of-way designation activities will result in potentially significant impacts related to an increase in pollutants due to the increased use of recreational trails.

Poor location and maintenance of trails can cause significant erosion and sedimentation. Because the trails would be situated on existing service and maintenance roads, erosion-related impacts associated with this component of the proposed project would be less than significant.

Trash and debris are caused by human activity. Trash and debris in general has been identified as having a detrimental effect on the recreational value of water bodies and surrounding habitat. With no mechanism in place, litter can be harmful or hazardous to bodies of water and to animals that mistakenly ingest debris. By implementing effective outreach programs and maintenance systems that address these litter sources, the amount of litter generated on the trails that could end up in the various waterways within the Planning Area would be significantly reduced. **Mitigation Measures REC-01 and REC-02** would reduce the litter that would be generated on the trails.

High levels of bacteria resulting from an increase of fecal material from domestic pets could occur in the event that such material is deposited into nearby waterways. Based on public use and maintenance guidelines outlined in Section 3.6.7, it is reasonable to assume that pet-related pathogens or nutrients would not have a direct pathway from the trails to the waterways, as vegetated or boulder buffers are anticipated to be provided between the trail and any sensitive waterways. Vegetation buffers reduce contaminants carried in runoff by providing time for sunlight to break down chemicals, absorb nutrients, and protect water quality in receiving waters from runoff-related contaminations while boulders would act as barriers.

No additional equestrian use associated with trail ~~dedication~~ designation is proposed with this project. Because there are no additional planned equestrian uses for the Planning Area, there would not be an increase in wastes generated by equestrian use greater than existing baseline conditions and are, therefore, not analyzed here. As part of the trail component for the proposed project, owners of pets (e.g., dogs) would be required to keep pets leashed at all times while on the trails. Further, by limiting access to the trails to specific hours (daylight) as well as seasonal restrictions to minimize potential hazards that may occur during extreme weather events, the possibility of off-leash pets depositing fecal material directly into the water bodies is reduced. However, there is still the potential for these contaminants to enter the water bodies indirectly. Even though there would be a buffer between the trails and the water bodies, there could be an increase in pathogens in the area due to increased pet use on the trails.

Generally, it is less expensive to prevent contaminants from entering water bodies than to treat contaminated water. Many contaminants can be prevented from getting into water bodies through good management practices such as encouraging proper disposal of pet wastes and limiting access. **Mitigation Measures REC-01 through REC-03** have been identified to reduce water quality impacts with respect to fecal material.

Mitigation Measures. The following mitigation measures are proposed to minimize potential impacts related to the potential increase in pollutants occurring in the Planning Area from the designation of recreational trails:

- REC-01** Prior to implementation of a trail program, a Trails Master Plan shall be developed and implemented for the Planning Area by the City of Highland and City of Redlands, which shall identify the following components:
- Quantity, style, and location of signs and barricades associated with each trail. (This may include the requirement to place signs in areas previously disturbed versus undisturbed area, the use of educational signs informing people to “carry in/carry out” trash, and signs depicting fines for littering.)
 - Maintenance schedule for replacement/repair of signs, barricades, and trail improvements.
 - Maintenance schedule for collection of trash (e.g., weekly, monthly).
 - Maintenance schedule for removal of invasive species for each trail.
 - Identification of agency responsible for the upkeep and maintenance of these trails.
- REC-02** Prior to implementation of a trail program, an outreach program shall be developed by the City of Highland and City of Redlands for the Planning Area, which shall incorporate and use education and outreach tools, developed and contained in the California Water Boards Erase the Waste Campaign.¹ The education outreach program shall focus on litter and pet waste and include (but shall not be limited to) the following elements: Advertising, Community Outreach, Strategic Partnerships, Media, Youth Education, and Business and Stakeholder Outreach.
- REC-03** Prior to implementation of a trail program, the City of Highland, City of Redlands, and County of San Bernardino shall identify public access hours and seasonal limitations to minimize unauthorized access and use of the trails within the Planning Area as part of the Trails Master Plan.

Level of Significance after Mitigation. Through the implementation of these identified mitigation measures, impacts of the proposed activity would be reduced to less than significant.

Cumulative. Cumulatively, the ~~dedication~~ designation of trail rights-of-way would result in the ~~dedication~~ designation of additional trails within the Planning Area. However, these trail ~~dedications~~ designations would occur on existing roads, utility rights-of-way, and old railroad beds and would not result in additional impacts after mitigation. Development of other cumulative projects may result in the need to expand or construct additional recreational facilities; however, impacts associated with these other projects would be analyzed and mitigated in separate environmental documents. Therefore, the ~~dedication~~ designation of trail rights-of-way in conjunction with other identified cumulative projects would have a less than significant cumulative impact on the expansion or construction of recreational facilities.

Land Exchange between the District and the BLM

None of the aspects of the land exchange between the District and the BLM are anticipated to result in any alterations to park or recreational facilities, apart from the designation of recreational trail rights-of-way discussed above. Therefore, no impacts associated with this issue are anticipated to occur and no mitigation would be required.

Cumulative. Cumulatively, land exchanges would not result in the construction or expansion of recreational facilities. Development of other projects may result in the need to expand or construct

¹ California Environmental Protection Agency, State Water Resources Control Board, *California Water Boards Erase the Waste Campaign, California Storm Water Toolbox*, <http://www.swrcb.ca.gov/erasethewaste/>, updated October 26, 2006.

additional recreational facilities; however, impacts associated with these other projects would be analyzed and mitigated in separate environmental documents prepared for the other projects. Therefore, the land exchange between the District and the BLM in conjunction with other identified cumulative projects would have a less than significant cumulative impact on the expansion or construction of recreational facilities.

Land Exchange between the SBCFCD and Robertson's

The portion of Robertson's land that would be exchanged to the SBCFCD would be used for habitat preservation and would not result in construction or expansion of recreational facilities as no such facility would be permitted within the habitat preservation area. The portion of SBCFCD land that would be exchanged to Robertson's would be used for aggregate mining so the construction or expansion of recreational facilities during its operational phase is not feasible or permitted due to safety constraints. The potential expansion or construction of recreational facilities during the reclamation phase of the aggregate mining would not result in an adverse impact as the area would be restored to its existing condition through the reclamation process. Since the land exchange that would occur between the SBCFCD and Robertson's would not result in adverse physical impacts associated with the expansion or construction of recreational facilities, a less than significant impact associated with this issue would occur and no mitigation is required.

Cumulative. Cumulatively, land exchanges would not result in the construction or expansion of recreational facilities. Development of other projects may result in the need to expand or construct additional recreational facilities; however, impacts associated with these other projects would be analyzed and mitigated in separate environmental documents prepared for the other projects. Therefore, the land exchange between the SBCFCD and Robertson's in conjunction with other identified cumulative projects would have a less than significant cumulative impact on the expansion or construction of recreational facilities.

4.15 TRANSPORTATION AND TRAFFIC

This section analyzes the potential traffic and circulation impacts of the proposed project based on the *Traffic Study*,¹ which is included in its entirety as Appendix J to this EIR. The *Traffic Study* evaluates baseline traffic conditions (2004),² opening year 2008 conditions, and forecast year 2030 conditions in the vicinity of the proposed project.

4.15.1 Baseline Setting

The *Traffic Study* for the proposed project was prepared using a methodology to calculate the contribution of the proposed project to intersection volumes for California Environmental Quality Act (CEQA) compliance. This method, specified by the *Congestion Management Program for San Bernardino County*³ and used for CEQA compliance, defines project traffic to be the difference between the year 2030 with project peak hour traffic volumes and the baseline peak hour traffic volumes. The project's percentage contribution to total new traffic is then calculated by dividing the total new project's peak hour trip volume at each study area intersection by the total new traffic. Figure 4.15.1 shows the key intersections included in this analysis.

The *Traffic Study* analyzes traffic conditions using 2004 as the baseline year. This is consistent with CEQA Regulations § 15125(a), which provides as follows: "An EIR must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation is published[.]" Here, the NOP was published in 2004, such that use of this year as baseline for the traffic analysis is appropriate.

Additionally the *Traffic Study* analyzes four separate vehicle circulation alternatives. Alternative D from the *Traffic Study* is the preferred alternative and is described below and shown in Figure 2D of the *Traffic Study*:

Access Alternative D – Robertson's aggregate and concrete trucks and Cemex's aggregate trucks that are inbound from SR-30 or Fifth Street east of SR-30 will access the plants via a new direct connection to Fifth Street west of SR-30, described below. Inbound trucks from the west and local deliveries will access the plant using the driveways on Alabama Street. Outbound Cemex aggregate and Robertson's aggregate and concrete trucks headed for Fifth Street east of SR-30 or SR-30 northbound will exit at their respective driveways on Alabama Street and travel north to the intersection of Palm Avenue/Third Street and then to the intersection of Church Avenue/Fifth Street using Third Street, which will be reconstructed primarily as a one-way roadway and connect with Fifth Street as in Access Alternative B. Outbound trucks going south on SR-30 will exit onto Fifth Street via the new connection described below and would travel on a dedicated lane from the plant exit to SR-30 southbound. Cemex aggregate trucks will travel on a new, private paved road from Orange Street at the signalized entrance to the Cemex plant to either the new connection to Fifth Street, or the driveways on Alabama Street, depending on the direction of travel. Cemex aggregate trucks will not travel on Orange Street or Fifth Street east of SR-30 except for local deliveries. Robertson's aggregate trucks using the new connection to Fifth Street will travel on their existing access road from their East Basin plant to the new connection to Fifth Street. This new connection road will be approximately 1,800 feet in length and will be shared by both operators' aggregate trucks and Robertson's concrete trucks.

The dedicated truck access will be constructed on Fifth Street immediately east of the City Creek Bridge. This access will allow trucks to make westbound right turns from Fifth Street onto a new,

¹ *Traffic Study Upper Santa Ana River Wash, San Bernardino County, California*; prepared by LSA associates, Inc.; August, 2007.

² The use of 2004 traffic levels is based upon the release date of the project Notice of Preparation.

³ *Congestion Management Program for San Bernardino County, 2003 Update, December 3, 2003, by San Bernardino Associated Governments*, prepared by SANBAG in cooperation with the Comprehensive Transportation Plan Technical Advisory Committee, Attachment 4, Appendix C, *Guidelines for CMP Traffic Impact Analysis Reports in San Bernardino County, 2005 Update*.

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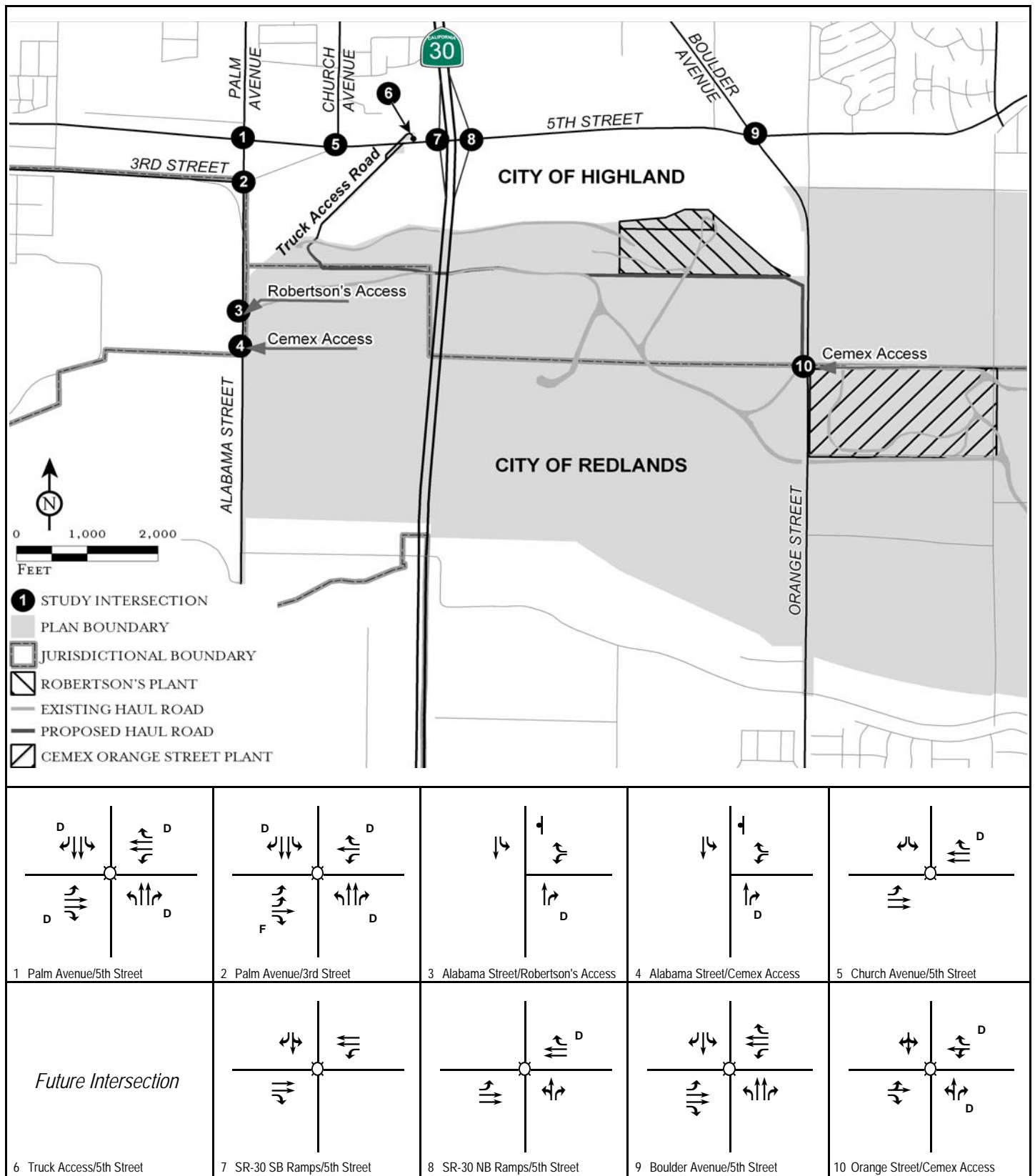


FIGURE 4.15.1

LSA

Legend
 □ Signal
 — Stop Sign
 F Free Right Turn
 D De Facto Right Turn

Upper Santa Ana River Wash
 Land Management Plan
 Environmental Impact Report
 Study Intersection Locations and
 Existing Study Intersection Geometrics and Stop Control

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paved roadway under the bridge to travel to both Robertson's and Cemex's plants. Trucks will also be able to make northbound right turns from the new roadway onto Fifth Street to travel to SR-30.

The access point for the entrance to the new truck roadway to the processing plants will be located approximately 300 feet west of the SR-30 southbound off-ramp. The angle of the off-ramp intersection with Fifth Street will facilitate truck turning movements; however, trucks making the westbound right turn onto the new roadway will potentially have to slow to make the turn, delaying traffic behind them. Therefore, a westbound deceleration lane will be provided to allow trucks to move out of the through lane before making their turning maneuver. This deceleration lane will not extend all the way back to the off-ramp; however, to prevent non-quarry-related traffic from unintentionally entering the lane and then needing to make a lane change to exit. In addition, if feasible, the access to the new roadway will be angled to facilitate truck turning movements.

The access point for the exit onto Fifth Street from the new truck roadway to the processing plants will be located approximately 400 feet west of the SR-30 southbound on-ramp. Trucks making the northbound right turn from the new roadway onto Fifth Street will be provided with an acceleration lane extending all way to the on-ramp, so that trucks destined for the SR-30 southbound on-ramp will not be required to merge with traffic in the existing right-turn lane.

Because the vast majority of project traffic would travel on the new internal access road with the exception of local delivery trucks, no intersections south of the processing plants on either Orange Street-Boulder Avenue or Alabama Street are included in the *Traffic Study*.

Traffic Level of Service Definitions. Level of service (LOS) will be referred to frequently in this section. Roadway operations and the relationship between capacity and traffic volumes are generally expressed in LOS, which are defined using the letter grades A through F (Table 4.15.A) and reflect the reality that conditions rapidly deteriorate as traffic approaches a thoroughfare's absolute capacity.

Table 4.15.A – Traffic Level of Service (LOS) Definitions

LOS	Description
A	No approach phase is fully utilized by traffic and no vehicle waits longer than one red indication. The approach appears quite open, turns are made easily, and nearly all drivers find freedom of operation.
B	This service level represents stable operation, where an occasional approach phase is fully utilized and a substantial number approach full use. Many drivers begin to feel restricted within platoons of vehicles.
C	This level still represents stable operating conditions. Occasionally drivers may have to wait through more than one red signal indication, and backups may develop behind turning vehicles. Most drivers feel somewhat restricted, but not objectionably so.
D	This level encompasses a zone of increasing restriction approaching instability at the intersection. Delays to approaching vehicles may be substantial during short peaks within the peak period; however, enough cycles with lower demand occur to permit periodic clearance of developing queues, thus preventing excessive backups.
E	Capacity occurs at the upper end of this service level. It represents the most vehicles that any particular intersection approach can accommodate. Full utilization of every signal cycle is seldom attained no matter how great the demand.
F	This level describes forced flow operations at low speeds, where volumes exceed capacity. These conditions usually result from queues of vehicles backing up from a restriction downstream. Speeds are reduced substantially and stoppages may occur for short or long periods of time due to the congestion. In the extreme case, both speed and volume can drop to zero.

Source: *Highway Capacity Manual, Special Report 209*, Transportation Research Board, Washington, DC, 1985.

Level of Service Standards. The level of service criteria for unsignalized and signalized intersections is summarized in Table 4.15.B.

Table 4.15.B – Level of Service Criteria for Unsignalized and Signalized Intersections

Level of Service	Unsignalized Intersection Average Delay per Vehicle (sec.)	Signalized Intersection Average Delay per Vehicle (sec.)
A	≤ 10	≤ 10
B	> 10 and ≤ 15	> 10 and ≤ 20
C	> 15 and ≤ 25	> 20 and ≤ 35
D	> 25 and ≤ 35	> 35 and ≤ 55
E	> 35 and ≤ 50	> 55 and ≤ 80
F	> 50	> 80

Source: Transportation Research Board, *2000 Highway Capacity Manual, Intersection Level of Service Criteria*, December, 2000.

For all study area intersections, the 2000 Highway Capacity Manual¹ (HCM 2000) analysis methodologies were used to determine intersection levels of service. All levels of service were calculated using the Traffix version 7.8 software, which uses the HCM 2000 methodologies. Saturation flow rates consistent with CMP guidelines for baseline conditions, opening year, and future year analyses were used in the calculations of intersection capacity. Minimum green times required for pedestrian movements were calculated using Equation 16-2 contained in Chapter 16 of the HCM 2000. Minimum green time calculations are included in Appendix H of the *Traffic Study* (Appendix J of the EIR).

The project study area spans three jurisdictions for the purpose of traffic analysis: the City of Highland, the City of Redlands, and the California Department of Transportation (Caltrans), which has jurisdiction over State highways and freeway ramp terminus intersections. The City of Redlands uses LOS C as the threshold of acceptability during peak hours; therefore, any intersection operating at LOS D, E, or F would be considered to have a significant impact requiring mitigation. The remaining jurisdictions use LOS D as the threshold of acceptability during peak hours; therefore, any intersection operating at LOS E or F would be considered to have a significant impact requiring mitigation.

Study Area. The study area for the *Traffic Study* includes the following 10 intersections:

- Palm Avenue/5th Street;
- Palm Avenue/3rd Street;
- Alabama Street/Robertson's Access;
- Alabama Street/Cemex Access;
- Church Avenue/5th Street;
- Truck Access/5th Street (future intersection);
- SR-30 Southbound Ramps/5th Street;
- SR-30 Northbound Ramps/5th Street;
- Boulder Avenue/Greenspot Road ; and
- Orange Street-Boulder Avenue/Cemex Access.

Previously referenced Figure 4.15.1 illustrates the locations and baseline intersection geometrics of the study intersections. Per San Bernardino Associated Governments (SANBAG) TIA methodology, a dedicated right-turn lane has been assumed at the intersections where the rightmost through lane is

¹ Transportation Research Board, *2000 Highway Capacity Manual (HCM 2000)*, December, 2000.

at least 20 feet wide. These right-turn lanes are indicated with a “D” (for “de facto”) in the figure so that they may be distinguished from right-turn lanes that are actually striped.

City of Highland Street Classifications¹

Orange Street. Orange Street between the southern City boundary and where it becomes Boulder Avenue is an Alternative Secondary Highway (2) with a dedicated Class II bike lane on both sides.

Secondary Highways provide more local access than major arterials, but also provide some non-local through traffic service. This classification includes a four-lane roadway with a raised median and has a typical right-of-way width of 88 feet and a curb-to-curb pavement width of approximately 64 feet.

The Alternative Secondary Highway cross-section does not include a raised median but enhances the opportunity to provide bike paths and/or parking lanes.

Orange Street has a right-of-way width of 88 feet and a curb-to-curb pavement width of 64 feet. An Alternative Secondary Highway (1) is a secondary highway with a dedicated parking lane on both sides and no bike lane.

Boulder Avenue. Boulder Avenue is designated as a Modified Primary Arterial. The Modified Primary Arterial is designated as a four-lane divided roadway plus a Class I bike lane, with a typical right-of-way width of 135 feet and a curb-to-curb pavement width of approximately 98 feet with a raised median.

Greenspot Road. Greenspot Road is classified as a Major Highway with a dedicated Class II bike lane on both sides. Major Highways provide service to non-local through trips, as well as providing limited local access. Ideally, curb cuts are minimized on major arterials, although historically such access control has been difficult to achieve. Major Highways are designated as four-lane, 80-foot roadways (including a 12-foot median) curb-to-curb, within 104-foot rights-of-way. Most of Greenspot Road is considered a Major Highway, where it exists as a four-lane roadway.

Alabama Street. ~~At its widest, Alabama Street is 80 feet from curb to curb classifying it as a Major Highway.~~ Alabama Street within the City of Highland is designated as a Secondary Highway by the General Plan with a right-of-way of 88 feet and 64 feet of pavement curb-to-curb.

Palm Avenue. Palm Avenue is designated as a Special Collector Street in the area between Base Line and Pacific Street. This is a two-lane roadway with a 52-foot roadway, curb-to-curb, within a 66-foot right-of-way.

3rd Street. Third Street from Sterling Avenue to Alabama Avenue is designated as a Major Highway. Major Highways are designated as four-lane, 80-foot roadways (including a 12-foot median) curb-to-curb, within 104-foot rights-of-way.

Greenspot Road. Greenspot Road between Orange Street-Boulder Avenue and SR-30 is designated as a Primary Arterial. Primary Arterials are limited access facilities that provide service to non-local through trips with a minimal level of direct access to adjacent land uses. They are designated as 96-foot roadways, curb-to-curb, within a minimum of 112-foot rights-of-way, and carry up to three lanes

¹ *City of Highland General Plan Update: Section 3.0 Circulation Element*, prepared by The Planning Network, March 14, 2006.

of through traffic in each direction. Fifth Street between Shirley Tippecanoe Avenue and Palm Avenue is designated as a Major Highway. Major Highways are designated as four-lane, 80-foot roadways (including a 12-foot median) curb-to-curb, within 104-foot rights-of-way.

City of Redlands Street Classifications¹

Orange Street. Orange Street is classified as a Minor Arterial. Minor Arterials typically interconnect with and augment the major arterial system, and serve trips of moderate length. Minor Arterials may permit access to abutting properties, although traffic capacity needs are equally important. Minor Arterials are typically no more than four lanes wide and, to minimize roadway width and right-of-way, may be undivided (no median). Lower volume Minor Arterials may be two lanes wide, although left-turn lanes at intersections and/or a continuous two-way left turn lane should be provided to improve traffic flow. Two 8-foot rights-of-way are available on Minor Arterials for dedication of bike lanes.

Orange Street is a Minor Arterial, four-lane undivided road with a maximum 64-foot curb-to-curb width and an 88-foot right-of-way.

Greenspot Road. Based on a site visit, the portion of Greenspot Road in the City of Redlands is a two-lane road with dedicated 8-foot bike lane. This would classify it as a Minor Arterial (2 lanes plus left-turn lane). Minor Arterials have a 52-foot curb-to-curb width and 88-foot right-of-way.

Alabama Street. Alabama Street is classified as a Major Arterial. Major Arterials usually carry the highest volumes and/or longest trips and are moderately high speed routes, typically four to six lanes wide. For high capacity they should have medians between intersections and additional lanes at intersections. Service to abutting properties may be provided but should be subordinate to through-travel needs. Access points should be consolidated where possible. A Major Arterial is a 4-lane divided road with a raised median and a curb-to-curb width of 78 feet and right-of-way width of 110 feet. Two 8-foot rights-of-way are available on major arterials for dedication of bike lanes.

Analysis Scenarios

LOS and volumes are discussed below for three different scenarios against which project impacts are compared:

- Baseline (2004) setting without the project;
- Opening year (2008) background without the project; and
- Future (2030) background without the project.

Baseline (2004) Setting Baseline Without the Project. Baseline traffic volumes at study area intersections are based on peak hour intersection turning movement counts.² Baseline freeway segment volumes are based on bidirectional peak hour traffic counts published by Caltrans in 2004. An intersection level of service analysis was conducted for baseline conditions to determine current circulation system performance. All study area intersections were operating at satisfactory levels of service in 2004. Figure 4.15.2 shows baseline a.m. and p.m. peak hour traffic volumes without the project. The baseline conditions levels of service for the study area intersections are summarized in Table 4.15.C, wherein all study area intersections are shown to be operating at satisfactory levels of service during the p.m. peak hour.

¹ *City of Redlands 1995 General Plan: Section 5.0 Circulation Element*, prepared by City of Redlands Community Development Department, August 1995.

² Collected by Counts Unlimited, Inc. in November and December 2004, and May 2005. Count sheets are contained in the *Traffic Study*, Appendix J of this EIR.

Table 4.15.D summarizes the baseline a.m. and p.m. peak hour freeway mainline traffic volumes and levels of service for the freeway segments on SR-30. All freeway segments are operating at satisfactory levels of service during the p.m. peak hour.

Opening Year (2008) Background Without the Project. Traffic volumes at study area intersections for year 2008 background without project conditions were developed by applying a 2.0 percent per year ambient growth rate (8.24% total) to baseline (2004) counts and adding trips from cumulative projects (obtained from the City of Highland) expected to open by 2008. For more information on traffic analysis methodology, see Appendix J. Year 2008 background without project a.m. and p.m. peak hour turn volumes for the study area intersections are illustrated in Figure 4.15.3, and year 2008 background without project levels of service for the study area intersections are summarized in Table 4.15.C. All intersections listed would operate at satisfactory levels of service during the a.m. and p.m. peak hours for the 2008 background without project scenario, with the exception of the following intersections:

- Palm Avenue/5th Street.

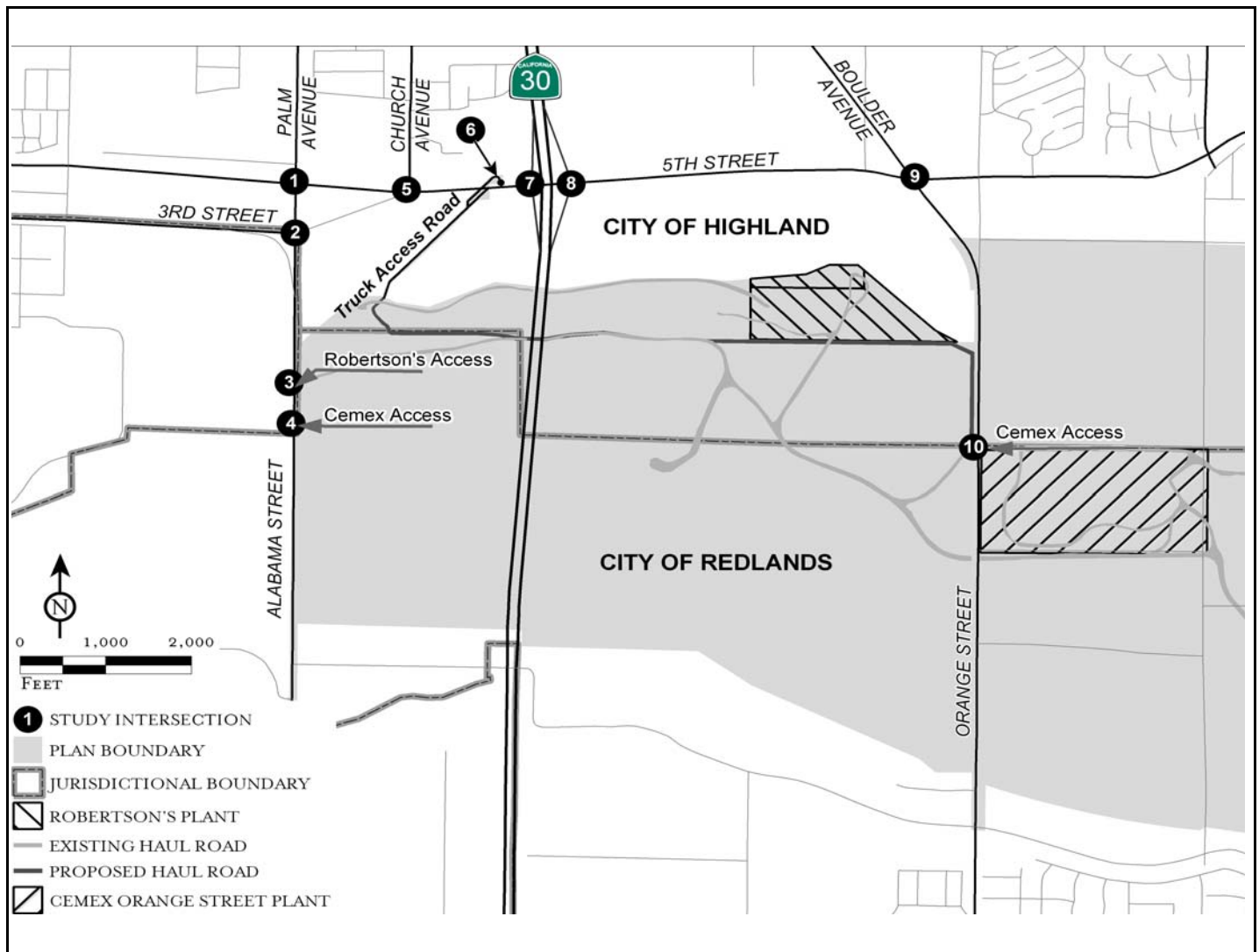
Table 4.15.D summarizes the year 2008 background a.m. and p.m. peak hour freeway traffic volumes and levels of service for segments on SR-30. The northbound 5th Street Off-Ramp Influence Area is forecast to operate at LOS F during the p.m. peak hour. The southbound 5th Street On-Ramp Influence Area is forecast to operate at LOS F during the a.m. peak hour.

Future (2030) Background Without the Project. The *CMP Traffic Impact Analysis* procedures require that an analysis of cumulative long-term conditions be conducted using the horizon year traffic data from an approved local or regional traffic model. The year 2030 traffic volumes for the proposed project were developed using data from the East Valley Traffic Model (EVTM), maintained by the City of San Bernardino. The EVTM includes a passenger vehicle model and a truck model. The base year for the passenger vehicle model is 2000 and the forecast year is 2030. The base year for the truck model is 1994 (which, according to the SCAG, should be assumed to represent year 2000), and the forecast year is 2020. Sheets illustrating the modeled link volumes from the SCAG are contained in Appendix J of the *Traffic Study* (Appendix J of the EIR). The socioeconomic data in the EVTM for the forecast years include continued operations of the quarries; therefore, the modeled forecast year traffic volumes include trips generated by the existing plants.

Figure 4.15.4 illustrates year 2030 background without project PCE peak hour traffic volumes for the study area intersections. A level of service analysis was conducted to evaluate projected circulation system performance. Table 4.15.C summarizes the year 2030 background without project levels of service for the study area intersections. All intersections examined would operate at satisfactory levels of service during the p.m. peak hour, with the exception of the following seven intersections:

- Palm Avenue/5th Street;
- Palm Avenue/3rd Street;
- Alabama Street/Robertson's Access;
- Alabama Street/Cemex;
- SR-30 Southbound Ramps/5th Street;
- Boulder Avenue/Greenspot Road; and
- Orange Street-Boulder Avenue/Cemex Access.

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<p>74 / 34 259 / 128 110 / 46 75 / 120 656 / 319 382 / 150</p> <p>11 / 54 194 / 394 93 / 63</p> <p>63 / 42 63 / 415 284 / 749</p> <p>1 Palm Avenue/5th Street</p>	<p>297 / 71 406 / 269 30 / 1 42 / 20 2 / 2 5 / 4</p> <p>89 / 528 2 / 2 52 / 149</p> <p>148 / 65 278 / 659 11 / 3</p> <p>2 Palm Avenue/3rd Street</p>	<p>409 / 370 56 / 52 86 / 34 7 / 3</p> <p>351 / 694 3 / 0</p> <p>3 Alabama Street/Robertson's Access</p>	<p>342 / 354 74 / 19 61 / 30 6 / 6</p> <p>293 / 664 7 / 1</p> <p>4 Alabama Street/Cemex Access</p>	<p>64 / 24 121 / 54 46 / 113 1049 / 564</p> <p>10 / 59 579 / 1131</p> <p>5 Church Avenue/5th Street</p>
<p><i>Future Intersection</i></p> <p>158 / 94 145 / 217 937 / 578 641 / 293</p> <p>197 / 770 503 / 415</p> <p>6 Truck Access/5th Street</p>	<p>158 / 94 145 / 217 937 / 578 641 / 293</p> <p>197 / 770 503 / 415</p> <p>7 SR-30 SB Ramps/5th Street</p>	<p>59 / 132 283 / 855 229 / 98 1050 / 441</p> <p>528 / 430 263 / 475</p> <p>8 SR-30 NB Ramps/5th Street</p>	<p>4 / 7 167 / 156 44 / 84 71 / 62 1085 / 397 24 / 14</p> <p>1 / 5 305 / 805 204 / 265</p> <p>116 / 163 98 / 328 4 / 16</p> <p>9 Boulder Avenue/5th Street</p>	<p>662 / 540 56 / 3 30 / 13 29 / 0 42 / 8</p> <p>26 / 2 0 / 1</p> <p>0 / 1 356 / 935 20 / 9</p> <p>10 Orange Street/Cemex Access</p>

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FIGURE 4.15.2

XXX / YYY AM / PM Volume

Upper Santa Ana River Wash
Land Management Plan
Environmental Impact Report

Existing (2004) Peak Hour PCE Traffic Volumes

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Table 4.15.C – Background Without Project Intersection Levels of Service

	Baseline (2004)						2008 Without Project						2030 Without Project					
	A.M. Peak Hour			P.M. Peak Hour			A.M. Peak Hour			P.M. Peak Hour			A.M. Peak Hour			P.M. Peak Hour		
	V/C	Delay	LOS	V/C	Delay	LOS	V/C	Delay	LOS	V/C	Delay	LOS	V/C	Delay	LOS	V/C	Delay	LOS
1. Palm Avenue/ 5 th Street	0.66 0.57	34.6 31.0	C	0.77 0.75	41.1 38.8	D	0.78 0.67	44.7 35.6	D	0.92 0.90	59.8 56.1	E	1.26	191.9	F	1.46	187.2	F
2. Palm Avenue/ 3 rd Street	0.38	26.4	C	0.44	33.1	C	0.43	26.9	C	0.48	35.0	C	0.80	71.5	E	0.87	180.2	F
3. Alabama Street/ Robertson's Access		11.9	B		15.9	C		12.5	B		17.5	C		35.6	E		337.8	F
4. Alabama Street/Cemex Access		11.1	B		15.8	C		11.6	B		17.4	C		33.2	D		359.4	F
5. Church Avenue/5 th Street	0.40	13.8	B	0.38	14.3	B	0.47	15.0	B	0.46	14.8	B	0.74	30.1	C	0.71	24.5	C
6. Truck Access/5 th Street	<i>Future Intersection</i>																	
7. SR-30 Southbound Ramps/5 th Street	0.84	25.8	C	0.60	21.6	C	0.94	32.8	C	0.72	23.8	C	1.21	74.1	F	1.02	38.1	F
8. SR-30 Northbound Ramps/5 th Street	0.71	24.8	C	0.52	23.7	C	0.82	28.1	C	0.70	25.3	C	1.06	66.7	F	0.87	32.7	C
9. Boulder Avenue/ Greenspot Road	0.55	26.6	C	0.47	27.3	C	0.67	32.7	C	0.58	30.3	C	1.09	83.5	F	1.17	111.9	F
10. Orange Street/Cemex Access	0.56	6.4	A	0.63	3.8	A	0.62	6.4	A	0.71	5.0	A	1.15	84.4	F	1.33	146.5	F

V/C = Volume/Capacity ratio; Delay measured in seconds; LOS = Level of Service; SR = State Route; Shaded = Exceeds LOS standard

Source: Traffic Study Upper Santa Ana River Wash, San Bernardino County, California; prepared by LSA Associates, Inc.; June 30, 2006 August 31, 2007, Table D (Baseline), Table G (2008), Table L (2030).

Table 4.15.D – Freeway Mainline Background Levels of Service Without Project

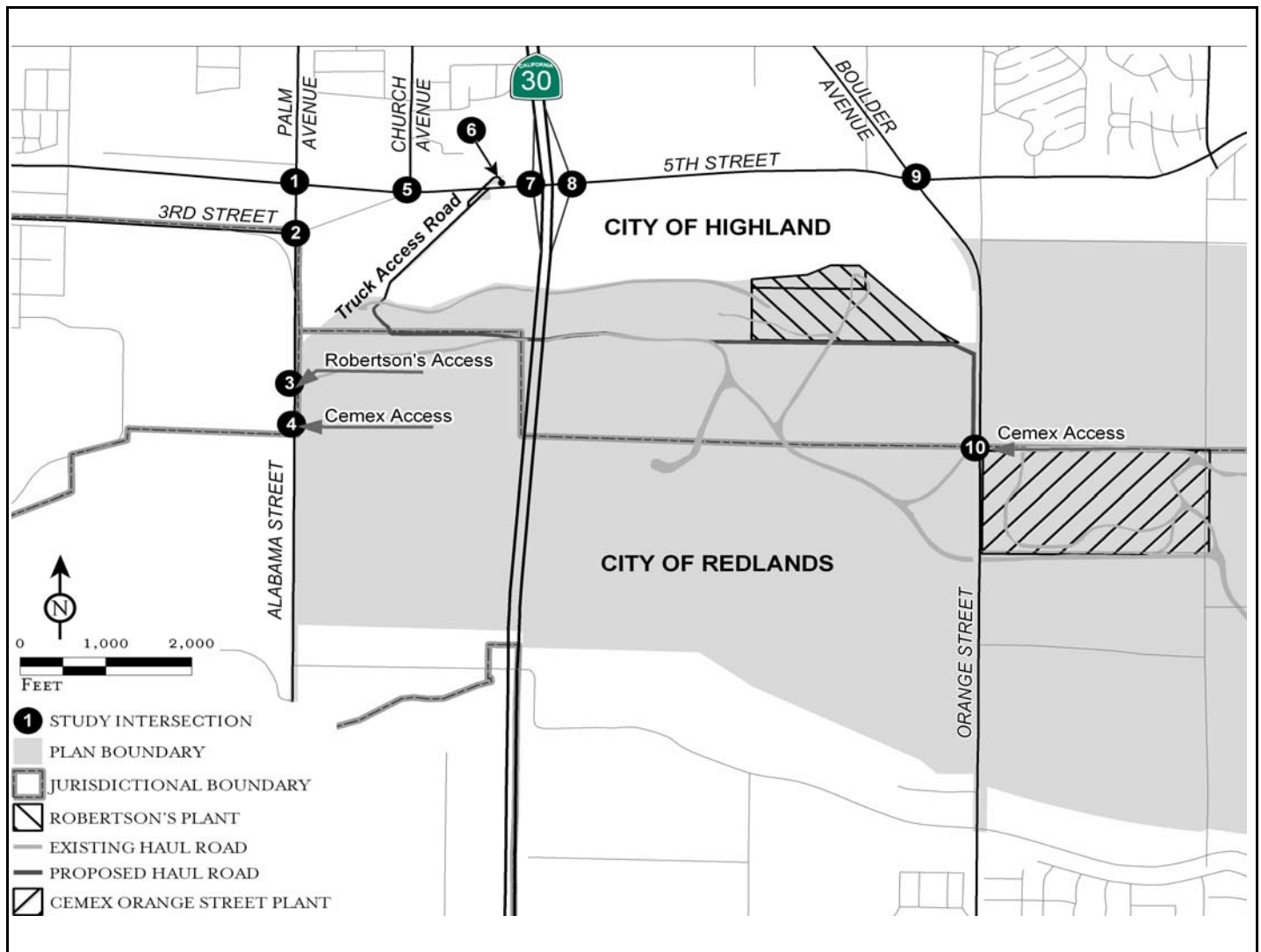
Freeway Segment	Baseline 2004						2008 Without Project						2030 Without Project					
	A.M. Peak Hour			P.M. Peak Hour			A.M. Peak Hour			P.M. Peak Hour			A.M. Peak Hour			P.M. Peak Hour		
	S	D	LOS	S	D	LOS	S	D	LOS	S	D	LOS	S	D	LOS	S	D	LOS
SR-30 Northbound																		
5 th Street Off-Ramp Influence Area	55.9	31.5	D	55.7	39.8	E	55.7	35.1	E	†	†	F	†	†	F	†	†	F
5 th Street On-Ramp Influence Area	56.0	26.4	C	54.0	32.5	D	55.0	29.1	D	53.0	35.9	E	†	†	F	†	†	F
SR-30 Southbound																		
5 th Street Off-Ramp Influence Area	56.8	33.8	D	56.8	32.7	D	56.7	37.9	E	56.8	35.0	D	†	†	F	†	†	F
5 th Street On-Ramp Influence Area	51.0	38.4	E	53.0	34.4	D	†	†	F	52.0	37.3	E	†	†	F	†	†	F

S = Speed in miles per hour; D = Density in passenger cars per mile per lane; LOS = Level of Service; † Volume exceeds capacity; speed and density not defined for over-capacity segment.

Shaded = Exceeds LOS standard

Level of Service (LOS) criteria are provided in the *Highway Capacity Manual*, and are based on density, expressed in terms of passenger cars per mile per lane (pc/mi/ln).

Source: *Traffic Study Upper Santa Ana River Wash, San Bernardino County, California*; prepared by LSA Associates, Inc.; ~~June 30, 2006~~ August 31, 2007, Table RR (Baseline), Table SS (2008).



<p>80 / 37 280 / 138 145 / 88 116 / 163 761 / 395 440 / 191</p> <p>12 / 58 249 / 484 100 / 68</p> <p>67 / 45 68 / 449 324 / 845</p> <p>1 Palm Avenue/5th Street</p>	<p>338 / 94 446 / 302 32 / 1 45 / 22 2 / 2 5 / 4</p> <p>109 / 591 2 / 2 56 / 161</p> <p>159 / 70 303 / 727 12 / 3</p> <p>2 Palm Avenue/3rd Street</p>	<p>454 / 416 56 / 52 86 / 34 7 / 3</p> <p>388 / 768 3 / 0</p> <p>3 Alabama Street/Robertson's Access</p>	<p>387 / 400 74 / 19 61 / 30 6 / 6</p> <p>330 / 738 7 / 1</p> <p>4 Alabama Street/Cemex Access</p>	<p>69 / 26 144 / 77 67 / 139 1246 / 723</p> <p>11 / 64 707 / 1354</p> <p>5 Church Avenue/5th Street</p>
<p><i>Future Intersection</i></p> <p>6 Truck Access/5th Street</p>	<p>169 / 100 169 / 254 1143 / 756 743 / 366</p> <p>314 / 986 538 / 446</p> <p>7 SR-30 SB Ramps/5th Street</p>	<p>61 / 142 422 / 1098 264 / 123 1321 / 660</p> <p>565 / 462 320 / 572</p> <p>8 SR-30 NB Ramps/5th Street</p>	<p>43 / 37 181 / 169 61 / 139 116 / 98 1311 / 536 46 / 30</p> <p>30 / 41 383 / 1032 231 / 305</p> <p>143 / 189 106 / 355 10 / 41</p> <p>9 Boulder Avenue/5th Street</p>	<p>752 / 618 56 / 3 30 / 13 29 / 0 42 / 8</p> <p>26 / 2 0 / 1</p> <p>0 / 1 411 / 1050 20 / 9</p> <p>10 Orange Street/Cemex Access</p>

LSA

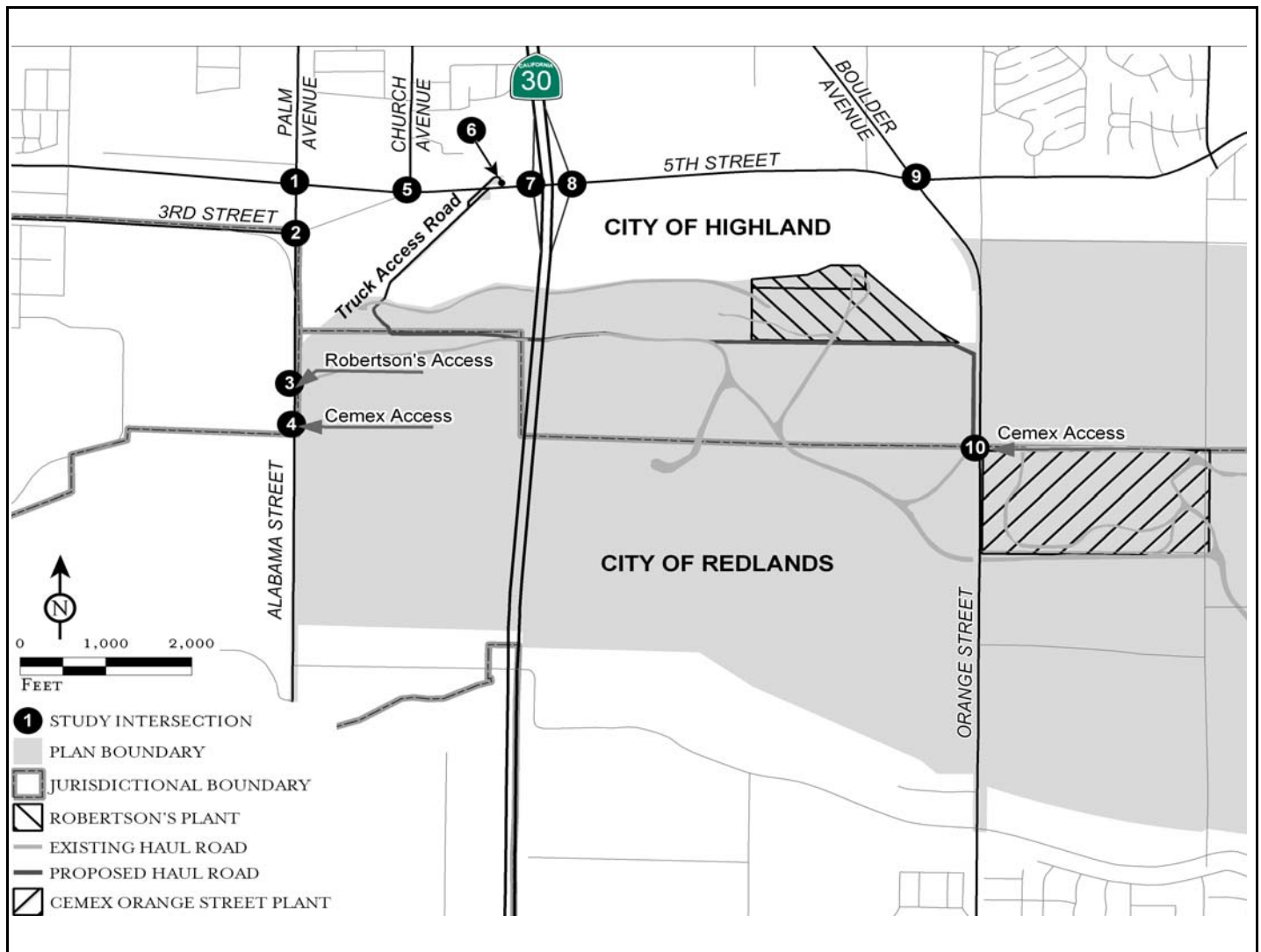
XXX / YYY AM / PM Volume

FIGURE 4.15.3

Upper Santa Ana River Wash
Land Management Plan
Environmental Impact Report

2008 Background (without Project) Peak Hour PCE Traffic Volumes

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<p>120 / 67 893 / 325 102 / 61 74 / 125 995 / 534 1173 / 335 22 / 76 317 / 783 219 / 275 84 / 196 134 / 974 521 / 1611</p> <p>1 Palm Avenue/5th Street</p>	<p>625 / 281 1634 / 653 26 / 1 40 / 16 1 / 4 8 / 6 273 / 880 5 / 1 343 / 456 295 / 463 426 / 1885 11 / 4</p> <p>2 Palm Avenue/3rd Street</p>	<p>1931 / 1063 56 / 52 86 / 34 7 / 3 646 / 2318 3 / 0</p> <p>3 Alabama Street/Robertson's Access</p>	<p>1864 / 1047 74 / 19 61 / 30 6 / 6 588 / 2288 7 / 1</p> <p>4 Alabama Street/Cemex Access</p>	<p>225 / 59 191 / 89 76 / 193 2017 / 936 25 / 165 914 / 2291</p> <p>5 Church Avenue/5th Street</p>
<p>Future Intersection</p> <p>6 Truck Access/5th Street</p>	<p>439 / 134 275 / 248 1654 / 996 765 / 497 307 / 1430 798 / 950</p> <p>7 SR-30 SB Ramps/5th Street</p>	<p>280 / 194 1569 / 874 113 / 239 469 / 1439 850 / 619 452 / 753</p> <p>8 SR-30 NB Ramps/5th Street</p>	<p>11 / 64 687 / 772 207 / 321 76 / 107 1246 / 155 441 / 4 3 / 11 450 / 1001 367 / 458 271 / 625 220 / 1059 49 / 64</p> <p>9 Boulder Avenue/5th Street</p>	<p>1762 / 1474 56 / 3 30 / 13 29 / 0 42 / 8 26 / 2 0 / 1 0 / 1 678 / 2176 20 / 9</p> <p>10 Orange Street/Cemex Access</p>

LSA

FIGURE 4.15.4

XXX / YYY AM / PM Volume

Upper Santa Ana River Wash
 Land Management Plan
 Environmental Impact Report

Year 2030 Background (without Project) Peak Hour PCE Traffic Volumes

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Freeway Level of Service Analysis Procedure

Peak-hour volumes in ramp influence areas were analyzed using the methodology contained in HCM Chapter 25¹ (Ramps and Ramp Junctions), with calculations performed using HCS+ software. The freeway mainline volumes have been converted to PCE volumes by applying a truck percentage (4.65%) and using a truck PCE factor of 1.5, as specified in the *Highway Capacity Manual* (HCM). The truck percentage has been taken from 2004 Caltrans truck traffic volume data. The analysis of on-ramps examines the impacts of merging onto the freeway, while the analysis of off-ramps examines the impacts of diverging from the freeway. A free-flow speed (FFS) of 64 miles per hour has been used for the freeway mainline, consistent with the HCM recommendation for a 2-lane freeway in an urbanized area with 1.25-mile average interchange spacing. A ramp speed of 25 miles per hour has been used for the on-ramps and a ramp speed of 45 miles per hour has been used for the off-ramps. The speed of the ramps should be considered conservative since passenger vehicles, which make up the majority of ramp traffic, would likely enter and exit the freeway at higher speeds.

Level of service is calculated based on the density in passenger cars per mile per lane (pc/mi/ln), with LOS E being the lowest acceptable level of service. Any segment for which demand is forecast to exceed capacity is considered automatically to operate at LOS F, and density and speed functions do not hold for this condition due to unstable traffic flow. Table 4.15.E shows the level of service criteria for freeway ramp junctions.

Table 4.15.E – Level of Service Criteria for Ramp Junctions

Level of Service	Density (pc/mi/ln) for Merge and Diverge Areas
A	≤ 10
B	> 10 and ≤ 20
C	> 20 and ≤ 28
D	> 28 and ≤ 35
E	> 35
F	Demand Exceeds Capacity

Source: Transportation Research Board, *Ramp Junctions Level of Service Criteria HCM 2000, 2000*.

Freeway Level of Service Analysis, Baseline Conditions. A level of service analysis was conducted to evaluate baseline (2004) peak hour traffic operations at the 5th Street ramps. The results of this analysis are summarized in previously referenced Table 4.15.D. The level of service calculation sheets are contained in Appendix Q of the *Traffic Study* (Appendix J of the EIR). As indicated in Table 4.15.D, all freeway segments examined operate at LOS E or better under baseline (2004) conditions.

Freeway Level of Service Analysis, Year 2008 Background Conditions. A level of service analysis was conducted to evaluate year 2008 background peak hour traffic operations on SR-30 at the 5th Street ramp influence areas. For this project, ramp influence areas are defined as the segment extending from San Bernardino Avenue, through the 5th Street junction, and terminating at the Base Line exit on SR-30. Previously referenced Table 4.15.D summarizes the results of this analysis. The level of service calculation sheets are contained in Appendix Q of the *Traffic Study* (Appendix J of the EIR). As indicated in Table 4.15.D, the following freeway segments are projected to operate at LOS F under year 2008 background conditions:

- **SR-30 Northbound, south of 5th Street Off-Ramp (p.m. peak hour):** This segment is forecast to operate at LOS F during the p.m. peak period due to demand exceeding freeway capacity.

¹ Transportation Research Board, *Ramp Junctions Level of Service Criteria HCM 2000, 2000*.

- **SR-30 Southbound, south of 5th Street On-Ramp (a.m. peak hour):** This segment is forecast to operate at LOS F during the a.m. peak period due to demand exceeding freeway capacity.

Freeway Level of Service Analysis, Year 2030 Background Conditions. A level of service analysis was conducted to evaluate year 2030 peak hour traffic operations on SR-30 at the 5th Street ramp influence area under background conditions. The results of this analysis indicate that both directions of the freeway will operate at LOS F during both peak periods in the vicinity of the ramps under year 2030 Background without Project conditions. The level of service calculation sheets are contained in Appendix Q of the Traffic Study (Appendix J of the EIR). No summary data have been shown because speed and density relations do not apply to LOS F conditions, and therefore no quantitative comparison can be made.

4.15.2 Policies and Regulations

Existing policies and regulations include those from the *City of Highland General Plan Update*¹ and the *City of Redlands 1995 General Plan*.²

Highland General Plan Update. The following excerpted goals and policies from the *City of Highland General Plan Update, Circulation Element* are applicable to the proposed project:

Goal 3.1 Provide a comprehensive transportation system that facilitates current and long-term circulation in and through the City.

Policies

- 1) *Require new development proposals to ensure that all mid-block street segments operate at LOS "C" or better during the peak hours of traffic.*
- 2) *Ensure that all intersections operate at LOS "D" or better during the peak hours of traffic.*
- 3) *Ensure that the City's street system be designed and constructed to accommodate the traffic generated by build out of the General Plan land use designations.*
- 4) *Maintain flexibility in the cross-sections and configuration of streets within topographically rugged or environmentally sensitive areas as long as mid-block street segments and intersections operate at LOS "D" or better.*
- 5) *Design and employ traffic control measures (e.g., install traffic signals, provide access restrictions, etc.) to ensure city streets and roads function as intended.*
- 6) *Periodically update the General Plan master traffic study to maintain its relevance and correspondence to the General Plan land use designations and the design and construction of new and existing City streets.*
- 7) *Monitor the intensity of land use to keep traffic on any arterial in balance with roadway capacity.*
- 8) *Require development proposals with the potential to generate traffic volumes or other impacts not adequately evaluated in the Circulation Element and the General Plan Program EIR to prepare a traffic analysis consistent and compatible with the City's Master General Plan Traffic Model.*
- 9) *Restrict the number of access points and intersections along arterials to preserve mid-block and intersection capacities and to maintain public safety.*

¹ *City of Highland General Plan Update*, prepared by The Planning Network, March 14, 2006.

² *City of Redlands 1995 General Plan*, prepared by City of Redlands Community Development Department, August 1995.

- 10) *Encourage major employers to reduce vehicular trips by offering incentive concepts discussed in the General Plan Circulation Element, including but not limited to reduced transit passes and preferential parking for ridesharing.*

Goal 3.2 Provide a well-maintained roadway system.

Policies

- 1) *Maintain and rehabilitate all components of the circulation system, including roadways, sidewalks, bicycle facilities, pedestrian facilities, and traffic signals.*
- 2) *Establish and maintain a roadways pavement management program (PMP) that sets forth budgeting, timelines and schedules for maintenance of existing roadways in the community.*
- 3) *Continue to study the need and feasibility of providing additional all-weather crossings along critical roadways, and develop an implementation plan and schedule, if appropriate.*
- 4) *Coordinate maintenance or enhancement of transportation facilities with related infrastructure improvements.*
- 5) *Develop and implement programs and policies that require additional improvements or mitigation from industries or entities that generate heavy truck traffic and pavement impacts.*

Goal 3.3 Preserve and enhance uniquely scenic or special visual resource areas along appropriate routes for the enjoyment of all travelers.

Policies

- 1) *Designate the following roadways and Scenic Highways and establish guidelines that protect visual resources in the community and allow for the development of additional recreational opportunities:*
 - *Boulder Avenue;*
 - *Base Line (east of City Creek);*
 - *Palm Avenue;*
 - *Greenspot Road;*
 - *Church Street; and*
 - *Highland Avenue (east of City Creek).*
- 2) *Attractively landscape and maintain Highland's Secondary Highways, Special Secondary Highways, Major Highways, Primary Arterials, and Modified Primary Arterials and prepare/implement distinctive streetscape improvement plans.*
- 3) *Take such actions as may be necessary to protect scenic routes, including but not limited to:*
 - *Regulation of land use and intensity of development;*
 - *Detailed land and site planning;*
 - *Control of outdoor advertising;*
 - *Careful attention to and control of grading and landscaping; and*
 - *Careful design and maintained appearance of structures and equipment.*

Goal 3.4 Provide a safe circulation system.

Policies

- 1) *Establish the local street system within developing neighborhoods through a cooperative public/private planning process.*
- 2) *Require new development to install and maintain streets within planned residential areas as private streets and in accordance with development standards set forth in the Development Code and other applicable standards and guidelines.*
- 3) *Promote the principle that streets have multiple uses and users, and protect the safety of all users.*
- 4) *Require new development to provide pedestrian paths and linkages through projects, locating linkages to avoid conflicts with motorized traffic.*
- 5) *Discourage high-speed, through traffic on local streets with appropriate traffic-calming measures (e.g., traffic enforcement, bulb-outs, lane striping, chokers).*
- 6) *Design access onto major arterial streets in an orderly and controlled manner.*
- 7) *Utilize shared driveways in common areas to minimize disruptions to traffic and pedestrian/bicycle flow.*
- 8) *Implement street design features such as the use of medians, bus turnouts, and consolidated driveways to minimize mid-block traffic congestion.*
- 9) *Support freeway improvements that remove through traffic from local streets.*
- 10) *Provide adequate sight distances for safe vehicular movement on roadways and at intersections.*
- 11) *Encourage and improve pedestrian connections from residential neighborhoods to retail activity centers, employment centers, schools, parks, open space areas, and community centers.*
- 12) *Encourage barrier-free accessibility for all handicapped residents, employees, and visitors throughout the City's circulation system.*
- 13) *Support the planning of sidewalks of appropriate width to allow the provision of buffers to shield non-motorized traffic from vehicles.*
- 14) *Add raised, landscaped medians and bulb-outs, where appropriate, to reduce exposure to cross-traffic at street crossings.*
- 15) *When feasible, walkways should include pedestrian amenities such as shade trees and/or plantings, trash bins, benches, and shelters.*

Goal 3.6 Provide a circulation system that reduces conflicts between commercial trucking, private/public transportation, and land use.

Policies

- 1) *Maintain designated truck routes for use by commercial trucking that link industrial and commercial activity areas with major roadways and regional transportation routes and minimize impacts on local traffic neighborhoods.*
- 2) *Provide appropriately designed roadways for the designated truck routes that can safely accommodate truck travel.*
- 3) *Develop berms and barriers where feasible along truck routes to minimize noise impacts to sensitive land uses.*
- 4) *Provide sufficient loading areas to minimize interference with efficient traffic circulation.*

- 5) *Regulate on-street parking of trucks where necessary to discourage truck parking on primarily residential streets or where they are incompatible with adjacent land uses.*
- 6) *Conduct a study examining the interface between proposed truck routes, the complete roadway network, and adjacent land uses.*
- 7) *Evaluate truck route alternatives based on Caltrans Traffic Study guidelines.*
- 8) *Require as a part of the development review process for all new or expanding mineral extraction and all other heavy industry activities within the City, that the following information be provided:*
 - *A detailed plan of haul roads, indicating measures that will be taken to minimize aesthetic, noise, traffic, and particulate emission impacts to the surrounding land uses;*
 - *A traffic analysis that indicates both the number of projected trucks and their associated potential impact to city streets;*
 - *A “fair-share” mitigation analysis indicating the impacts and associated maintenance costs caused by the potential generation of future truck traffic; and*
 - *A comprehensive mitigation program, designed to run the life of the mineral extraction activity (including reclamation) that will:*
 - *Cover the fair-share portion of surrounding roadway maintenance costs due to the increase in local truck activity; or*
 - *Provide new or appropriate improvements to existing roadway facilities which in the opinion of the City would mitigate the impacts caused by the increase in local truck traffic.*
- 9) *Work with private mining operators to establish specialized truck routes that:*
 - *Allow for the transport of raw and finished materials from quarries within the Santa Ana River Wash area to the Foothill Freeway on paved private haul roads;*
 - *Reduce, to the extent feasible, the movement of mining transport trucks on City streets; and*
 - *Mitigate, to the extent feasible, the noise, dust and vibration effects of such transport activities on surrounding land uses.*

Goal 3.7 Protect and encourage bicycle travel.

Policies

- 1) *Develop a system of continuous and convenient bicycle routes to places of employment, shopping centers, schools, and other high activity areas with potential for increased bicycle use.*
- 2) *Encourage new development to provide reasonable and secure space for bicycle storage.*
- 3) *Provide bicycle racks at all public facilities and along major public streets.*
- 4) *Assure that local bicycle routes will complement regional systems and be compatible with routes of neighboring municipalities.*
- 5) *Provide linkages between bicycle routes and other trails, such as the Santa Ana River Trail, within the City as appropriate.*

Goal 3.8 Incorporate consideration of regional transportation implications into decisions made by the City of Highland and, conversely, incorporate consideration of the local transportation

implications on the City of Highland into decisions made by other local agencies, as well as into decisions made by state and federal agencies.

Policies

- 1) *Participate in a wide range of regional transportation planning and programs to improve the capacity, efficiency, and safety of the shared circulation system.*
- 2) *Participate in all regional transportation committees and regularly coordinate with other local agencies regarding their plans, programs and services that affect the quality and safety of the Highland roadway system.*
- 3) *Coordinate street system improvements and traffic signal coordination with regional transportation efforts.*
- 4) *Coordinate signal construction and timing with Caltrans improvements in and around SR-30/SR-210 off- and on-ramps.*
- 9) *Prior to permitting connection of roadways from adjacent jurisdictions into the City of Highland, ensure that regional benefits are not achieved at the expense of Highland residents and businesses. Where a potential for negative impacts to Highland residents and business exists, ensure that the agency proposing the connection provides sufficient mitigation such that the connection is not only of regional benefit, but also of benefit to the City of Highland.*

City of Redlands General Plan. The following excerpted policies from the *City of Redlands 1995 General Plan, Circulation Element* are applicable to the proposed project:

Guiding Policies: Standards for Traffic Service

- 5.20a ~~Strive to maintain LOS C or better as the standards at all intersections, with LOS D during no more than three hours of the day (a.m., p.m., and noon peaks).~~ Maintain LOS C or better as the standard at all intersections presently at LOS C or better.
- 5.20b Within the area identified in GP Figure 5.3, including the unincorporated County area identified in GP Figure 5.3 as the donut hole, maintain LOS C or better; however, accept a reduced LOS on a case-by-case basis upon approval by a four-fifths (4/5^{ths}) vote of the total authorized membership of the Council.
- 5.20c ~~Strive to maintain LOS C within the City of Redlands; however, accept LOS D during peak periods where improvements to meet LOS C would be prohibitively costly or disruptive. Where the current level of service at a location within the City of Redlands is below the LOS C standard, no development project shall be approved that cannot be mitigated so that it does not reduce the existing level of service at that location except as provided in section 5.20b.~~

Implementing Policies: Standards for Traffic Service

- 5.20d *Design roadway improvements and evaluate development proposals based on the LOS standard prescribed in Policies 5.20a, b, and c.*
- 5.20e *Monitor traffic service levels and implement Circulation Element improvements prior to deterioration in levels of service below the stated standard. Development approvals should require demonstration that traffic improvements necessary to serve the development without violating the standard will be in place in time to accommodate trips generated by the project.*

Guiding Policies: Circulation Network and Classification

- 5.30a *Use the Circulation Network to identify, schedule and implement roadway improvements as development occurs in the future, and as a standard against which to evaluate future development and roadway improvement plans.*

- 5.30b *Review the Circulation Network with neighboring jurisdictions and seek agreement on actions needing coordination.*
- 5.30c *Review and coordinate circulation requirements with Caltrans as it pertains to the freeways and state highways.*

Implementing Policies: Circulation Network and Classification

- 5.30d *Adopt design standards for each functional roadway classification.*

Roadway standards illustrated in the Technical Report in the Master Environmental Assessment Appendix are for typical mid-block applications when constructing new roadways or improving existing roadways where sufficient right-of-way is available. Additional right-of-way may be needed for turn lanes at some intersection approaches. Exceptions to the standards should be kept to a minimum and should be evaluated on a case-by-case basis. Different standards may govern in Specific Plan areas.

- 5.30e *Levy appropriate fees on new residential and non-residential development to be used for roadway improvements in compliance with the law.*
- 5.30i *Establish and maintain traffic circulation patterns that protect the character of residential neighborhoods.*
- 5.30j *Design major infrastructure improvements to accommodate regional traffic needs in a manner which discourages increased traffic flows through residential neighborhoods, encourages traffic flows to existing freeway systems and assures prudent use of federal and local taxpayer dollars.*

Guiding Policies: Arterials

- 5.31a *Provide adequate capacity on arterials to meet LOS standards and to avoid traffic diversion to local streets or freeways.*
- 5.31b *Locate high traffic-generating uses so that they have direct access or immediate secondary access to arterials.*
- 5.31c *Establish a funding system that will enable completion of arterial roadway improvements before the projects that require them are occupied.*

Implementing Policies: Arterials

- 5.31d *Maximize the carrying capacity of arterials by controlling the number of intersections and driveways, limiting residential access where applicable, and requiring sufficient on-site parking to meet the needs of the project.*

Additional guidelines for arterial access include providing smooth ingress/egress to fronting development. This includes designing parking areas so that traffic does not stack up on the arterial roadway, combining driveways to serve small parcels, and maintaining adequate distance between driveways and intersections to permit efficient traffic merges. Implementation of these guidelines is especially important along Alabama Street and San Bernardino Avenue.

Guiding Policies: Freeway Improvements

- 5.33a *Work with California Department of Transportation (Caltrans) to achieve timely construction of freeway and interchange improvements.*

Implementing Policies: Freeway Improvements

- 5.33b *Develop improvement plans for the SR-30 interchange at San Bernardino Avenue and for the I-10 freeway interchanges at Alabama Street, California Street and Mountain View Avenue to ensure adequate capacity to meet future needs associated with the East Valley Corridor Specific Plan.*

Considerable traffic growth is projected at all freeway interchanges serving the East Valley Corridor. More detailed studies are necessary to determine the level and nature of possible interchange improvements needed.

- 5.33c *Provide an SR-30 freeway crossing (no ramps) at Palmetto Avenue and widen I-10 crossings at Nevada Street to reduce overdependence on other freeway crossings such as San Bernardino Avenue, Alabama Street and California Street.*

Guiding Policies: Transportation Demand Management (TDM)

- 5.40a *Ensure that employers implement TDM programs to reduce peak period trip generation.*
- 5.40c *Support the Congestion Management Program for San Bernardino County.*

Implementing Policies: Transportation Demand Management (TDM)

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

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

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

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

Guiding Policies: Bikeways

- 5.50a *Establish a comprehensive network of on- and off-roadway bike routes to encourage the use of bikes for both commute and recreational trips.*
- 5.50b *Seek assistance from major employers in providing support facilities to encourage use of bikes for commuter purposes.*
- 5.50c *Develop bike routes that provide access to schools and parks.*

Implementing Policies: Bikeways

- 5.50f *Designate the Zanja corridor from downtown west as a Class I route (bike path).*

This route could be used for access to jobs in the East Valley Corridor as well as a recreational route to the Santa Ana Wash.

- 5.50g *Designate a Class I route adjacent to but outside the Santa Fe railroad right-of-way from New York Street in downtown Redlands to east of Wabash Avenue.*

In conjunction with a north-south bike route on Opal Avenue, this bike route would provide convenient bicycle access to downtown as well as to the Santa Ana Wash.

- 5.50i *Designate a Class I Route (bike path) along the Santa Ana River and extend the length of the City of Redlands.*

- 5.50k *Establish Class III routes (shared route) along collectors (Highland Avenue, Sunset Drive, Alessandro Road, Alta Vista Drive, Opal Street) and along minor arterials (San Mateo Street, 5th Avenue, Sand Canyon Road, Texas Street, Church Street and Orange Street).*

- 5.50l *Incorporate bike storage and other support facilities into TDM plans at employment sites and public facilities, when feasible based upon distance from bikeways.*

Studies have indicated the importance of providing well-located, secure bike storage facilities at employment sites, shopping and recreational areas, and schools in order to facilitate bike use.

Employers often provide shower and changing facilities where sizable numbers of employees use bikes.

5.50o *Plan and design bikeways with special consideration given to the safety of bicyclists and pedestrians.*

4.15.3 Thresholds of Significance

The following thresholds of significance regarding potential impacts to traffic and circulation were based on the recommended questions contained in *Guidelines for California Environmental Quality Act*. A project would have a significant impact on traffic and circulation if it resulted in any of the following:

- Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections).

(A significant traffic impact would occur if the project would cause a decrease from a standard LOS to a less than standard LOS at a study intersection based on a peak hour analysis.)

- Exceed a level of service standard 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).

(A significant traffic impact would occur if the project design does not accommodate project access and and/or internal circulation, due to inadequate access provisions or internal site layout, resulting in a safety hazard.)

- Result in inadequate emergency access.
- Result in inadequate parking capacity.
- Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).

4.15.4 Impact Analysis

In this section, project trip generation and trip distribution and assignment are explained briefly. For more detailed explanation, see the *Traffic Study* in Appendix J. The with project conditions are described here before explaining the project impacts, which is the difference between with and without project conditions. The project conditions include those for:

- Year 2008 (opening year) with project conditions; and
- Year 2030 with project conditions.

A brief overview of project trip generation and trip distribution and assignment follows.

Project Trip Generation. Project trip generation for the proposed project is based on information provided by Robertson's and Cemex as their activities are the primary contributor to increased vehicular trips to the Planning Area and surrounding vicinity. Detailed information on the procedure used by the mining companies to calculate new trip generation is included in Appendix A of the *Traffic Study* (Appendix J of the EIR). It should be noted that Wednesday was used as the basis for

calculating daily and peak hour trip volumes because Wednesday has historically been the highest production day for the mining operations. This provides for a “worst-case” analysis of intersections impacts. Actual volumes will vary by day. In no case will the annual production volumes exceed the 6.0 million ton amount allowed under the proposed project.

Table 4.15.F summarizes the new a.m. peak hour, p.m. peak hour, and daily trips generated by the proposed project. As shown in Table 4.15.F, the Cemex Orange Street Plant is expected to generate 444 new daily passenger car equivalent (PCE) trips, with 39 PCE trips occurring during the a.m. peak hour and 9 PCE trips occurring during the p.m. peak hour. It should also be noted that employee and miscellaneous delivery trips have been accounted for in the baseline driveway counts. The number of employee trips and miscellaneous delivery trips will not increase from the baseline number of trips for the Cemex operation.

Table 4.15.F – Project New Trip Generation, Aggregate Trucks

Land Use	A.M. Peak Hour			P.M. Peak Hour			Daily ⁵
	In	Out	Total	In	Out	Total	
Robertson's Plunge Creek Plant ¹							
Existing Trucks at 2.0 MTPY Baseline	11	10	21	6	6	12	384
Proposed Trucks at 3.0 MTPY ²	11	10	21	6	6	12	640
Net New Trucks	0	0	0	0	0	0	256
Net New PCE Trips ³	0	0	0	0	0	0	768
Cemex Orange Street Plant ⁴							
Existing Trucks at 2.5 MTPY Baseline	38	39	77	10	7	17	762
Proposed Trucks at 3.00 MTPY	44	46	90	12	8	20	910
Net New Trucks	6	7	13	2	1	3	148
Net New PCE Trips ³	18	21	39	6	3	9	444
Total New PCE Trips (Robertson's and Cemex)	18	21	39	6	3	9	1,212

Note: These are ship numbers that reflect waste and stockpiling.

MTPY-Million Tons Per Year

¹ Based on Robertson’s memo updated February 24, 2006 (3 years of truck data from 2003 to 2005)

² Robertson’s has the ability to limit shipments during local peak traffic hours, so that no net change from baseline conditions would occur during these hours.

³ All values given are in Passenger Car Equivalency (PCE). PCE of 3 has been used for all aggregate trucks.

⁴ Based on Lilburn Corporation and Cemex memo updated June 16, 2006 (3 years of truck data from 2003 to 2005)

⁵ Based on Robertson’s memo updated February 24, 2006 and Cemex memo updated June 16, 2006.

The Robertson’s Alabama Street plant is expected to generate 768 new daily PCE trips with no increase of trips occurring during the peak hours. Robertson’s trucks are centrally dispatched so that the facility has control over when trucks enter and exit the plant. The number of employee trips and miscellaneous delivery trips will not increase from the baseline number of trips for the Robertson’s operation.

Trip Distribution and Assignment. Project trip distribution patterns were taken from *Traffic Study for the Sunwest Materials Mining Operations* (Kaku Associates, August 1996), which analyzed potential traffic impacts of a proposed expansion of operations at the Robertson’s and Cemex facilities. No trip distribution or assignment is shown for Robertson’s trips because Robertson’s plant produces no new trips during the peak hours. Similarly, no new trip distribution or assignment is shown for employee and miscellaneous deliveries since no new trips are generated. Trip assignment for new Cemex aggregate trips was calculated by multiplying the Cemex trip generation by the trip distribution percentages.

Year 2008 Background With Project Conditions. This condition considers the addition of traffic generated by the increase in production under the proposed project to the 2008 background conditions. The new Cemex aggregate trips under the proposed project were added to the year 2008 background traffic volumes. Figure 4.15.5 illustrates year 2008 background with project PCE peak hour traffic volumes at the study area intersections under the proposed project. A level of service analysis was conducted to evaluate year 2008 background with project peak hour traffic operations at the study area intersections. The results of this analysis are summarized in Table 4.15.G. The level of service calculation sheets are contained in Appendix F of the *Traffic Study* (Appendix J of the EIR). As indicated in Table 4.15.G, all intersections examined are projected to operate at satisfactory levels of service under year 2008 background with project conditions.

It should be noted that with the additional traffic generated by the proposed project, the level of service standard improves at Palm Avenue/5th Street from LOS E to LOS C with implementation of mitigation identified below. This is considered a beneficial impact resulting from the proposed project.

Table 4.15.H summarizes the year 2008 background with project a.m. and p.m. peak hour freeway mainline traffic volumes and levels of service for the freeway influence areas on SR-30. All segments would operate at satisfactory levels of service, with the exception of the SR-30 northbound 5th Street Off-Ramp Influence Area in the p.m. peak hour and the SR-30 southbound 5th Street On-Ramp Influence Area in the a.m. peak hour.

Year 2030 With Project Conditions. This condition considers the addition of traffic generated by the increase in mining production under the proposed project to the 2030 background conditions, as well as changes in traffic patterns resulting from proposed access changes. New trips associated with the proposed project were added to the year 2030 background traffic volumes. Year 2030 background with project PCE peak hour traffic volumes at the study area intersections are illustrated in Figure 4.15.6. Table 4.15.G summarizes the results of this analysis. The level of service calculation sheets are contained in Appendix F of the *Traffic Study* (Appendix J of the EIR). As indicated in Table 4.15.G, all intersections examined are projected to operate at LOS E or F during at least one peak hour under year 2030 with project conditions, with exception of the following two intersections:

- Church Avenue/5th Street; and
- Truck Access/5th Street.

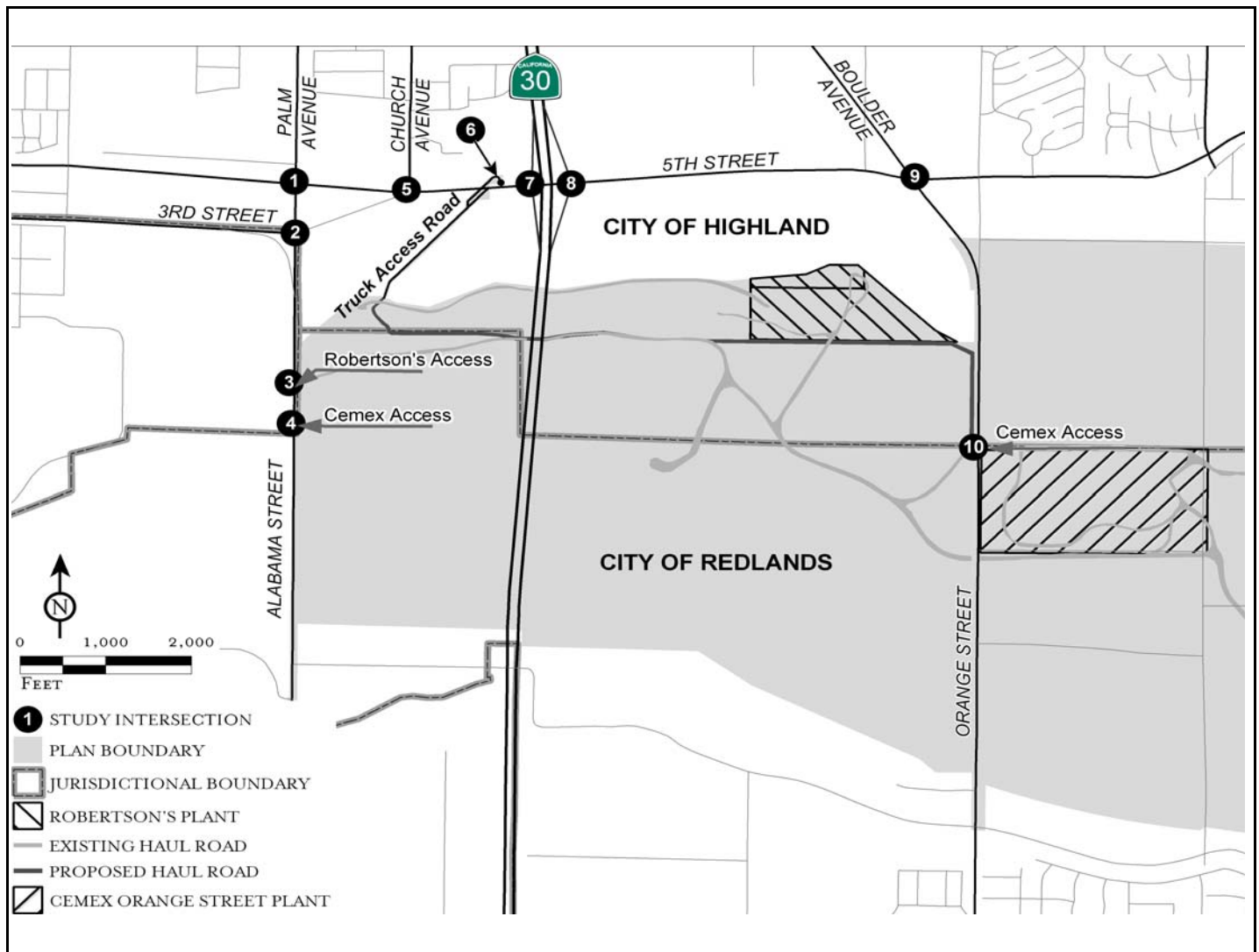
Table 4.15.H summarizes the year 2030 with project conditions a.m. and p.m. peak hour traffic volumes and levels of service for the freeway segments on SR-30. All segments would operate at an unsatisfactory level of service in both directions during both the a.m. and p.m. peak hours.

4.15.4.1 Opening Year (2008) Intersection Traffic and Level of Service (LOS) Standard

Threshold	Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system.
Threshold	Exceed a level of service standard established by the county congestion management agency for designated roads or highways.

Under background conditions in the opening year (2008) scenario, the Palm Avenue/5th Street intersection is forecast to operate at LOS E (Table 4.15.C), which is below the acceptable LOS standard of C. All other intersections are forecast to operate at acceptable LOS. Under with project conditions in the opening year (2008) scenario, the Palm Avenue/5th Street intersection is forecast to operate at LOS C (Table 4.15.G), maintaining an acceptable LOS standard. This improvement occurs because an extension of 3rd Street to 5th Street primarily as a one-way street was assumed as mitigation, to eliminate truck traffic at the Palm Avenue/5th Street intersection.

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<p>80 / 37 280 / 138 145 / 88 116 / 163 761 / 395 410 / 146 12 / 58 246 / 484 105 / 69 69 / 45 68 / 449 21 / 80</p> <p>1 Palm Avenue/5th Street</p>	<p>338 / 94 421 / 258 32 / 1 45 / 22 2 / 2 5 / 4 36 / 255 75 / 338 56 / 161 159 / 70 75 / 298 211 / 427</p> <p>2 Palm Avenue/3rd Street</p>	<p>459 / 417 26 / 7 47 / 25 7 / 3 398 / 772 3 / 0</p> <p>3 Alabama Street/Robertson's Access</p>	<p>387 / 400 79 / 20 71 / 34 6 / 6 330 / 738 7 / 1</p> <p>4 Alabama Street/Cemex Access</p>	<p>69 / 26 144 / 77 67 / 139 1216 / 678 11 / 64 401 / 589 272 / 760</p> <p>5 Church Avenue/5th Street</p>
<p>87 / 53 1283 / 816 70 / 20 818 / 1428</p> <p>6 Truck Access/5th Street</p>	<p>179 / 101 163 / 254 1190 / 763 725 / 357 319 / 990 569 / 457</p> <p>7 SR-30 SB Ramps/5th Street</p>	<p>261 / 120 1303 / 651 69 / 147 413 / 1097 612 / 469 284 / 569</p> <p>8 SR-30 NB Ramps/5th Street</p>	<p>43 / 37 181 / 169 61 / 139 116 / 98 1311 / 536 46 / 30 30 / 41 383 / 1031 186 / 302 122 / 177 106 / 355 10 / 41</p> <p>9 Boulder Avenue/5th Street</p>	<p>752 / 618 11 / 0 9 / 1 70 / 15 43 / 8 88 / 11 0 / 1 0 / 1 411 / 1050 21 / 9</p> <p>10 Orange Street/Cemex Access</p>

LSA

FIGURE 4.15.5

XXX / YYY AM / PM Volume

Upper Santa Ana River Wash
Land Management Plan
Environmental Impact Report

Year 2008 Plus Project Peak Hour PCE Traffic Volumes

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Table 4.15.G – Background With Project Intersection Levels of Service

	Baseline (2004)						2008 With Project						2030 With Project					
	A.M. Peak Hour			P.M. Peak Hour			A.M. Peak Hour			P.M. Peak Hour			A.M. Peak Hour			P.M. Peak Hour		
	V/C	Delay	LOS	V/C	Delay	LOS	V/C	Delay	LOS	V/C	Delay	LOS	V/C	Delay	LOS	V/C	Delay	LOS
1. Palm Avenue/ 5 th Street	0.66 0.57	34.6 31.0	C	0.77 0.75	41.4 38.8	D	0.56 0.49	40.3 33.4	D C	0.48 0.47	28.4 28.3	C	1.19	190.1	F	0.59	36.0	D
2. Palm Avenue/ 3 rd Street	0.38	26.4	C	0.44	33.1	C	0.41	26.0	C	0.52	29.6	C	0.79	62.2	E	0.75	72.8	E
3. Alabama Street/ Robert- son's Access		11.9	B		15.9	C		12.4	B		17.2	C		45.3	E		264.8	F
4. Alabama Street/ Cemex Access		11.1	B		15.8	C		11.6	B		17.4	C		31.3	D		368.4	F
5. Church Avenue/ 5 th Street	0.40	13.8	B	0.38	14.3	B	0.46	15.7	B	0.28	12.7	B	0.73	31.0	C	0.40	16.2	B
6. Truck Access/ 5 th Street	Future Intersection						No Conflicting Movement						No Conflicting Movement					
7. SR-30 Southbound Ramps/ 5 th Street	0.84	25.8	C	0.60	21.6	C	0.95	33.5	C	0.72	23.6	C	1.22	76.1	F	1.02	37.9	F
8. SR-30 Northbound Ramps/ 5 th Street	0.71	24.8	C	0.52	23.7	C	0.85	30.5	C	0.70	25.3	C	1.09	74.6	F	0.87	32.7	C
9. Boulder Avenue/ Greenspot Road	0.55	26.6	C	0.47	27.3	C	0.66	31.2	C	0.57	29.9	C	1.05	80.3	F	1.16	109.7	F
10. Orange Street/ Cemex Access	0.56	6.4	A	0.63	3.8	A	0.62	9.3	A	0.72	5.2	A	1.15	74.3	F	1.34	141.0	F

V/C = Volume/Capacity ratio; Delay measured in seconds; LOS = Level of Service; SR = State Route; Shaded = Exceeds LOS standard

Source: Traffic Study Upper Santa Ana River Wash, San Bernardino County, California; prepared by LSA Associates, Inc.; June 30, 2006 ~~June 30, 2006~~ August 31, 2007, Table D (Baseline), Table J (2008), Table O (2030).

Table 4.15.H – Freeway Mainline Background Levels of Service With Project

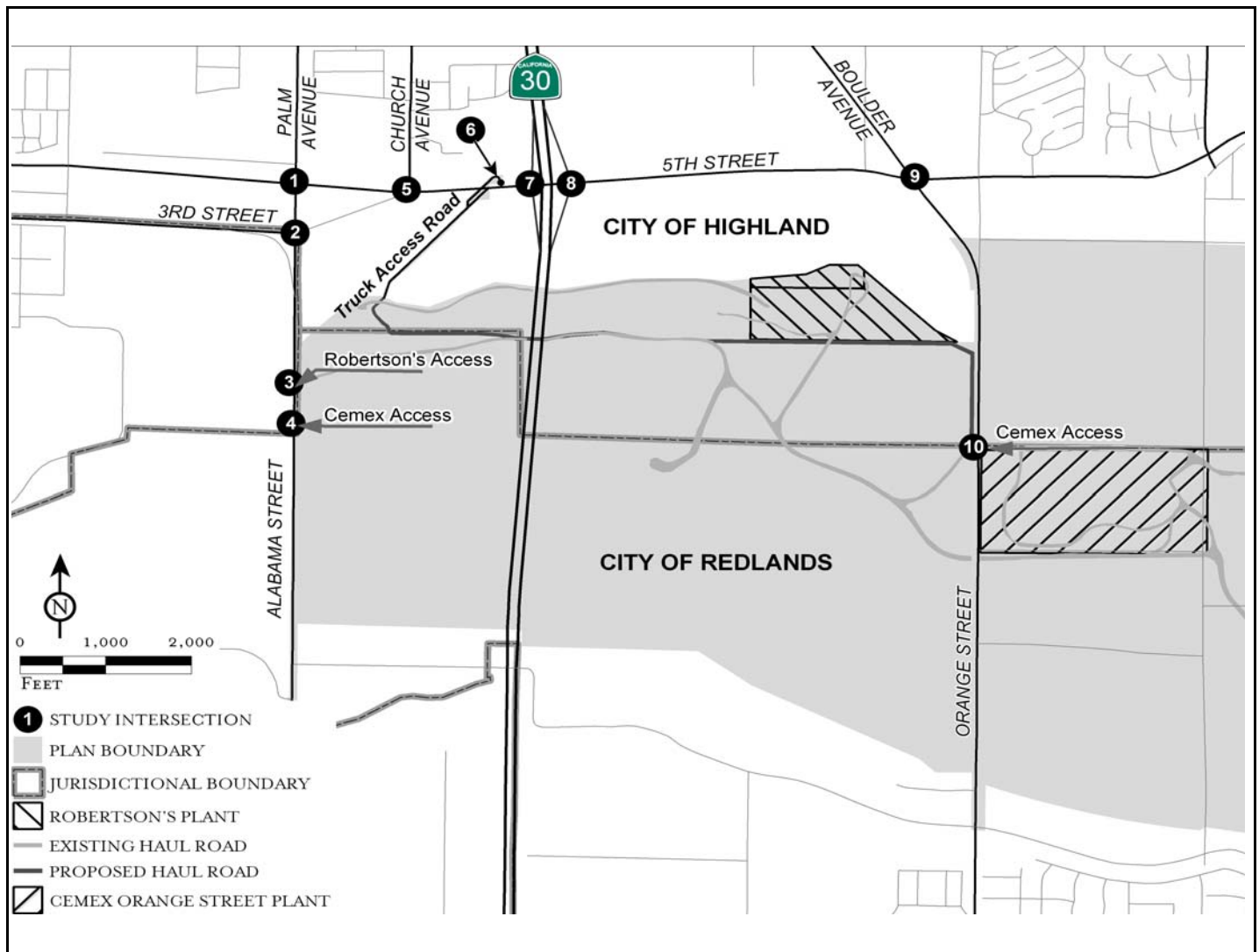
Freeway Segment	Baseline 2004						2008 With Project						2030 With Project					
	A.M. Peak Hour			P.M. Peak Hour			A.M. Peak Hour			P.M. Peak Hour			A.M. Peak Hour			P.M. Peak Hour		
	S	D	LOS	S	D	LOS	S	D	LOS	S	D	LOS	S	D	LOS	S	D	LOS
SR-30 Northbound																		
5 th Street Off-Ramp Influence Area	55.9	31.5	D	55.7	39.8	E	55.7	35.1	E	†	†	F	†	†	F	†	†	F
5 th Street On-Ramp Influence Area	56.0	26.4	C	54.0	32.5	D	55.0	29.1	D	53.0	35.9	E	†	†	F	†	†	F
SR-30 Southbound																		
5 th Street Off-Ramp Influence Area	56.8	33.8	D	56.8	32.7	D	56.7	37.9	E	56.8	35.0	D	†	†	F	†	†	F
5 th Street On-Ramp Influence Area	51.0	38.4	E	53.0	34.4	D	†	†	F	52.0	37.3	E	†	†	F	†	†	F

S = Speed in miles per hour; D = Density in passenger cars per mile per lane; LOS = Level of Service; † Volume exceeds capacity; speed and density not defined for over-capacity segment.

Shaded = Exceeds LOS standard

Level of Service (LOS) criteria are provided in the *Highway Capacity Manual*, and are based on density, expressed in terms of passenger cars per mile per lane (pc/mi/ln).

Source: *Traffic Study Upper Santa Ana River Wash, San Bernardino County, California*; prepared by LSA Associates, Inc.; ~~June 30, 2006~~ August 31, 2007, Table RR (Baseline), Table SS (2008).



<p>120 / 67 893 / 325 102 / 61 74 / 125 995 / 534 1143 / 290 22 / 76 314 / 783 224 / 276 86 / 196 134 / 974 40 / 156</p> <p>1 Palm Avenue/5th Street</p>	<p>625 / 281 1609 / 609 26 / 1 40 / 16 1 / 4 8 / 6 97 / 423 181 / 458 343 / 456 295 / 463 123 / 887 285 / 997</p> <p>2 Palm Avenue/3rd Street</p>	<p>1936 / 1064 26 / 7 47 / 25 7 / 3 656 / 2322 3 / 0</p> <p>3 Alabama Street/Robertson's Access</p>	<p>1864 / 1047 79 / 20 71 / 34 6 / 6 588 / 2288 7 / 1</p> <p>4 Alabama Street/Cemex Access</p>	<p>225 / 59 76 / 193 191 / 89 1987 / 891 25 / 165 430 / 836 450 / 1450</p> <p>5 Church Avenue/5th Street</p>
<p>87 / 53 2063 / 1084 1071 / 2375 70 / 20</p> <p>6 Truck Access/5th Street</p>	<p>449 / 135 269 / 248 1701 / 1003 747 / 488 312 / 1434 829 / 961</p> <p>7 SR-30 SB Ramps/5th Street</p>	<p>277 / 191 1551 / 865 121 / 244 460 / 1438 897 / 626 416 / 750</p> <p>8 SR-30 NB Ramps/5th Street</p>	<p>11 / 64 687 / 772 207 / 321 76 / 107 1246 / 155 441 / 4 3 / 11 450 / 1000 322 / 455 250 / 613 220 / 1059 49 / 64</p> <p>9 Boulder Avenue/5th Street</p>	<p>1762 / 1474 11 / 0 9 / 1 70 / 15 43 / 8 88 / 11 0 / 1 0 / 1 678 / 2176 21 / 9</p> <p>10 Orange Street/Cemex Access</p>

LSA

FIGURE 4.15.6

XXX / YYY AM / PM Volume

Upper Santa Ana River Wash
Land Management Plan
Environmental Impact Report

Year 2030 Plus Project Peak Hour PCE Traffic Volumes

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The project traffic impact assessment was based on an analysis of opening day (2008) and future year (2030) scenarios, which provide an assessment of potential impacts in the near-term and long-term horizons as they already consider related traffic impacts from past, present, and probable future projects. Cumulative impacts related to traffic are included as a part of the analysis for each impact. Traffic impact analyses are conducted by reviewing a list of cumulative projects and their impacts within the area. The impacts of these cumulative projects are then added the estimated impact of the proposed project to determine the total cumulative impacts that may be present. For impacts related to the future conditions such as in 2030 the impacts of the listed projects are included as projections and combined with the projected year 2030 impacts of the proposed project to determine future cumulative impacts. Therefore, the analysis related to each of the thresholds discussed contains a cumulative analysis of the area projects.

Water Conservation Operations/Maintenance Activities of the District

The District will continue to operate, maintain, and repair its water conservation facilities (access roads, canals, culverts, dikes, basins, and diversion structures) within the Planning Area in the same manner as existing conditions. As described in Section 3.6.1, while there is the potential for future water conservation facilities to be built within the Planning Area, at this point in time, the specific location, size, and type of facilities are unknown. Aside from this EIR's programmatic evaluation of impacts to biological resources associated with any potential future water conservation facilities, these facilities will be required to undergo project-specific environmental analysis prior to their construction and implementation. Water conservation activities within the Planning Area typically involve the routing of water to percolation basins and would not generate an increase in traffic levels on the surrounding street system. Since any traffic generated as a result of any future water facilities would be required to mitigate for changes to LOS standards for designated roads or highways, a less than significant impact would occur with this activity.

Cumulative. Cumulatively, the water conservation operation and maintenance activities of the District would not have an impact relating to changes in levels of service or increased traffic. As noted above there would be no increase in traffic as a part of the activities and future activities would be required to assess and mitigate any future impacts. Cumulative impacts would be less than significant.

Flood Control Operations/Maintenance Activities of the SBCFCD

Routine flood control operations are not anticipated to generate an increase in traffic levels on the surrounding street system. The routine operation and maintenance activities would not increase above what currently exists. The continuance of flood control activities would not contribute additional traffic to the surrounding street system and would not exceed any LOS standards for designated roads or highways. Therefore, no impacts associated with this activity would occur and no mitigation is required.

Cumulative. Cumulatively, the flood control operations and maintenance activities of the SBCFCD would not have an impact relating to changes in levels of service or increased traffic. The SBCFCD activities would have no impact related to this issue and therefore would not contribute to any cumulative impact.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

With implementation of the proposed project, water production activities would continue to occur within the Planning Area. Water production activities within the Planning Area involve the pumping of water from wells and the routing of water to distribution systems. Therefore, water production activities of EVWD and RMUD would not generate an increase in traffic levels on the surrounding street system. Since water production activities would not result in an increase in traffic levels and

would not exceed any LOS standards for designated roads or highways, no impacts associated with this activity would occur and no mitigation is required.

Cumulative. Cumulatively, the water production operations and maintenance activities of the EVWD and RMUD would not have an impact relating to changes in levels of service or increased traffic. The activities of the EVWD and RMUD would have no impact related to this issue and therefore would not contribute to any cumulative impact.

Aggregate Mining

The aggregate mining element of the project includes a new access road to and from the processing plants for both Robertson's and Cemex operations. Robertson's aggregate and concrete trucks and Cemex aggregate trucks that are inbound from SR-30 or 5th Street east of SR-30 would access the plants via a new direct connection to 5th Street west of SR-30. Inbound trucks from the west and local deliveries would access the plant using the driveways on Alabama Street. Outbound Cemex and Robertson's trucks headed for Greenspot Road east of SR-30 or SR-30 northbound would exit at their respective driveways on Alabama Street, except for local deliveries from Cemex. Outbound trucks going south on SR-30 would exit onto 5th Street via the new exit directly connecting to 5th Street west of SR-30 and would travel on a exclusive right-turn lane from the plant exit to SR-30 southbound. Cemex aggregate trucks would travel on a new, private paved road from Orange Street-Boulder Avenue at the signalized entrance to the Cemex plant to either the new connection to 5th Street, or the driveways on Alabama, depending on the direction of travel. Cemex trucks would not travel on Orange Street-Boulder Avenue or Greenspot Road east of SR-30 except for local deliveries. Robertson's aggregate trucks using the new connection to 5th Street will travel on their existing access road from their East Basin Plant to the new connection to 5th Street. This new connection road would be approximately 1,800 feet in length and would be shared by both operators' aggregate trucks and Robertson's concrete trucks.

The internal haul road and 5th Street access will be constructed within one year of issuance of mine permits, dependent on Caltrans granting an encroachment permit(s). It should also be noted that this internal haul road was agreed upon with consultation with the City of Highland in order to limit through trucking along Orange Street-Boulder Avenue north to Greenspot Road and west on Greenspot Road to SR-30 due to new commercial developments along Greenspot Road .

With a new access route to the processing plants, truck traffic would be reduced at the Palm Avenue/5th Street intersection. However, without the extension of 3rd Street to 5th Street, truck traffic would contribute to congestion at the Palm Avenue/5th Street intersection from local deliveries.

Impact 4.15.1: Impacts to the Palm Avenue/5th Street intersection would be potentially significant and require mitigation.

Mitigation Measures. To reduce impacts at this intersection to a less than significant level, the following mitigation measure has been identified:

TRAFFIC-1 ~~The Robertson's mining aggregate processing plant shall control the distribution of commercial haul trucks road mining vehicles on local streets to ensure that no new peak hour vehicle trips are generated. Peak hours are 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m.~~

TRAFFIC-2 Within one year of the issuance of mining permits a Conditional Use Permit (CUP) for the new mining areas or as otherwise specified in the CUP, the following improvements shall be constructed by the permit proponent:

Third Street: Widen and extend 3rd Street from Palm Avenue to connect to 5th Street at the intersection of Church Avenue/5th Street. Convert 3rd Street to a one-way street traveling east consistent with the City of Highland's planned roadway network and conceptual drawings of 5th Street provided by the City.

Church Avenue/5th Street: Add a northbound free right-turn lane corresponding to the 3rd Street connection. Restripe the east leg of the intersection to a six-lane roadway. The restriping to six lanes can be accommodated within the existing right-of-way and is consistent both with the City of Highland's General Plan roadway network and conceptual drawings of 5th Street provided by the City. Add a southbound leg to the intersection corresponding to the 3rd Street connection.

Truck Traffic and 5th Street Access Road: Truck traffic shall conform to Access Alternative D as described in the EIR and the traffic impact analysis for the proposed project. This truck traffic pattern shall be maintained in order to ensure the safe operation of traffic on 5th Street and enforced by the City of Highland.

Level of Significance After Mitigation. With the implementation of **Mitigation Measures Traffic-1** and **Traffic-2**, the Palm Avenue/5th Street intersection would operate at a satisfactory LOS of C. Impacts associated with this issue are reduced to a less than significant level.

Cumulative. Cumulatively, the aggregate mining activities would contribute to impacts that would require mitigation. As stated earlier in this section, cumulative impacts are evaluated as a part of the project's impacts for traffic. As such, any cumulative impacts would be mitigated by the measures recommended for the proposed project. With the implementation of the proposed mitigation measures, impacts related to this issue would be less than significant.

Adoption of General Plan Amendments

The General Plan Amendments under the Wash Plan are for trails and land use designations within the Cities of Highland and Redlands. The General Plan Amendments would not result in an increase in employment or population; rather, they make better use of the land within the proposed project and facilitate the operations of the existing land uses. Similarly, General Plan Amendments for the trails component would not result in an increase in employment or population; rather, they coordinate trail plans for the Cities of Highland and Redlands to increase regional mobility. These activities would not result in an increase in vehicular traffic to the surrounding street system and therefore would not exceed LOS standards for designated roads or highways. A less than significant impact associated with this activity would occur and no mitigation is required.

Cumulative. Cumulatively, the adoption of General Plan Amendments would not contribute to impacts that would be significant. As stated earlier in this section, cumulative impacts are evaluated as a part of the project's impacts for traffic. As such any cumulative impacts are reflected in the analysis shown above for this component of the project. Cumulative impacts would be less than significant.

Roadway/Bridge Rights-of-Way

The ~~dedication~~ designation of additional rights-of-way for Greenspot Road and the Greenspot Road Bridge, Alabama Street, and Orange Street-Boulder Avenue would not increase the vehicular traffic on these roadways and intersections because the activity only includes the ~~dedication~~ designation of the rights-of-way and not the construction of the improvements. Subsequent project-specific impact analysis and design-level construction drawings for these roadways will be prepared in a separate and independent environmental process. As there is no increase in vehicular traffic as a result of these activities, there would be no contribution to increased traffic on the surrounding street system and there would be no exceedance of LOS standards for designated roads and highways. Therefore, no impacts would occur and no mitigation is required.

Cumulative. Cumulatively, the designation of bridge and roadway rights-of-way would not have an impact relating to changes in levels of service or increased traffic. The rights-of-way would have no impact related to this issue and therefore they would not contribute to any cumulative impact.

Recreational Trail Rights-of-Way

The ~~dedication~~ designation of rights-of-way for recreational trails would not increase vehicular traffic on the street system in the project vicinity. All trails would be located on existing streets, service roads, or an old railroad bed. It is reasonable to assume that the trails would be primarily utilized by local residents, such that no increase in vehicular traffic would occur from this activity. Since no exceedance of LOS standards would occur with this activity, no impacts would occur and no mitigation is required.

Cumulative. Cumulatively, the ~~dedication~~ designation of recreational trail rights-of-way would not have an impact relating to changes in levels of service or increased traffic. The rights-of-way would have no impact related to this issue and therefore they would not contribute to any cumulative impact.

Land Exchange Between the District and BLM

This land exchange will allow mining activities to expand and would allow habitat areas to be conserved. Water conservation activities will continue to occur on the land to become BLM land, and may expand, depending upon the outcome of studies and the evolution of a regional groundwater management system. The traffic impacts of the mining expansion aspect of the land exchange are already fully treated above. No other aspects of this land exchange are anticipated to result in any significant traffic impacts, and as such no mitigation is required.

Cumulative. Cumulatively, the land exchange between the District and the BLM would not have an impact relating to changes in levels of service or increased traffic. The land exchange would have no impact related to this issue beyond that already discussed in connection with mining, and therefore it would not contribute to any cumulative impact.

Land Exchange Between the SBCFCD and Robertson's

The land exchange that would occur between the SBCFCD and Robertson's would result in mining activities on property currently owned by SBCFCD and habitat preservation on land that is currently owned by Robertson's. As indicated in the analysis for the land exchange between the District and BLM, the land that would be set aside for habitat conservation would be left in its natural state and would not result in an increase of existing traffic levels; therefore, no impacts are anticipated to occur with this issue. For the land that would be exchanged to Robertson's, the activities associated with extraction of mineral aggregate would generate some traffic. However, the generation of additional trips has already been analyzed and identified under the aggregate mining component in this section. Therefore, the resulting land exchange between the SBCFCD and Robertson's would result in a less than significant impact.

Cumulative. Cumulatively, the land exchange between the SBCFCD and Robertson's would contribute to less than significant impacts in relation to this issue. As stated earlier within this section, cumulative impacts are evaluated as a part of the project's impacts for traffic. As such, any cumulative impacts would be mitigated by the measures recommended for the aggregate mining portion of the proposed project. With the implementation of the proposed mitigation measures, impacts related to this issue would be less than significant.

4.15.4.2 Year 2008 With Project Conditions (Freeway Segments) Traffic and Level of Service Impacts

Threshold:	Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system?
Threshold:	Exceed a level of service standard established by the county congestion management agency for designated roads or highways.

The project traffic impact assessment was based on an analysis of opening day (2008) and future year (2030) scenarios, which provide an assessment of potential impacts in the near-term and long-term horizons as they already consider related traffic impacts from past, present, and probable future projects. Cumulative impacts related to traffic are included as a part of the analysis for each impact. Traffic impact analyses are conducted by reviewing a list of cumulative projects and their impacts within the area. The impacts of these cumulative projects are then added to the estimated impact of the proposed project to determine the total cumulative impacts that may be present. For impacts related to the future conditions, such as in 2030, the impacts of the listed projects are included as projections and combined with the projected year 2030 impacts of the proposed project to determine future cumulative impacts. Therefore, the analysis related to each of the thresholds discussed contains a cumulative analysis of the area projects.

Water Conservation Operations/Maintenance Activities of the District

The District will continue to operate, maintain, and repair its water conservation facilities (access roads, canals, culverts, dikes, basins, and diversion structures) within the Planning Area in the same manner as existing conditions. As described in Section 3.6.1, while there is the potential for future water conservation facilities to be built within the Planning Area, at this point in time, the specific location, size, and type of facilities are unknown. Aside from this EIR's programmatic evaluation of impacts to biological resources associated with any potential future water conservation facilities, these facilities will be required to undergo project-specific environmental analysis prior to their construction and implementation. Water conservation activities within the Planning Area typically involve the routing of water to percolation basins and would not generate an increase in traffic levels on the surrounding street system. Even if the development of such facilities were to generate significant traffic, those future water facilities projects would be required to mitigate for changes to LOS standards for designated roads or highways, and therefore a less than significant impact would occur with this proposed project.

Cumulative. Cumulatively, the water conservation operation and maintenance activities of the District would not have an impact relating to changes in levels of service or increased traffic for freeway segments. As noted above, there would be no increase in traffic as a part of the existing activities and any future activities would be required to assess and mitigate any future impacts. Cumulative impacts would be less than significant.

Flood Control Operations/Maintenance Activities of the SBCFCD

Routine flood control operations are not anticipated to generate an increase in traffic levels on the surrounding freeway segments. Since flood control activities would not increase above what currently exists, these activities would not exceed any LOS standards for designated roads or highways. Therefore, no impact associated with this activity would occur and no mitigation is required.

Cumulative. Cumulatively, the water production operations and maintenance activities of the SBCFCD would not have an impact relating to changes in levels of service or increased traffic on freeway segments. The activities of the SBCFCD would have no impact related to this issue and therefore they would not contribute to any cumulative impact.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

With implementation of the proposed project, water production activities would continue to occur within the Planning Area. Water production activities within the Planning Area involve the pumping of water from wells and the routing of water to distribution systems. Therefore, the activities of the EVWD and RMUD would not generate an increase in traffic levels on the surrounding freeway segments. Since this activity would not contribute additional traffic to the surrounding freeway segments, water production activities would not exceed any LOS standards for designated roads or highways. No impacts associated with this activity would occur and no mitigation is required.

Cumulative. Cumulatively, the water production operations and maintenance activities of the EVWD and RMUD would not have an impact relating to changes in levels of service or increased traffic on freeway segments. The activities of the EVWD and RMUD would have no impact related to this issue and therefore they would not contribute to any cumulative impact.

Aggregate Mining

With the addition of project traffic to the year 2008 background scenario, freeway levels of service at the following segments would operate at an unsatisfactory level of service.

- **SR-30 Northbound 5th Street Off-Ramp Influence Area.** This segment would continue to operate at LOS F conditions.
- **SR-30 Southbound 5th Street On-Ramp Influence Area.** This segment would continue to operate at LOS F conditions.

The CMP level of service standard for freeway segments is LOS E. These freeway level of service deficiencies are also forecast to occur in the year 2008 without project conditions; therefore, the project would not produce these deficiencies in LOS alone. Nonetheless, the project does contribute to the baseline level of service deficiencies, resulting in a significant impact, and mitigation is required.

Impact 4.15.2: Impacts to freeway segments would be potentially significant and require mitigation.

Mitigation Measure. The following mitigation measure was identified to reduce impacts associated with unsatisfactory levels of service on freeway segments during the year 2008 with project scenario.

TRAFFIC-3 Within one year of the issuance of ~~mining expansion permits~~ a Conditional Use Permit (CUP) or as otherwise specified in the CUP, the permit proponent shall pay City impact fees ~~and CMP fair-share fees~~ as delineated in the respective City's Development Impact Fee program and CMP fair-share fees based on current construction costs estimated at time of payment. Fair-share fees shall include acceleration lanes for the SR-30 northbound and southbound on-ramps.

Level of Significance after Mitigation. Improvements to the freeway segments are within the responsibility and jurisdiction of Caltrans. As such, there is no mechanism for development project proponents to pay fees or make fair-share contributions toward improving mainline freeway lanes. Even if there were such a mechanism, there would be no way to ensure that such payments would be directed to a specific freeway improvement project. Consequently, there are no feasible mitigation measures for these impacts. Impacts would remain significant and unavoidable until such time as the Caltrans or co-sponsor can install the improvements. Because freeway segment modifications are controlled by Caltrans, the schedule of completing improvements is not in the hands of local agencies or private sponsors.

Cumulative. Cumulatively, the aggregate mining activities would contribute to impacts that would require mitigation. As stated earlier in this section, cumulative impacts are evaluated as a part of the project's impacts for traffic. As such any cumulative impacts would require the implementation of the mitigation measures recommended for the proposed project. The significant impacts are forecast to occur with or without implementation of the project and are therefore cumulative in nature. Because several of the improvements to the affected freeway ramp intersections will be included in yet-to-be determined improvement projects sponsored by Caltrans or SANBAG, the project proponent has no control over the specific timing of when the improvements will be constructed. As a result, these cumulative impacts remain significant and unavoidable until such time as the improvements are constructed.

Adoption of General Plan Amendments

The General Plan Amendments under the Wash Plan are for trails and land use designations within the Cities of Highland and Redlands. The General Plan Amendments would not result in an increase in employment or population; rather, they make better use of the land within the proposed project and facilitate the operations of the existing land uses. Similarly, General Plan Amendments for the trails component would not result in an increase in employment or population; rather, they coordinate trail plans for the Cities of Highland and Redlands to increase regional enjoyment of recreational resources. These activities would not result in an increase in vehicular traffic to the surrounding freeway segments and therefore would not exceed LOS standards for designated highways. A less than significant impact associated with this activity would occur and no mitigation is required.

Cumulative. Cumulatively, the adoption of General Plan Amendments would not contribute to impacts that would be significant. As stated earlier in this section, cumulative impacts are evaluated as a part of the project's impacts for traffic. As such, any cumulative impacts are reflected in the analysis shown above for this component of the project. Cumulative impacts would be less than significant.

Roadway/Bridge Rights-of-Way

The ~~dedication~~ designation of additional rights-of-way for Greenspot Road and the Greenspot Road Bridge, Alabama Street, and Orange Street-Boulder Avenue would not increase the vehicular traffic on these roadways and intersections because the activity only includes the ~~dedication~~ designation of the rights-of-way and not the construction of the improvements. Subsequent project-specific impact analysis and design-level construction drawings for these roadways will be prepared in a separate and independent environmental process. As there is no increase in vehicular traffic as a result of these activities, there would be no contribution to increased traffic on the freeway segments and there would be no exceedance of LOS standards for freeway segments. Therefore, no impacts would occur and no mitigation is required.

Cumulative. Cumulatively, the designation of bridge and roadway rights-of-way would not have an impact relating to changes in levels of service or increased traffic on freeway segments. The rights-of-way would have no impact related to this issue and therefore they would not contribute to any cumulative impact. Moreover, although designation of the rights-of-way may arguably lead to a cumulative impact for the construction and long-term operation of expanded roadways, the traffic handling capacity of such additional roadways is included within the projections of the 2008 and 2030 traffic year analyses for estimating overall project impacts. As such, no additional significant cumulative impacts would occur.

Recreational Trail Rights-of-Way

The ~~dedication~~ designation of rights-of-way for recreational trails would not increase vehicular traffic on the freeway segments in the project vicinity. As indicated in Section 3.6.7, all trails would be located on existing streets, service roads, or an old railroad bed. No construction is associated with recreational trails, with the exception of the placement of signs. Similar to the discussion under the General Plan Amendments activity, the ~~dedication~~ designation of rights-of-way for recreational trails would not result in a recreational destination. It is reasonable to assume that the trails would be utilized primarily by local residents and no increase in vehicular traffic would occur from this activity. Therefore, no exceedance of LOS standards would occur with this activity, no impacts would occur, and no mitigation is required.

Cumulative. Cumulatively, the ~~dedication~~ designation of recreational trail rights-of-way would not have an impact relating to changes in levels of service or increased traffic on freeway segments. The rights-of-way would have no impact related to this issue and therefore they would not contribute to any cumulative impact.

Land Exchange Between the District and BLM

This land exchange will allow mining activities to expand and would allow habitat areas to be conserved. Water conservation activities will continue to occur on the land to become BLM land, and may expand, depending upon the outcome of studies and the evolution of a regional groundwater management system. The traffic impacts of the mining expansion aspect of the land exchange are already fully treated above. No other aspects of this land exchange are anticipated to result in any significant traffic impacts, and as such no mitigation is required.

Cumulative. Cumulatively, the land exchange between the District and the BLM would not have an impact relating to changes in levels of service or increased traffic on freeway segments beyond that already discussed in connection with mining. The land exchange would have no additional impact related to this issue and therefore it would not contribute to any cumulative impact.

Land Exchange Between the SBCFCD and Robertson's

The land exchange that would occur between the SBCFCD and Robertson's would result in mining activities on property currently owned by the SBCFCD and habitat preservation on land that is currently owned by Robertson's. As indicated in the analysis for the land exchange between the District and BLM, the land that would be set aside for habitat conservation would be left in its natural state and would not result in an increase of baseline traffic levels; therefore, no impacts are anticipated to occur with this issue. For the land that would be exchanged to Robertson's, the activities associated with extraction of mineral aggregate would generate some traffic. However, the generation of additional trips has already been analyzed and identified under the aggregate mining component in this section. Therefore, the resulting land exchange between the SBCFCD and Robertson's would result in a less than significant impact.

Cumulative. As stated earlier in this section, cumulative impacts are evaluated as a part of the project's impacts for traffic. As such, any cumulative impacts would be similar to those discussed for the aggregate mining portion of the proposed project. With the implementation of the proposed mitigation measures, impacts related to this issue would remain significant.

4.15.4.3 Year 2030 With Project Conditions (Intersection) Traffic and Level of Service Impacts

Threshold:	Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections) and/or
Threshold:	Exceed a level of service standard established by the county congestion management agency for designated roads or highways?

The project traffic impact assessment was based on an analysis of opening day (2008) and future year (2030) scenarios, which provide an assessment of potential impacts in the near-term and long-term horizons as they already consider related traffic impacts from past, present, and probable future projects. Cumulative impacts related to traffic are included as a part of the analysis for each impact. Traffic impact analyses are conducted by reviewing a list of cumulative projects and their impacts within the area. The impacts of these cumulative projects are then added to the estimated impact of the proposed project to determine the total cumulative impacts that may be present. For impacts related to the future conditions, such as in 2030, the impacts of the listed projects are included as projections and combined with the projected year 2030 impacts of the proposed project to determine future cumulative impacts. Therefore, the analysis related to each of the thresholds discussed contains a cumulative analysis of the area projects.

Water Conservation Operations/Maintenance Activities of the District

The District will continue to operate, maintain, and repair its water conservation facilities (access roads, canals, culverts, dikes, basins, and diversion structures) within the Planning Area in the same manner as existing conditions. As described in Section 3.6.1, while there is the potential for future water conservation facilities to be built within the Planning Area, at this point in time, the specific location, size, and type of facilities are unknown. Aside from this EIR's programmatic evaluation of impacts to biological resources associated with any potential future water conservation facilities, these facilities will be required to undergo project-specific environmental analysis prior to their construction and implementation. Water conservation activities within the Planning Area typically involve the routing of water to percolation basins and would not generate an increase in traffic levels on the surrounding street system. Even if the development of such facilities were to generate significant traffic, those future water facilities projects would be required to mitigate for changes to LOS standards for designated roads or highways, and therefore a less than significant impact would occur with this proposed project.

Cumulative. Cumulatively, the water conservation operation and maintenance activities of the District would not have an impact relating to changes in levels of service or increased traffic in the year 2030. As noted above, there would be no increase in traffic as a part of the activities and any future activities would be required to assess and mitigate any future impacts. Cumulative impacts would be less than significant.

Flood Control Operations/Maintenance Activities of the SBCFCD

The activities of the SBCFCD would not generate an increase in traffic levels of the surrounding street system. The routine operation and maintenance activities would not increase above what is currently implemented and it is not expected to cause an increase in SBCFCD vehicles traveling to and from the Planning Area. Therefore, this activity would not contribute additional traffic to the surrounding street system and would not exceed any LOS standards for designated roads or highways. No impacts associated with this activity would occur and no mitigation is required.

Cumulative. Cumulatively, the water production operations and maintenance activities of the SBCFCD would not have an impact relating to changes in levels of service or increased traffic in the year 2030. The activities of the SBCFCD would have no impact related to this issue and therefore they would not contribute to any cumulative impact.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

The activities of the EVWD and RMUD would not generate an increase in traffic levels of the surrounding street system. The routine operation and maintenance activities would not increase above what is currently implemented and it is not expected to cause an increase in EVWD or RMUD vehicles traveling to and from the Planning Area. Therefore, this activity would not contribute additional traffic to the surrounding street system and would not exceed any LOS standards for designated roads or highways. No impacts associated with this activity would occur and no mitigation is required.

Cumulative. Cumulatively, the water production operations and maintenance activities of the EVWD and RMUD would not have an impact relating to changes in levels of service or increased traffic in the year 2030. The activities of the EVWD and RMUD would have no impact related to this issue and therefore they would not contribute to any cumulative impact.

Aggregate Mining

Development of the traffic volumes for the year 2030 with project scenario are described in detail in the *Traffic Study* (Appendix J). An intersection level of service analysis was conducted for the 2030 with project scenario volumes. Previously referenced Table 4.15.G shows the resulting levels of service and volume-to-capacities/delays. As indicated, with the addition of project traffic to the year 2030 background scenario, intersection levels of service at the following eight intersections would result in less than the minimum standard in the a.m. peak hour, p.m. peak hour, or both:

- **Palm Avenue/5th Street.** The intersection would continue to operate at LOS F during the a.m. peak hour.
- **Palm Avenue/3rd Street.** The intersection would continue to operate at LOS E in the a.m. peak hour and change from LOS F to LOS E in the p.m. peak hour.
- **Alabama Street/Robertson's Access.** The intersection would continue to operate at LOS E in the a.m. peak hour and would continue to operate at LOS F in the p.m. peak hour.
- **Alabama Street/Cemex Access.** The intersection would continue to operate at LOS F during the p.m. peak hour.
- **SR-30 Northbound Ramps/5th Street.** The intersection would continue to operate at LOS F in the a.m. peak hour.
- **SR-30 Southbound Ramps/5th Street.** The intersection would continue to operate at LOS F in the a.m. and p.m. peak hour.
- **Boulder Avenue/Greenspot Road.** The intersection would continue to operate at LOS F in both the a.m. and p.m. peak hours.
- **Orange Street-Boulder Avenue/Cemex Access.** The intersection would change from LOS F to LOS E in the a.m. peak hour and continue to operate at LOS F in the p.m. peak hour.

The project includes a new means of access for trucks and the LOS at the following ~~six~~ four intersections will improve, resulting in beneficial impacts.

- Palm Avenue/5th Street;
- Palm Avenue/3rd Street;

- ~~Alabama Street/Robertson's Access;~~
- ~~Alabama Street/Cemex Access;~~
- Boulder Avenue/Greenspot Road; and
- Orange Street-Boulder Avenue/Cemex Access.

The intersection geometric and control improvements portrayed in Figure 4.15.7 would result in satisfactory LOS at these intersections, for both the year 2030 background and year 2030 background with project scenarios. Although the ~~six~~ four intersections are forecast to operate at a deficient LOS in 2030, the proposed project contributes to the reduction of delay times at these intersections. Delay times are not reduced substantially to maintain a satisfactory LOS, but are reduced or maintained to improve or maintain LOS over the background condition. ~~For these reasons, impacts related to LOS at these six intersections are less than significant and require no mitigation. While an improvement at these intersections occurs, they continue to operate at a failing LOS and therefore mitigation is required.~~

Impact 4.15.3 Year 2030 impacts to local street intersections would be potentially significant and would require mitigation.

Mitigation Measures. To ensure potential impacts at these four intersections are reduced to less than significant levels, the following mitigation measures shall be implemented:

TRAFFIC-4 Within one year of the issuance of a Conditional Use Permit (CUP) for the new mining areas or as specified in the CUP, the permit applicant shall pay all applicable City development impact fees for regional and local circulation and CMP fair-share fees based on current construction costs estimated at time of payment. Based on the year 2030 analysis prepared for this EIR, year 2030 intersection impacts can be mitigated with implementation of the following specific improvement measures, which shall be in place by year 2030:

Palm Avenue/5th Street: Add a westbound left-turn lane.

Palm Avenue/3rd Street: Add a northbound right-turn lane. Restripe the rightmost northbound through lane as a shared through/right-turn lane. Widen the east leg of the intersection to accommodate two departure lanes.

Boulder Avenue/Greenspot Road: Restripe the southbound right-turn lane as a shared through/right-turn lane. Add a northbound left-turn lane.

Orange Street-Boulder Avenue/Cemex Access: Add a northbound through lane and a southbound through lane.

Alabama Street-Robertson's Access-Cemex Access: Install a traffic signal and add a northbound through lane and a southbound through lane.

Impact 4.15.34 Year 2030 impacts to freeway on-ramps and off-ramps ramp intersections would be potentially significant and would require mitigation.

The following two freeway ramp intersections are forecast to operate below acceptable LOS standards with increases in the delay times as a result of the proposed project.

- SR-30 Southbound Ramps/5th Street; and
- SR-30 Northbound Ramps/5th Street.

Mitigation Measures. To ensure potential impacts at these two freeway ramp intersections are reduced to less than significant levels, the following mitigation measures shall be implemented:

TRAFFIC-4.5 Within one year of the issuance of ~~mining permits~~ a Conditional Use Permit (CUP) for the new mining areas or as specified in the CUP, the permit applicant shall pay all applicable City development impact fees for regional and local circulation and CMP fair-share fees based on current construction costs estimated at time of payment. Based on the year 2030 analysis prepared for this EIR, year 2030 impacts can be mitigated with implementation of the following specific improvement measures, which shall be in place by year 2030:

SR-30 Southbound Ramps/5th Street. Widen 5th Street to two eastbound through lanes, an eastbound shared through/right-turn lane, a dedicated eastbound right-turn lane, three westbound through lanes, and two westbound left-turn lanes. Provide storage length for turn lanes per the traffic study. This improvement is consistent both with the City of Highland's General Plan roadway network and conceptual drawings of 5th Street provided by the City. This improvement would require widening of Greenspot Road approximately 12 feet of right-of-way on both sides of 5th Street under the SR-30 bridge from 80 feet to 110 feet or more.

SR-30 Northbound Ramps/5th Street. Widen 5th Street to three eastbound through lanes, an eastbound left-turn lane, two westbound through lanes, and a westbound shared through-right-turn lane (wide enough for *de facto* right-turn lane). Add a northbound left-turn lane to the off-ramp. Widening of 5th Street to six lanes is consistent both with the City of Highland's General Plan roadway network and conceptual drawings of 5th Street provided by the City. Provide storage length for turn lanes per the traffic study. These improvements will require widening of Greenspot Road approximately 12 feet of right-of-way on both sides of 5th Street under the SR-30 bridge from 80 feet to 110 feet or more. Approximately 12 feet of additional right-of-way will also be required on the south leg of the intersection unless Caltrans approval to re-stripe the off-ramp is obtained.

Level of Significance after Mitigation. Table 4.15.I presents the intersection levels of service with the recommended intersection improvements for the 2030 with project conditions. The intersection improvements for these two locations are shown Figure 4.15.7. With implementation of the recommended improvements, the minimum level of service standards would be maintained at the study area intersections where significant project impacts are identified. Furthermore, the project would be responsible for contributing to the City's traffic and signal impact fees. Therefore, a less than significant impact would occur with implementation of recommended improvements and impact fees.

Table 4.15.I – Year 2030 With Improvements Intersection Levels of Service

Intersection	Control	A.M. Peak Hour			P.M. Peak Hour		
		V/C	Delay (sec)	LOS	V/C	Delay (sec)	LOS
SR-30 Southbound Ramps/5 th Street	Signal	0.76	24.1	C	0.67	19.7	B
SR-30 Northbound Ramps/5 th Street	Signal	0.66	23.1	C	0.76	27.8	C

Source: *Traffic Study Upper Santa Ana River Wash, San Bernardino County, California*; prepared by LSA Associates, Inc.; June 30, 2006 August 31, 2007, Table Y.

Cumulative. Cumulatively, the aggregate mining activities would contribute to impacts that would require mitigation. As stated earlier in this section, cumulative impacts are evaluated as a part of the project's impacts for traffic. As such, any cumulative impacts would be mitigated by the measures recommended for the proposed project. With the implementation of the proposed mitigation measures, cumulative impacts related to this issue would be less than significant.

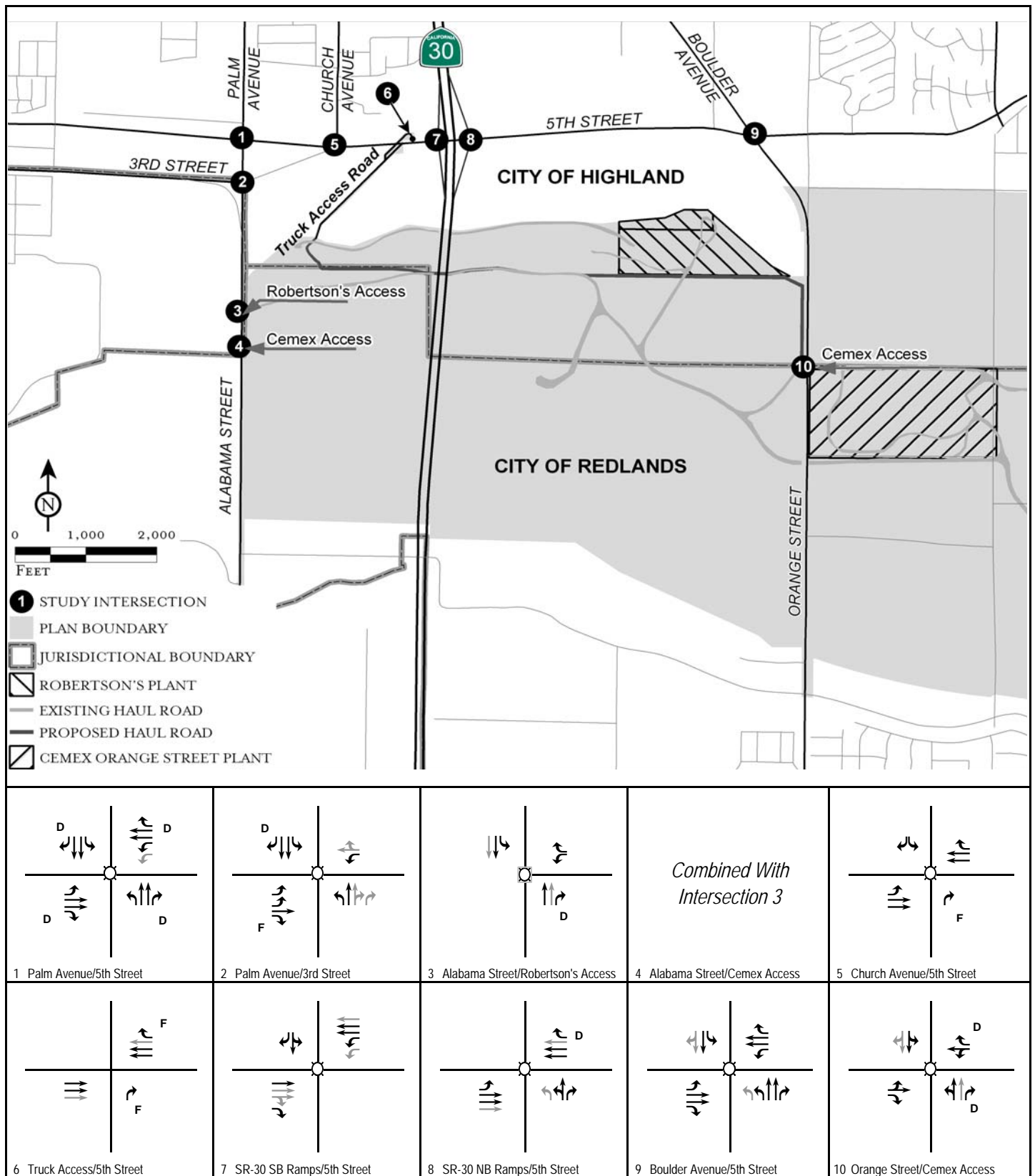


FIGURE 4.15.7

LSA

Legend

- Signal
- Stop Sign
- Free Right Turn
- De Facto Right Turn
- Existing Lane
- Added/Modified Lane

Upper Santa Ana River Wash
Land Management Plan
Environmental Impact Report

2030 Mitigated Intersection Geometrics and Stop Control

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Adoption of General Plan Amendments

The General Plan Amendments under the Wash Plan are for trails and land use designations within the Cities of Highland and Redlands. The General Plan Amendments would not result in an increase in employment or population; rather, they make better use of the land within the proposed project and facilitate the operations of the existing land uses. Similarly, General Plan Amendments for the trails component would not result in an increase in employment or population; rather, they coordinate trail plans for the Cities of Highland and Redlands to increase regional enjoyment of recreational resources. These activities would not result in an increase in vehicular traffic to the surrounding street system and therefore would not exceed LOS standards for designated roads or highways. A less than significant impact associated with this activity would occur and no mitigation is required.

Cumulative. Cumulatively, the adoption of General Plan Amendments would not contribute to impacts that would be significant. As stated earlier in this section, cumulative impacts are evaluated as a part of the project's impacts for traffic. As such, any cumulative impacts are reflected in the analysis shown above for this component of the project. Cumulative impacts would be less than significant.

Roadway/Bridge Rights-of-Way

The ~~dedication~~ designation of rights-of-way for Greenspot Road and the Greenspot Road Bridge, Alabama Street, and Orange Street-Boulder Avenue would not increase the vehicular traffic on these roadways and intersections because the activity only includes the ~~dedication~~ designation of the rights-of-way and not the construction of the improvements. Subsequent project-specific impact analysis and design-level construction drawings for these roadways will be prepared at a later date. As there is no increase in vehicular traffic as a result of these activities, there would be no contribution to increased traffic on the surrounding street system in the project vicinity and there would be no exceedance of LOS standards for designated roads and highways. No impacts would occur and no mitigation is required.

Cumulative. Cumulatively, the designation of bridge and roadway rights-of-way would not have an impact relating to changes in levels of service or increased traffic in the year 2030. The rights-of-way would have no impact related to this issue and therefore they would not contribute to any cumulative impact.

Recreational Trail Rights-of-Way

The ~~dedication~~ designation of rights-of-way for recreational trails would not increase vehicular traffic on the street system in the project vicinity. As indicated in Section 3.6.7, all trails would be located on existing streets, service roads, or an old railroad bed. No construction is associated with recreational trails, with the exception of the placement of signs. Similar to the discussion under the General Plan Amendments activity, the ~~dedication~~ designation of rights-of-way for recreational trails would not result in a recreational destination. It is reasonable to assume that the trails would be utilized by local residents and no increase in vehicular traffic would occur from this activity. Therefore, no exceedance of LOS standards would occur with this activity. A less than significant impact would occur and no mitigation is required.

Cumulative. Cumulatively, the ~~dedication~~ designation of recreational trail rights-of-way would not have an impact relating to changes in levels of service or increased traffic in the year 2030. The rights-of-way would have no impact related to this issue and therefore they would not contribute to any cumulative impact.

Land Exchange Between the District and BLM

The District's land exchange with the BLM will provide to the BLM an unrestricted habitat corridor for wildlife movement while maintaining continued water conservation activity. The land the BLM will exchange to the District, which is already mostly disturbed, will be used for aggregate mining. This activity is not expected to increase the amount of vehicular traffic in the project vicinity. No impacts associated with this activity would occur and no mitigation is required.

Cumulative. Cumulatively, the land exchange between the District and the BLM would not have an impact relating to changes in levels of service or increased traffic. The land exchange would have no impact related to this issue and therefore it would not contribute to any cumulative impact.

Land Exchange Between the SBCFCD and Robertson's

The land exchange that would occur between the SBCFCD and Robertson's would result in mining activities on property currently owned by the SBCFCD and habitat preservation on land currently owned by Robertson's. As indicated in the analysis for the land exchange between the District and BLM, the land that would be set aside for habitat conservation would be left in its natural state and would not result in an increase of baseline traffic levels; therefore, no impacts are anticipated to occur with this issue. For the land that would be exchanged to Robertson's, the activities associated with extraction of mineral aggregate would generate some traffic. However, the generation of additional trips has already been analyzed and identified under the aggregate mining component in this section. Therefore, the resulting land exchange between the SBCFCD and Robertson's would result in a less than significant impact.

Cumulative. Cumulatively, the land exchange between the SBCFCD and Robertson's would contribute to less than significant impacts in relation to this issue. As stated earlier in this section, cumulative impacts are evaluated as a part of the project's impacts for traffic. As such, any cumulative impacts would be mitigated by the measures recommended for the aggregate mining portion of the proposed project. With the implementation of the proposed mitigation measures, impacts related to this issue would be less than significant.

4.15.4.4 Year 2030 With Project Conditions (Freeway Segments) Traffic and Level of Service Impacts

Threshold	Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections); and/or
Threshold	Exceed a level of service standard established by the county congestion management agency for designated roads or highways.

The project traffic impact assessment was based on an analysis of opening day (2008) and future year (2030) scenarios, which provide an assessment of potential impacts in the near-term and long-term horizons as they already consider related traffic impacts from past, present, and probable future projects. Cumulative impacts related to traffic are included as a part of the analysis for each impact. Traffic impact analyses are conducted by reviewing a list of cumulative projects and their impacts within the area. The impacts of these cumulative projects are then added to the estimated impact of the proposed project to determine the total cumulative impacts that may be present. For impacts related to the future conditions, such as in 2030, the impacts of the listed projects are included as projections and combined with the projected year 2030 impacts of the proposed project to determine future cumulative impacts. Therefore, the analysis related to each of the thresholds discussed contains a cumulative analysis of the area projects.

Water Conservation Operations/Maintenance Activities of the District

The District will continue to operate, maintain, and repair its water conservation facilities (access roads, canals, culverts, dikes, basins, and diversion structures) within the Planning Area in the same manner as existing conditions. As described in Section 3.6.1, while there is the potential for future water conservation facilities to be built within the Planning Area, at this point in time, the specific location, size, and type of facilities are unknown. Aside from this EIR's programmatic evaluation of impacts to biological resources associated with any potential future water conservation facilities, these facilities will be required to undergo project-specific environmental analysis prior to their construction and implementation. Water conservation activities within the Planning Area typically involve the routing of water to percolation basins and would not generate an increase in traffic levels on the surrounding street system. Since any future water facilities traffic would be required to mitigate for changes to LOS standards for designated roads or highways, a less than significant impact would occur with this activity.

Cumulative. Cumulatively, the water conservation operation and maintenance activities of the District would not have an impact relating to changes in levels of service or increased traffic on freeway segments in the year 2030. As noted above, there would be no increase in traffic as a part of the existing activities and any future activities would be required to assess and mitigate any future impacts. Cumulative impacts would be less than significant.

Flood Control Operations/Maintenance Activities of the SBCFCD

The activities of the SBCFCD would not generate an increase in traffic levels of the surrounding freeway segments. The routine operation, maintenance activities would not increase above what is currently implemented, and it is not expected to cause an increase in SBCFCD vehicles traveling to and from the Planning Area. Therefore, this activity would not contribute additional traffic to the surrounding freeway segments and would not exceed any LOS standards for designated roads or highways. No impacts associated with this activity would occur and no mitigation is required.

Cumulative. Cumulatively, the water production operations and maintenance activities of the SBCFCD would not have an impact relating to changes in levels of service or increased traffic on freeway segments in the year 2030. The activities of the SBCFCD would have no impact related to this issue and therefore they would not contribute to any cumulative impact.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

The activities of the EVWD and RMUD would not generate an increase in traffic levels of the surrounding freeway segments. Since this activity would not contribute additional traffic to the surrounding freeway segments and would not exceed any LOS standards for designated roads or highways, no impacts associated with this activity would occur and no mitigation is required.

Cumulative. Cumulatively, the water production operations and maintenance activities of the EVWD and RMUD would not have an impact relating to changes in levels of service or increased traffic on freeway segments in the year 2030. The activities of the EVWD and RMUD would have no impact related to this issue and therefore they would not contribute to any cumulative impact.

Aggregate Mining

With the addition of project traffic to the year 2030 background scenario, freeway levels of service at all segments would operate at less than the minimum service standard:

- **SR-30 Northbound 5th Street Off-Ramp Influence Area.** This segment would continue to operate at LOS F conditions.

- **SR-30 Northbound 5th Street On-Ramp Influence Area.** This segment would continue to operate at LOS F conditions.
- **SR-30 Southbound 5th Street Off-Ramp Influence Area.** This segment would continue to operate at LOS F conditions.
- **SR-30 Southbound 5th Street On-Ramp Influence Area.** This segment would continue to operate at LOS F conditions.

Impact 4.15.45 **Impacts to freeway segments in the year 2030 would be potentially significant and require mitigation.**

Mitigation Measures. No feasible mitigation exists.

Level of Significance after Mitigation. Because improvements to the freeway segments are under the authority of Caltrans, there is no mechanism for development project proponents to pay fees or make fair-share contributions toward improving mainline freeway lanes. Fees collected by the City of Highland would be used for the improvement of intersections and freeway ramps. Even if there were such a mechanism to collect fees for mainline freeway lanes, there would be no way to ensure that such payments would be directed to a specific freeway improvement project. Consequently, there are no feasible mitigation measures for these impacts. Impacts would remain significant and unavoidable until such time as the Caltrans or co-sponsor can install the improvements. Because freeway segment modifications are controlled by Caltrans, the schedule of completing improvements is not in the hands of local agencies or private sponsors.

Cumulative. Cumulatively, the aggregate mining activities would contribute to impacts that would require mitigation. As stated earlier in this section, cumulative impacts are evaluated as a part of the project's impacts for traffic. As such, any cumulative impacts would require the implementation of the mitigation measures recommended for the proposed project. The significant impacts are forecast to occur with or without implementation of the project and are therefore cumulative in nature. Because several of the improvements to the affected freeway ramp intersections will be included in yet-to-be determined improvement projects sponsored by Caltrans or SANBAG, the project proponent has no control over the specific timing of when the improvements will be constructed. As a result, these cumulative impacts remain significant and unavoidable until such time as the improvements are constructed.

Adoption of General Plan Amendments

The General Plan Amendments under the Wash Plan are for trails and land use designations within the Cities of Highland and Redlands. The General Plan Amendments would not result in an increase in employment or population; rather, they make better use of the land within the proposed project and facilitate the operations of the existing land uses. Similarly, General Plan Amendments for the trails component would not result in an increase in employment or population; rather, they coordinate trail plans for the Cities of Highland and Redlands to increase regional mobility. These activities would not result in an increase in vehicular traffic to the surrounding freeway segments and therefore would not exceed LOS standards for designated highways. A less than significant impact associated with this activity would occur and no mitigation is required.

Cumulative. Cumulatively, the adoption of General Plan Amendments would not contribute to impacts that would be significant. As stated earlier in this section, cumulative impacts are evaluated as a part of the project's impacts for traffic. As such, any cumulative impacts are reflected in the analysis shown above for this component of the project. Cumulative impacts would be less than significant.

Roadway/Bridge Rights-of-Way

The ~~dedication~~ designation of rights-of-way for Greenspot Road and the Greenspot Road Bridge, Alabama Street, and Orange Street-Boulder Avenue would not increase the vehicular traffic on these roadways and intersections because the activity only includes the ~~dedication~~ designation of the rights-of-way and not the construction of the improvements. Subsequent project-specific impact analysis and design-level construction drawings for these roadways will be prepared at a later date. As there is no increase in vehicular traffic as a result of these activities, there would be no contribution to increased traffic on the surrounding freeway segments in the project vicinity and there would be no exceedance of LOS standards for designated highways. No impacts would occur and no mitigation is required.

Cumulative. Cumulatively, the designation of bridge and roadway rights-of-way would not have an impact relating to changes in levels of service or increased traffic on freeway segments in the year 2030. The rights-of-way would have no impact related to this issue and therefore they would not contribute to any cumulative impact. Moreover, although designation of the rights-of-way may arguably lead to a cumulative impact for the construction and long-term operation of expanded roadways, the traffic handling capacity of such additional roadways is included within the projections of the 2008 and 2030 traffic year analyses for estimating overall project impacts. As such, no additional significant cumulative impacts would occur.

Recreational Trail Rights-of-Way

The ~~dedication~~ designation of rights-of-way for recreational trails would not increase vehicular traffic on the freeway segments in the project vicinity. As indicated in Section 3.5.7, all trails would be located on existing streets, service roads, or an old railroad bed. No construction is associated with recreational trails, with the exception of the placement of signs. Similar to the discussion under the General Plan Amendments activity, the ~~dedication~~ designation of rights-of-way for recreational trails would not result in a recreational destination. It is reasonable to assume that the trails would be utilized primarily by local residents and no increase in vehicular traffic would occur from this activity. Therefore, no exceedance of LOS standards would occur with this activity, no impact would occur, and no mitigation is required.

Cumulative. Cumulatively, the ~~dedication~~ designation of recreational trail rights-of-way would not have an impact relating to changes in levels of service or increased traffic on freeway segments in the year 2030. The rights-of-way would have no impact related to this issue and therefore they would not contribute to any cumulative impact.

Land Exchange Between the District and BLM

This land exchange will allow mining activities to expand and would allow habitat areas to be conserved. Water conservation activities will continue to occur on the land to become BLM land, and may expand, depending upon the outcome of studies and the evolution of a regional groundwater management system. The traffic impacts of the mining expansion aspect of the land exchange are already fully treated above. No other aspects of this land exchange are anticipated to result in any significant traffic impacts, and as such no mitigation is required.

Cumulative. Cumulatively, the land exchange between the District and the BLM would not have an impact relating to changes in levels of service or increased traffic on freeway segments in the year 2030, not already analyzed in connection with aggregate mining. The land exchange would have no additional impact related to this issue and therefore it would not contribute to any cumulative impact.

Land Exchange Between the SBCFCD and Robertson's

The land exchange that would occur between the SBCFCD and Robertson's would result in mining activities on property currently owned by the SBCFCD and habitat preservation on land currently owned by Robertson's. As indicated in the analysis for the land exchange between the District and BLM, the land that would be set aside for habitat conservation would be left in its natural state and would not result in an increase of baseline traffic levels; therefore, no impacts are anticipated to occur with this issue. For the land that would be exchanged to Robertson's, the activities associated with extraction of mineral aggregate would generate some traffic. However, the generation of additional trips has already been analyzed and identified under the aggregate mining component in this section. Therefore, the resulting land exchange between the SBCFCD and Robertson's would result in a less than significant impact.

Cumulative. As stated earlier in this section, cumulative impacts are evaluated as a part of the project's impacts for traffic. As such, any cumulative impacts would be similar to those discussed for the aggregate mining portion of the proposed project. With the implementation of the proposed mitigation measures, impacts related to this issue would remain significant.

4.15.4.5 Air Traffic Patterns

Threshold	Would the proposed 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 Planning Area is bordered by the San Bernardino International Airport to the west and the Redlands Municipal Airport to the south. Previously referenced Figure 4.7.1 depicts the aviation hazard areas for both airports.

San Bernardino International Airport. The western portion of the Planning Area is located in the San Bernardino International Airport Traffic Pattern Zone, which includes all portions of the airport's designated traffic pattern and pattern entry routes. A larger portion of the Planning Area is located within the Airport Influence Area, which is the space surrounding the airport that can be affected by airport operations. A small portion in the northwest corner of the Planning Area is located in the Inner Turning Zone, which is the area where aircraft are typically turning and descending for landing, or turning and climbing for departure. While the San Bernardino International Airport does not currently have an approved airport land use compatibility report, an Airport Influence Area Map (dated December 4, 2003) prepared by Caltrans depicts the Airport Influence Areas and safety zones for the airport. The *California Airport Land Use Planning Handbook*¹ lists basic compatibility qualities in each of the zones depicted on the Airport Influence Area Map and was consulted for safety hazard analysis.

Redlands Municipal Airport. The southern tip of the Planning Area is located within the Redlands Municipal Airport Influence Area, which is divided into Compatibility Zones. The Redlands Airport Influence Area that overlaps the Planning Area contains Compatibility Zones A, B1, B2, and C. Zone A includes the airport runway and immediately adjacent areas where uses are restricted to aeronautical functions. The approach/departure zone is designated as Zone B1 and Zone B2 is the extended approach/departure zone. Aircraft commonly fly over areas covered by Zone C at an altitude of 1,000 feet or less above ground level.

¹ *California Airport Land Use Planning Handbook*, California Department of Transportation, Division of Aeronautics, January 2002.

Water Conservation Operations/Maintenance Activities of the District

While the water conservation activities are located within the airport influence areas for both the San Bernardino International Airport and the Redlands Municipal Airport, this activity does not propose any prohibited uses in any of the safety areas for either airport. As land uses associated with the activity are compatible with the nearby airports, implementation of the activity would not create a substantial safety hazard associated with air traffic patterns or increased traffic levels in the Planning Area. As such, impacts associated with this issue are less than significant and no mitigation is required.

Cumulative. The projects listed in Table 2.A would not contribute to cumulative impacts related to an increase in air traffic or change in air traffic patterns. The cumulative projects listed would also be compatible with the nearby airports and no significant cumulative impact is anticipated.

Flood Control Operations/Maintenance Activities of the SBCFCD

While the flood control activities are located within the airport influence areas for both the San Bernardino International Airport and the Redlands Municipal Airport, this activity does not propose any prohibited uses in any of the safety areas for either airport. As land uses associated with the activity are compatible with the nearby airports, implementation of the activity would not create a substantial safety hazard associated with air traffic patterns or increased traffic levels in the Planning Area. As such, impacts associated with this issue are less than significant and no mitigation is required.

Cumulative. The projects listed in Table 2.A would not contribute to cumulative impacts related to an increase in air traffic or change in air traffic patterns. The cumulative projects listed would also be compatible with the nearby airports and no significant cumulative impact is anticipated.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

While the water production activities are located within the airport influence areas for both the San Bernardino International Airport and the Redlands Municipal Airport, this activity does not propose any prohibited uses in any of the safety areas for either airport. As land uses associated with the activity are compatible with the nearby airports, implementation of the activity would not create a substantial safety hazard associated with air traffic patterns or increased traffic levels in the Planning Area. As such, impacts associated with this issue are less than significant and no mitigation is required.

Cumulative. The projects listed in Table 2.A would not contribute to cumulative impacts related to an increase in air traffic or change in air traffic patterns. The cumulative projects listed would also be compatible with the nearby airports and no significant cumulative impact is anticipated.

Aggregate Mining

While the aggregate mining activities are located within the airport influence areas for both the San Bernardino International Airport and the Redlands Municipal Airport, this activity does not propose any prohibited uses in any of the safety areas for either airport. As land uses associated with the activity are compatible with the nearby airports, implementation of the activity would not create a substantial safety hazard associated with air traffic patterns or increased traffic levels in the Planning Area. As such, impacts associated with this issue are less than significant and no mitigation is required.

Cumulative. The projects listed in Table 2.A would not contribute to cumulative impacts related to an increase in air traffic or change in air traffic patterns. The cumulative projects listed would also be compatible with the nearby airports and no significant cumulative impact is anticipated.

Adoption of General Plan Amendments

While the general plan amendments affect land located within the airport influence areas for both the San Bernardino International Airport and the Redlands Municipal Airport, this activity does not propose any prohibited uses in any of the safety areas for either airport. As land uses associated with the activity are compatible with the nearby airports, implementation of the activity would not create a substantial safety hazard associated with air traffic patterns or increased traffic levels in the Planning Area. As such, impacts associated with this issue are less than significant and no mitigation is required.

Cumulative. The projects listed in Table 2.A would not contribute to cumulative impacts related to an increase in air traffic or change in air traffic patterns. The cumulative projects listed would also be compatible with the nearby airports and no significant cumulative impact is anticipated.

Roadway/Bridge Rights-of-Way

While the roadway/bridge rights-of-way activities are located within the airport influence areas for both the San Bernardino International Airport and the Redlands Municipal Airport, this activity does not propose any prohibited uses in any of the safety areas for either airport. As land uses associated with the activity are compatible with the nearby airports, implementation of the activity would not create a substantial safety hazard associated with air traffic patterns or increased traffic levels in the Planning Area. As such, impacts associated with this issue are less than significant and no mitigation is required.

Cumulative. The projects listed in Table 2.A would not contribute to cumulative impacts related to an increase in air traffic or change in air traffic patterns. The cumulative projects listed would also be compatible with the nearby airports and no significant cumulative impact is anticipated.

Recreational Trail Rights-of-Way

While the recreational trails activities are located within the airport influence areas for both the San Bernardino International Airport and the Redlands Municipal Airport, this activity does not propose any prohibited uses in any of the safety areas for either airport. As land uses associated with the activity are compatible with the nearby airports, implementation of the activity would not create a substantial safety hazard associated with air traffic patterns or increased traffic levels in the Planning Area. As such, impacts associated with this issue are less than significant and no mitigation is required.

Cumulative. The projects listed in Table 2.A would not contribute to cumulative impacts related to an increase in air traffic or change in air traffic patterns. The cumulative projects listed would also be compatible with the nearby airports and no significant cumulative impact is anticipated.

Land Exchange Between the District and BLM

While the lands to be exchanged are located within the airport influence areas for both the San Bernardino International Airport and the Redlands Municipal Airport, this activity does not propose any prohibited uses in any of the safety areas for either airport. As land uses associated with the activity are compatible with the nearby airports, implementation of the activity would not create a substantial safety hazard associated with air traffic patterns or increased traffic levels in the Planning Area. As such, impacts associated with this issue are less than significant and no mitigation is required.

Cumulative. The projects listed in Table 2.A would not contribute to cumulative impacts related to an increase in air traffic or change in air traffic patterns. The cumulative projects listed would also be compatible with the nearby airports and no significant cumulative impact is anticipated.

Land Exchange Between the SBCFCD and Robertson's

While the lands to be exchanged are located within the airport influence areas for both the San Bernardino International Airport and the Redlands Municipal Airport, this activity does not propose any prohibited uses in any of the safety areas for either airport. As land uses associated with the activity are compatible with the nearby airports, implementation of the activity would not create a substantial safety hazard associated with air traffic patterns or increased traffic levels in the Planning Area. As such, impacts associated with this issue are less than significant and no mitigation is required.

Cumulative. The projects listed in Table 2.A would not contribute to cumulative impacts related to an increase in air traffic or change in air traffic patterns. The cumulative projects listed would also be compatible with the nearby airports and no significant cumulative impact is anticipated.

4.15.4.6 Design Hazard Features

Threshold	Would the proposed project substantially increase hazards due to a design feature or incompatible use?
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Water Conservation Operations/Maintenance Activities of the District

The District will continue to operate, maintain, and repair its water conservation facilities (access roads, canals, culverts, dikes, basins, and diversion structures) within the Planning Area in the same manner as existing conditions. As described in Section 3.6.1, while there is the potential for future water conservation facilities to be built within the Planning Area, at this point in time, the specific location, size, and type of facilities are unknown. Aside from this EIR's programmatic evaluation of impacts to biological resources associated with any potential future water conservation facilities, these facilities will be required to undergo project-specific environmental analysis prior to their construction and implementation. Since future water conservation facilities would be similarly utilized as current water conservation facilities, the nature of activities would not change and would remain consistent with General Plan designations. As such, a less than significant impact associated with this issue would occur and no mitigation is required.

Cumulative. Cumulatively, the District's water conservation activities would have a less than significant impact relating to design hazards. The activities of the District would not change any roadway design and all cumulative projects in the area would be required to follow standard design requirements, which would reduce any cumulative impacts to a level that is less than significant.

Flood Control Operations/Maintenance Activities of the SBCFCD

Operation and maintenance activities of the SBCFCD would not change as a result of the proposed project. This activity does not propose any construction that would increase hazards due to a design feature. Land uses for this activity would not change and would remain consistent with General Plan designations. As such, no impacts associated with this issue would occur and no mitigation is required.

Cumulative. Cumulatively, the flood control operations of the SBCFCD would not have an impact relating to design hazards. The SBCFCD activities would have no impact related to this issue and therefore would not contribute to any cumulative impact.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Operation and maintenance activities of the EVWD and RMUD would not change as a result of the proposed project. This activity does not propose any construction that would increase hazards due to a design feature. Land uses under this activity would not change and would remain consistent with General Plan designations. As such, no impacts associated with this issue would occur and no mitigation is required.

Cumulative. Cumulatively, the water production operations of the EVWD and the RMUD would not have an impact relating to design hazards. The water production activities would have no impact related to this issue and therefore would not contribute to any cumulative impact.

Aggregate Mining

As part of the proposed project, a new access road connecting the haul road to 5th Street would be constructed along the City Creek east-side levee. The new access road would eliminate the mixing of large trucks and passenger vehicles at the Palm Avenue/5th Street intersection, thus reducing the potential for hazards at this location. The new access road would serve as an ingress and egress route for the trucks serving Cemex and Robertson's. This access road would connect with a haul road to be constructed within the Aggregate Mining area to serve the processing plants of Cemex and Robertson's. The northern terminus of this access road would connect to eastbound 5th Street for exiting mining vehicles. Entering vehicles would ingress from the rightmost westbound lane on 5th Street and traverse beneath the 5th Street bridge at City Creek connecting to the new access road.

As required by State law, all project-related transportation improvements would be designed by a licensed professional civil engineer and constructed by a licensed construction contractor. The project would result in new traffic signals and lane restriping, providing safe and efficient access to and from the Planning Area and would not result in the creation of circulation design hazards. For these reasons, impacts associated with this issue would be less than significant and no mitigation is required.

Cumulative. Cumulatively, the aggregate mining activities would not have a significant impact relating to design hazards. All cumulative projects in the area would be required to comply with State law, which would reduce any cumulative impacts to a level that is less than significant.

Adoption of General Plan Amendments

The land uses associated with the general plan amendments would not result in any construction that would increase hazards due to a design feature. General Plan Amendments would ultimately result in consistency with proposed land uses in the Planning Area. As such, impacts associated with this issue are less than significant and no mitigation is required.

Cumulative. Cumulatively, the adoption of General Plan Amendments would not have a significant impact relating to design hazards. All cumulative projects in the area would be required to comply with State law, which would reduce any cumulative impacts to a level that is less than significant.

Roadway/Bridge Rights-of-Way

The dedication designation of rights-of-way for Greenspot Road and the Greenspot Road Bridge, Alabama Street, and Orange Street-Boulder Avenue would not result in increased hazards due to a design feature because the activity only includes the dedication designation of the rights-of-way and not the construction of the improvements. Subsequent project-specific impact analysis and design-level construction drawings for these roadways will be prepared at a later date. As there is no construction associated with these activities, there would be no contribution to increased hazards

from this activity. Furthermore, land uses associated with this activity would be compatible with designations of the General Plans. No impacts associated with this activity would occur and no mitigation is required.

Cumulative. Cumulatively, the designation of bridge and roadway rights-of-way would not have a significant impact relating to design hazards. Moreover, although designation of the rights-of-way may arguably lead to the construction and long-term operation of expanded roadways, the traffic design of such additional roadways will be in compliance with all applicable safety and roadway engineering standards. As such, no additional significant cumulative impacts would occur.

Recreational Trail Rights-of-Way

As indicated in Section 3.6.7, all trails would be located on existing streets, service roads, or an old railroad bed. Barricades would be placed to direct trail users away from areas that may potentially be hazardous (e.g., mining areas). No construction is associated with recreational trails, with the exception of the placement of signs. Similar to the discussion under the General Plan Amendments activity, the ~~dedication~~ designation of rights-of-way for recreational trails would not result in any design hazard features because construction would not occur. Therefore, no impact would occur and no mitigation is required.

Cumulative. Cumulatively, the designation of recreational trail rights-of-way would not have a significant impact relating to design hazards. The rights-of-way would have no impact related to this issue and therefore would not contribute to any cumulative impact.

Land Exchange Between the District and BLM

No construction activities apart from mining are proposed under this activity; therefore, no impacts associated with increased hazards due to a design feature would occur. The land uses associated with the land exchange would be compatible with the land use designations associated with the previously described General Plan amendments; therefore, implementation of the land exchange will not result in an incompatible use. As such, no impacts associated with this issue would occur and no mitigation is required.

Cumulative. Cumulatively, the land exchange between the District and the BLM would not have a significant impact relating to design hazards. The land exchange will have no impact related to this issue and therefore it would not contribute to any cumulative impact.

Land Exchange Between the SBCFCD and Robertson's

No construction activities are proposed related to this activity; therefore, no impacts associated with increased hazards due to a design feature would occur. The land uses associated with the land exchange would be compatible with the land use designations associated with the previously described General Plan amendments; therefore, implementation of the land exchange will not result in an incompatible use. As such, no impacts associated with this issue would occur and no mitigation is required.

Cumulative. Cumulatively, the land exchange between the SBCFCD and Robertson's would not have a significant impact relating to design hazards. The land exchange will have no impact related to this issue and therefore it would not contribute to any cumulative impact.

4.15.4.7 Emergency Access

Threshold	Would the proposed project result in inadequate emergency access?
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The City of Highland has an adopted City of Highland Emergency Plan to protect the health, safety, and welfare of the general public during emergencies including flooding, fires, high winds, earthquakes and other geologic hazards, and hazardous material accidents.

The City of Redlands Emergency Disaster Plan, which is updated every two years, identifies emergency situations wherein the City would respond in the event of an emergency.¹ Emergency situations discussed in the emergency plan include:

- Earthquake
- Flood
- Dam failure
- Fire
- War
- Terrorist acts
- Transportation accidents
- Industrial accidents
- Civil disturbance
- Storms
- Pollution
- Epidemics
- Drought
- Extreme heat
- Hazardous spills

The City of Redlands Emergency Disaster Plan also identifies evacuation routes within the City that would be used in an emergency. Interstates 10, 15, and 215, along with State Routes 30, 38, 60, 66, and 71 are identified as major evacuation routes from the area in the San Bernardino County General Plan.² These routes are also identified in the *City of Redlands 1995 General Plan* and the *City of Highland General Plan Update* as major evacuation routes from the area.

Water Conservation Operations/Maintenance Activities of the District

The District would be required to maintain roadways and facilities in compliance with applicable local, regional, State, and/or Federal requirements related to emergency access and evacuation plans. Any maintenance activities that would restrict traffic flows on area roadways would be required to implement adequate and appropriate measures to facilitate the passage of persons and vehicles through/around any required road closures. Adherence to these measures would reduce potential impacts related to this issue to a less than significant level and no mitigation is required.

Cumulative. Cumulatively, the District's water conservation activities would not have a significant impact relating to the creation of inadequate access. All cumulative projects would be required to implement standard measures to ensure adequate access. No significant cumulative impact would result.

Flood Control Operations/Maintenance Activities of the SBCFCD

The SBCFCD would be required to maintain roadways and facilities in compliance with applicable local, regional, state, and/or federal requirements related to emergency access and evacuation plans. Any maintenance activities that would restrict traffic flows on area roadways would be required to implement adequate and appropriate measures to facilitate the passage of persons and vehicles through/around any required road closures. Adherence to these measures would reduce potential impacts related to this issue to a less than significant level and no mitigation is required.

Cumulative. Cumulatively, the SBCFCD's flood control activities would not have a significant impact relating to the creation of inadequate access. All cumulative projects would be required to implement standard measures to ensure adequate access. No significant cumulative impact would result.

¹ *City of Redlands General Plan*, adopted October 17, 1995, Section 8.0, page 28.

² *San Bernardino County General Plan*, Economic Development and Public Services Group, Land Use Services Department, adopted July 1, 1989, revised August 26, 1999; page II-D2-15.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

The EVWD and RMUD would be required to maintain roadways and facilities in compliance with applicable local, regional, state, and/or federal requirements related to emergency access and evacuation plans. Any maintenance activities that would restrict traffic flows on area roadways would be required to implement adequate and appropriate measures to facilitate the passage of persons and vehicles through/around any required road closures. Adherence to these measures would reduce potential impacts related to this issue to a less than significant level and no mitigation is required.

Cumulative. Cumulatively, the water production activities of the EVWD and the RMUD would not have a significant impact relating to the creation of inadequate access. All cumulative projects would be required to implement standard measures to ensure adequate access. No significant cumulative impact would result.

Aggregate Mining

Cemex and Robertson's would be required to design, construct, and maintain structures, roadways, and facilities in compliance with applicable local, regional, state, and/or federal requirements related to emergency access and evacuation plans. Any construction and maintenance activities that would restrict traffic flows on area roadways would be required to implement adequate and appropriate measures to facilitate the passage of persons and vehicles through/around any required road closures. Adherence to these measures would reduce potential impacts related to this issue to a less than significant level and no mitigation is required.

Cumulative. Cumulatively, the aggregate mining activities would not have a significant impact relating to the creation of inadequate access. All cumulative projects would be required to implement standard measures to ensure adequate access. No significant cumulative impact would result.

Adoption of General Plan Amendments

The adoption of general plan amendments would not result in the development of any structures that would require emergency access. As no physical activity would take place, emergency access would not be inadequate because there would be no change to the baseline condition. Impacts are considered to be less than significant and no mitigation is necessary.

Cumulative. Cumulatively, the General Plan Amendments would not have a significant impact relating to the creation of inadequate access. All cumulative projects would be required to implement standard measures to ensure adequate access. No significant cumulative impact would result.

Roadway/Bridge Rights-of-Way

The designation of roadway and bridge rights-of-way would not result in the development of any structures that would require emergency access. As no physical activity would take place, emergency access would not be inadequate because there would be no change to the baseline condition. Impacts are considered to be less than significant and no mitigation is necessary. Subsequent project-specific impact analysis and design-level construction drawings for these roadways will be prepared at a later date, at which time analysis of emergency access would be addressed.

Cumulative. Cumulatively, the roadway and bridge rights-of-way would not have a significant impact relating to the creation of inadequate access. All cumulative projects would be required to implement standard measures to ensure adequate access. To the extent the ~~dedication~~ designation of rights-of-way for expanded roadways implies their eventual construction, the expansion of such roadways, and the improvements to the Greenspot Road Bridge, would only have a beneficial impact on emergency access routes, by improving regional circulation. No significant cumulative impact would result.

Recreational Trail Rights-of-Way

The designation of recreational trail rights-of-way would not result in the development of any structures that would require emergency access. The use of recreational trails is not anticipated to generate the levels of traffic or crowds that would create any impact to emergency access. Impacts are considered to be less than significant and no mitigation is necessary.

Cumulative. Cumulatively, the ~~dedication~~ designation of recreational trails would not have a significant impact relating to the creation of inadequate access. All cumulative projects would be required to implement standard measures to ensure adequate access. No significant cumulative impact would result.

Land Exchange Between the District and BLM

This land exchange would not result in the development of any structures that would require emergency access. As no physical activity would take place, emergency access would not be inadequate because there would be no change to the baseline condition. Impacts are considered to be less than significant and no mitigation is necessary.

Cumulative. Cumulatively, the land exchange between the BLM and the District would not have a significant impact relating to the creation of inadequate access. All cumulative projects would be required to implement standard measures to ensure adequate access. No significant cumulative impact would result.

Land Exchange Between the SBCFCD and Robertson's

This land exchange would not result in the development of any structures that would require emergency access. As no physical activity would take place, emergency access would not be inadequate because there would be no change to the baseline condition. Impacts are considered to be less than significant and no mitigation is necessary.

Cumulative. Cumulatively, the land exchange between the SBCFCD and Robertson's would not have a significant impact relating to the creation of inadequate access. All cumulative projects would be required to implement standard measures to ensure adequate access. No significant cumulative impact would result.

4.15.4.8 Parking Capacity

Threshold	Would the proposed project result in inadequate parking capacity?
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The Municipal Codes of the Cities of Highland and Redlands do not specify any parking requirements for the proposed land uses. It is assumed that parking capacity is not an issue associated with this land use. Due to the nature of the use, parking configurations may change on a daily basis. The current parking capacity at the Robertson's and Cemex facilities is considered more than adequate as the total area designated for mining activities is approximately 1,195 acres.

Water Conservation Operations/Maintenance Activities of the District

The operation and maintenance of District facilities does not include the need for long-term parking. Any parking that would occur with this activity would be short-term in nature and would not contribute to a parking deficiency. Furthermore, as previously identified, the Cities of Highland and Redlands do not specify any parking requirements for this use. Therefore, no impacts would occur and no mitigation is required.

Cumulative. Cumulatively, the operations and maintenance activities of the District would not have an impact relating to parking capacity. The water conservation activities would have no impact related to this issue and therefore they would not contribute to any cumulative impact.

Flood Control Operations/Maintenance Activities of the SBCFCD

The operation and maintenance of SBCFCD facilities does not include the need for long-term parking. Any parking that would occur with this activity would be short-term in nature and would not contribute to a parking deficiency. Furthermore, as previously identified, the Cities of Highland and Redlands do not specify any parking requirements for this use. Therefore, no impacts associated with this issue would occur and no mitigation is required.

Cumulative. Cumulatively, the operations and maintenance activities of the SBCFCD would not have an impact relating to parking capacity. The flood control activities would have no impact related to this issue and therefore would not contribute to any cumulative impact.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

The operation and maintenance of EVWD and RMUD facilities do not include the need for long-term parking. Any parking that would occur with this activity would be short-term in nature and would not contribute to a parking deficiency. Furthermore, as previously identified, the Cities of Highland and Redlands do not specify any parking requirements for this use. Therefore, no impacts would occur and no mitigation is required.

Cumulative. Cumulatively, the operations and maintenance activities of the EVWD and RMUD would not have an impact relating to parking capacity. The water production activities would have no impact related to this issue and therefore would not contribute to any cumulative impact.

Aggregate Mining

It is anticipated that no additional employees would be added to Robertson's or Cemex's staff as a result of the expansion of mining activities. Under the assumption that parking is currently more than adequate, no additional parking would be necessary to accommodate employees. Therefore, impacts associated with parking capacity are less than significant and no mitigation is required.

Cumulative. Cumulatively, the aggregate mining activities would not have an impact relating to parking capacity. Mining activities are not located near other projects that would require significant amounts of parking and the required parking for aggregate mining is minimal. The cumulative impact of mining activities would have on parking capacity would be less than significant.

Adoption of General Plan Amendments

The adoption of General Plan Amendments would not result in the development of any uses that would require parking accommodations. No impact is associated with this activity related to parking capacity and no mitigation is required.

Cumulative. Cumulatively, the adoption of General Plan Amendments would not have an impact relating to parking capacity. The General Plan Amendments would have no impact related to this issue and therefore would not contribute to any cumulative impact.

Roadway/Bridge Rights-of-Way

The ~~dedication~~ designation of rights-of-way for subsequent improvements to Greenspot Road and the Greenspot Road Bridge, Alabama Street, and Orange Street-Boulder Avenue would not result in the need for parking. No impacts would occur and no mitigation is required.

Cumulative. Cumulatively, the ~~dedication~~ designation of bridge and roadway rights-of-way would not have an impact relating to parking capacity. The rights-of-way would have no impact related to this issue and therefore they would not contribute to any cumulative impact.

Recreational Trail Rights-of-Way

The ~~dedication~~ designation of rights-of-way for recreational trails is not anticipated to result in the need for additional parking. The trails will be connected to existing roadway rights-of-way and other existing recreational areas that will serve as the type of trail head facilities, or parking access points, that should serve the limited parking demands of this type of use. Therefore, no impacts would occur and no mitigation is required.

Cumulative. Cumulatively, the ~~dedication~~ designation of recreational trail rights-of-way would not have an impact relating to parking capacity. Parking demand for trail uses is anticipated to be limited, and not regionally significant. The trails would have no cumulative impact.

Land Exchange Between the District and BLM

The land exchange would not result in the need for parking; therefore, no impacts associated with this activity would occur and no mitigation is required.

Cumulative. Cumulatively, the land exchange between the District and the BLM would not have an impact relating to parking capacity. The land exchange would have no impact related to this issue and therefore it would not contribute to any cumulative impact.

Land Exchange Between the SBCFCD and Robertson's

The land exchange would not result in the need for parking; therefore, no impacts associated with this activity would occur and no mitigation is required

Cumulative. Cumulatively, the land exchange between the SBCFCD and Robertson's would not have an impact relating to parking capacity. The land exchange would have no impact related to this issue and therefore it would not contribute to any cumulative impact.

4.15.4.9 Alternative Transportation Policies, Plans and Programs

Threshold	Would the proposed project conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?
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Water Conservation Operations/Maintenance Activities of the District

Alternative transportation policies, plans, and programs would not apply to this activity as it is impractical to utilize alternative transportation for the District's operation and maintenance activities within the Planning Area. Therefore, no impacts associated with this activity would occur and no mitigation is required.

Cumulative. Cumulatively, the operations and maintenance activities of the District would not have an impact relating to alternative transportation policies, plans, and programs. The water conservation

activities would have no impact related to this issue and therefore would not contribute to any cumulative impact.

Flood Control Operations/Maintenance Activities of the SBCFCD

Alternative transportation policies, plans, and programs would not apply to this activity as it is impractical to utilize alternative transportation for SBCFCD operation and maintenance activities within the Planning Area. Therefore, no impacts associated with this activity would occur and no mitigation is required.

Cumulative. Cumulatively, the operations and maintenance activities of the SBCFCD would not have an impact relating to alternative transportation policies, plans, and programs. The flood control activities would have no impact related to this issue and therefore would not contribute to any cumulative impact.

Water Production Operations/Maintenance Activities of EVWD and RMUD

Alternative transportation policies, plans, and programs would not apply to this activity as it is impractical to utilize alternative transportation for EVWD and RMUD operation and maintenance activities within the Planning Area. Therefore, no impacts associated with this activity would occur and no mitigation is required.

Cumulative. Cumulatively, the water production activities of the EVWD and the RMUD would not have an impact relating to alternative transportation policies, plans, and programs. The activities would have no impact related to this issue and therefore would not contribute to any cumulative impact.

Aggregate Mining

The design of the proposed project would be required to adhere to applicable City of Highland and City of Redlands standards that support and/or facilitate alternative means of transportation. Through both Cities' project review process, policies, plans, and/or programs supporting alternative transportation will be reviewed and incorporated as applicable. Policies related to bicycle use within mining areas would not apply as bicycle travel within mining operations is unsafe and impractical. As the proposed project is required to adhere to alternative transportation requirements prior to approval, impacts associated with alternative transportation are less than significant and no mitigation is required.

Cumulative. Cumulatively, the aggregate mining operations in combination with other projects in the area would not create or contribute to new or increased impacts related to alternative transportation policies, plans, and programs over and above the impacts discussed in this section. All cumulative projects in the area would be required to comply with the same alternative transportation requirements, which would reduce cumulative impacts to a level that is less than significant.

Adoption of General Plan Amendments

The General Plan Amendments under the Wash Plan are for trails and land use designations within the Cities of Highland and Redlands. For trails, the General Plan Amendment for the City of Redlands would realign an existing trail on Church Street to Orange Street-Boulder Avenue resulting in a cohesive trail system in the Planning Area that would be consistent with the City of Highland. The General Plans of the Cities of Highland and Redlands promote the use of alternative transportation and therefore, there would be no impact and no mitigation is required. General Plan Amendments in the City of Highland for the land exchanges would result in increased habitat conservation area and Santa Ana River Woollystar Preserve Area. As these areas are not accessible to the public and would

be left in their natural state, there is no relation to alternative transportation plans, policies, or programs. Therefore, no impact associated with this activity would occur and no mitigation is required.

Cumulative. Cumulatively, the adoption of General Plan Amendments in combination with other projects in the area would not create or contribute to new or increased impacts related to alternative transportation policies, plans, and programs over and above the impacts discussed in this section. As the General Plan Amendments would have no impact in relation to this issue, they would not contribute to any cumulative impact.

Roadway/Bridge Rights-of-Way

The proposed project would include the setting aside of rights-of-way for Alabama Street for the portion that is located in the City of Redlands. The Orange Street-Boulder Avenue rights-of-way would be established within both cities. Rights-of-way within the City of Highland for the Greenspot Road realignment and bridge are also being established as a separate action by the City. The setting aside of rights-of-way would lead to future construction to expand the roadways. The construction of the roadways would be individual projects and analyses would be conducted to determine feasibility of installing bus turnouts to promote alternative transportation, if warranted, for each project. A less than significant impact associated with alternative transportation is anticipated for this activity.

Cumulative. Cumulatively, the designation of bridge and roadway rights-of-way in combination with other projects in the area would not create or contribute to new or increased impacts related to alternative transportation policies, plans, and programs over and above the impacts discussed in this section. Cumulative projects would be required to implement similar alternative transportation project features, where applicable, to reduce impacts to a less than significant level.

Recreational Trail Rights-of-Way

As previously indicated, all trails would be located on existing streets, service roads, or an old railroad bed. The ~~dedication~~ designation of recreational trail rights-of-way does not conflict with alternative transportation policies, plans, and programs; rather it promotes the use of non-motorized transportation. Therefore, no impacts associated with this activity would occur and no mitigation is required.

Cumulative. Cumulatively, the ~~dedication~~ designation of recreational trail rights-of-way would not have an impact relating to alternative transportation policies, plans, and programs. The rights-of-way would have no impact related to this issue and therefore would not contribute to any cumulative impact.

Land Exchange Between the District and BLM

This land exchange will result in land owned by the District to remain habitat conservation after the exchange; whereas, the land owned by BLM will be used for aggregate mining after the exchange. The habitat conservation land would not generate any alternative transportation requirements, and the eventual mining land as been addressed under the aggregate mining section above. Therefore, no impacts associated with the land exchange would occur and no mitigation is required.

Cumulative. Cumulatively, the land exchange between the District and the BLM would not have an impact relating to alternative transportation policies, plans, and programs. The land exchange would have no impact related to this issue and therefore would not contribute to any cumulative impact.

Land Exchange Between the SBCFCD and Robertson's

This land exchange will result in land owned by the Robertson's to remain habitat conservation after the exchange; whereas, the land owned by the SBCFCD will be used for aggregate mining after the exchange. The habitat conservation land would not generate any alternative transportation requirements, and the eventual mining land as been addressed in the Aggregate Mining section above. Therefore, no impacts associated with the land exchange would occur and no mitigation is required.

Cumulative. Cumulatively, the land exchange between the SBCFCD and Robertson's would not have an impact relating to alternative transportation policies, plans, and programs. The land exchange would have no impact related to this issue and therefore would not contribute to any cumulative impact.

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4.16 UTILITIES AND SERVICE SYSTEMS

This section identifies the existing and planned utilities and service system conditions for the Planning Area and the surrounding area, and evaluates the impacts to service and utility providers that could result from the implementation of the proposed project. This section is based in part on the following documents that are included by reference:

- *City of Highland General Plan Update*;
- *City of Redlands 1995 General Plan*;
- *San Bernardino County General Plan*; and
- *San Bernardino Valley Municipal Water District EIR Santa Ana River Water Right Applications for Supplemental Water Supply (March 21, 2007)*

The information cited in Section 4.16 represents a summary of more exhaustive data contained in the aforementioned documents, which are hereby incorporated by reference.

4.16.1 Existing Setting

Existing Utility Systems

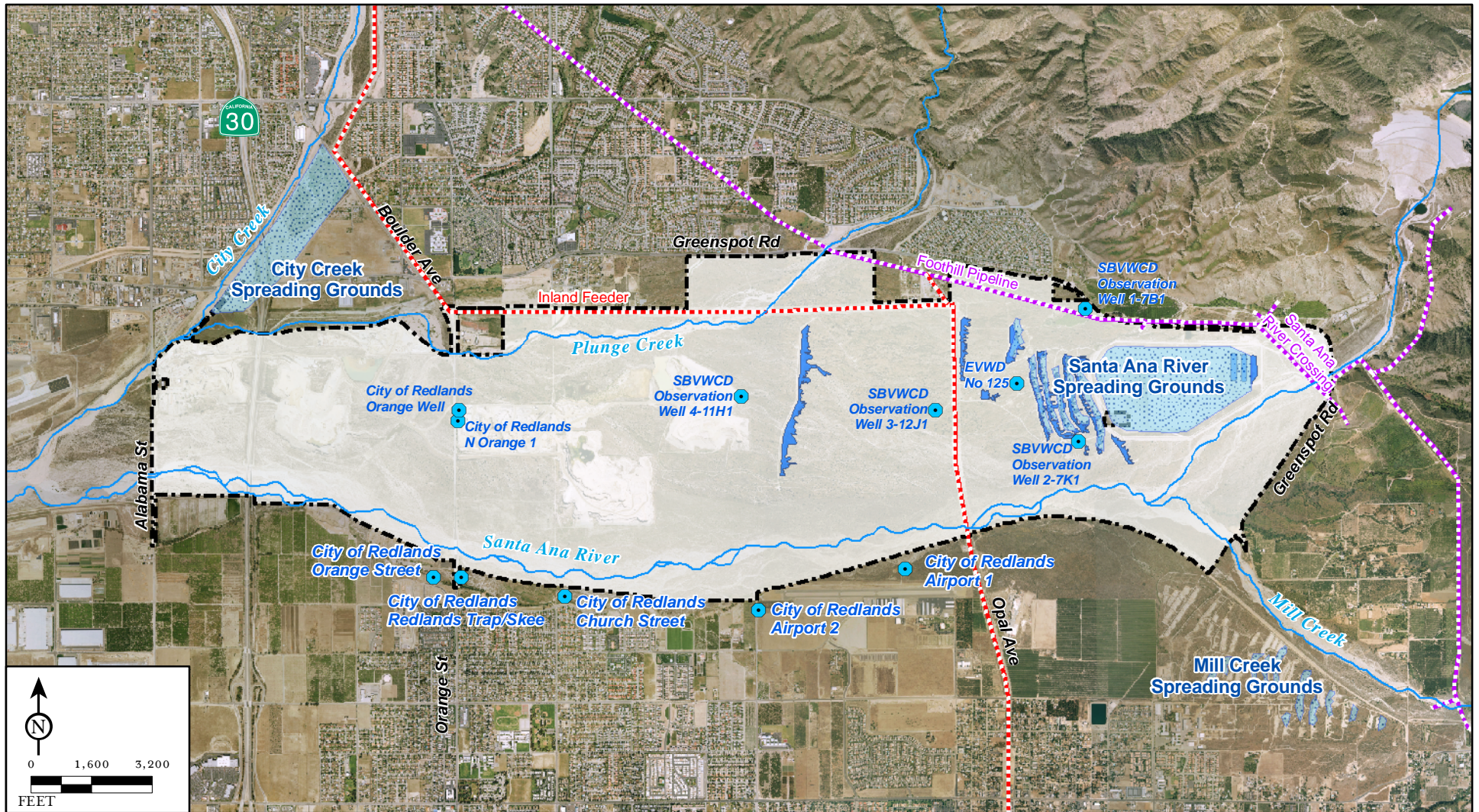
The Planning Area is approximately 4,467 acres and is currently used for water conservation, flood control, habitat conservation, and aggregate mining. Several utility infrastructure features and easements are also located within the Planning Area. These include the following:

- Metropolitan Water District of Southern California's (Metropolitan) Inland Feeder Pipeline;
- San Bernardino Valley Municipal Water District's (Valley District) Foothill Pump Station, Foothill/Santa Ana River Crossing (SARC) Pipeline, and water wells;
- California Department of Water Resources' (DWR) Greenspot Pump Station and associated facilities;
- Southern California Edison (SCE) energy transmission lines;
- East Valley Water District (EVWD) water lines, sewer lines, water wells with booster pump stations; and
- Southern California Gas (SCG) transmission lines.

Metropolitan Inland Feeder Pipeline. The Metropolitan Inland Feeder Pipeline is an underground 145.5-inch diameter steel pipe that connects two major aqueduct systems, the California Aqueduct and the Colorado River Aqueduct, that provide storage and deliver imported water supplies to southern California. As illustrated in Figure 4.16.1, the pipeline enters the Planning Area near the Plunge Creek Channel and crosses the Planning Area in a west-to-east direction along Pole Line Road to Cone Camp Road. At Cone Camp Road, the pipeline turns south, crossing the Planning Area in a north-to-south direction before exiting at Opal Avenue. Metropolitan maintains a permanent easement ranging from 125 feet to 250 feet in width for pipeline maintenance.








Valley District's Foothill Pump Station, Foothill/SARC Pipeline, and Water Wells. The Valley District Foothill/SARC Pipeline is a 78-inch internal-diameter steel pipeline used to convey water to the Metropolitan Inland Feeder Pipeline and the California DWR's Greenspot Pump Station. As illustrated Figure 4.16.1, the Foothill Pipeline enters the Planning Area near Cone Camp Road and travels east and southeast to the DWR Greenspot Pump Station as well as the Foothill Booster Pump Station, which is located on Cone Camp Road. Additionally, Valley District owns four water wells within the Planning Area.

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FIGURE 4.16.1

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|---|--|
|  PLAN BOUNDARY |  FACILITY |
|  SELECTED WELLS |  METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA |
|  SPREADING GROUNDS |  SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT |
|  EXISTING WATER CONSERVATION BASINS | |

Upper Santa Ana River Wash
Land Management Plan
Environmental Impact Report

SOURCE: AirPhotoUSA (2006), San Benardino Valley Water Conservation District (2007).

R:\SBW330\gis\Admin_Draft_EIR\Sect4_EnvironImpact\fig4-16-1-RawWaterDeliveries.mxd (07/29/08)

Existing Water Supply Infrastructure

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California DWR's Greenspot Pump Station and Associated Facilities. The California DWR owns and operates facilities that are located both within and adjacent to the Planning Area. These facilities include the Greenspot Pump Station and the Morton Canyon Valve Facility. The Greenspot Pump Station (which includes a surge line and control building) is located on the eastern border of the Planning Area, just south of the Greenspot Bridge. The Morton Canyon Valve Facility is located east and north of the Greenspot Pump Station.

SCE Energy Transmission Lines. Within the Planning Area, SCE maintains energy transmission lines to serve mining, water conservation, water distribution, and community power needs. Main service lines and easements within the Planning Area run parallel along Alabama Street, Orange Street-Boulder Avenue, Greenspot Road, Pole Line Road, and follow the unconstructed alignment of Church Street from the City of Redlands through the Planning Area to the City of Highland.

EVWD Water and Sewer Infrastructure. The EVWD owns, operates, and maintains the water and sewer distribution and collection systems within the Planning Area. The EVWD's water distribution system includes water wells for monitoring and production, booster pump stations (water plants), water storage tanks, and water transmission pipelines. Water transmission pipelines belonging to the EVWD are located within the rights-of-way of most public streets in the Planning Area. The underground water transmission pipeline system consists of ductile iron and concrete pipes ranging in size from 6 inches to 24 inches in diameter that are typically buried 3 to 15 feet below the finished surface of the road. A water transmission line currently runs parallel to the old Cone Camp roadway from Greenspot Road and connects to a pumping well (Well No. 125) within the Conservation District's Spreading Ground in the east central section of the Planning Area.

In addition to water distribution, the EVWD also has a wastewater collection system that traverses the Planning Area. The wastewater collection system consists of vitrified clay and polyvinyl chloride (PVC) pipes ranging from 6 inches to 24 inches in diameter that are located within the rights-of-way of Alabama Street, Orange Avenue, and Greenspot Road portions within the Planning Area. Wastewater collected in these EVWD pipes is transported to the City of San Bernardino's sewage collection facilities prior to treatment at the San Bernardino Wastewater Reclamation Plant.

Southern California Gas Company. SCG provides natural gas service within the Planning Area. SCG owns, operates, and maintains underground gas transmission pipelines located within the rights-of-way of most public streets of the Planning Area. The natural gas transmission infrastructure includes 2-inch, 4-inch and 6-inch gas mains that are buried typically 3 feet to 5 feet below the finished surfaces of the public roadways.

Future Utility Infrastructure. In addition to these existing infrastructure features, two additional utility features, though not a part of the Wash Plan, have been identified as utility features that would likely be constructed within the Planning Area.

- **California DWR's East Branch Extension Phase II.** The East Branch Extension project is a joint effort between Valley District, the San Geronio Pass Water Agency (SGPWA), and the California DWR. It includes the design and construction of a 33-mile pipeline that would link parts of Valley District's eastern service area with the western portions of the SGPWA area to the California Aqueduct. East Branch Extension Phase II is the last phase that is currently in the planning stage. It is anticipated to be built within the next 5 to 10 years and is proposed to be located adjacent to the existing Metropolitan Inland Feeder Pipeline.
- **Valley District's Plunge Pool Pipeline.** The other pipeline anticipated to cross the Planning Area is the Plunge Pool Pipeline. The 15-foot diameter pipe extending 3.3 miles would be designed and constructed by Valley District and constructed in three phases. Phase 1 would

extend 4,000 feet from the existing Foothill Pipeline to the Santa Ana River channel just west of the existing Cuttle Weir to connect to the existing Foothill Pipeline and SARC Pipeline. Phase II would extend 2 miles from where Phase I ends to the Foothill Pipeline/Inland Feeder Pipeline near Cone Camp Road. Phase III would extend 2,980 feet from Plunge Pool to the west bank of the Santa Ana River and would connect to Phase I and II of the Plunge Pool Pipeline.

Although both pipelines would cross the Planning Area, these utility features are not part of the proposed project and would be analyzed in separate future environmental documents. Therefore, the construction of Extension Phase II Pipeline and Plunge Pool Pipeline are not analyzed in this environmental document.

Existing Wastewater Systems

Existing uses in the Planning Area include water conservation, flood control, habitat conservation, and aggregate mining activities. Of these activities, the existing mining activities would generate wastewater that would need to be treated before being released. Current wastewater treatment within the Planning Area consists of on-site septic tanks, leach fields, and portable toilets in the mining areas. There are seven septic tanks that are used within the Cemex operations. Of these seven, two septic tanks are located at the Orange Street Plant. The remaining five septic tanks are located at the Alabama Street Plant. Robertson's operations currently use two septic systems. One septic system is located at the batch plant, and one is located at the processing plant. Disposal of waste collected in mining areas is contracted to a licensed septic plumber who transports it to a waste acceptance facility.

Existing Stormwater Systems

Stormwater systems within the Planning Area are limited to stormwater infrastructure within existing roadways, such as Alabama Street, Orange Street-Boulder Avenue, and Greenspot Road. The Cities of Highland and Redlands are responsible for the general maintenance and repair of streets and storm drains within their respective city boundaries. The Capital Improvement Programs for the respective cities provide for the design, administration, and construction of capital improvements, such as street widening and reconstruction, traffic signals, storm drains, and other public facilities. The maintenance and upgrade of this existing stormwater infrastructure is provided by the Cities of Highland and Redlands on an as-needed basis.

Existing Water Supply

Water Production. Existing water production within the Planning Area includes water for existing mining operations. Both Cemex and Robertson's operations maintain water wells on site to provide their respective water needs. As summarized in Table 4.16.A, Cemex currently uses two wells within the Planning Area. One well is located at the Orange Street aggregate plant site and the other is at the Alabama Street ready-mix plant. Based on Cemex estimates, the Orange Street and Alabama Street wells produce approximately 2,030 and 190 acre-feet of water per year, respectively. Robertson's currently uses two wells within the Planning Area. One well is located north of the East Basin processing plant and the other is located at the existing batch plant. The East Basin processing plant well produces 350 acre-feet of water per year while the batch plant well produces approximately 15 acre-feet per year.

Table 4.16.A – Existing Well Production

Well	Amount of Water Produced (acre-feet per year)	
	Cemex	Robertson's
Orange Street Well	2,030	—
Alabama Street Well	190	—

Table 4.16.A – Existing Well Production

Well	Amount of Water Produced (acre-feet per year)	
	Cemex	Robertson's
East Basin Processing Plant Well	—	350
Batch Plant Well	—	15

Source: Cemex e-mail communication from Christine Jones, Environmental Manager, dated January 11, 2007; Robertson's e-mail communication from Craig Phillips, Project Engineer, dated January 16, 2007.

As illustrated in Figure 4.16.2, the Planning Area is served by two water purveyors. The EVWD currently provides domestic water service and sewer collection within the City of Highland and unincorporated areas of the County of San Bernardino. The City of Redlands Municipal Utilities Department (RMUD) currently provides water service within the City of Redlands.

EVWD. EVWD receives supplemental water supplies from the Valley District. As indicated in Table 4.16.B, the EVWD currently has a service area of 30 square miles with an estimated service population of 70,319.¹

Table 4.16.B – East Valley Water District Characteristics

Factor	Description
Population Served	The population served is approximately 70,319 people
Service Area	The service boundaries encompass approximately 30 square miles

Source: East Valley Water District 2005 Urban Water Management Plan, December 5, 2005.

Water sources for the EVWD include groundwater sources, surface sources, and imported water. Approximately 83 percent of its water supply is from 19 groundwater wells that are currently active and located generally at lower elevations within the EVWD's service area. The total rated capacity of these 19 wells is 38.74 millions gallons per day (mgd) or 43,395 acre-feet per year. Of the remaining 17 percent, 8.5 percent of the EVWD's water supply is imported California State Project Water obtained from Valley District, and 8.5 percent is surface water from the Santa Ana River diverted by the District for the EVWD.

In December of 2005, the EVMD adopted its *2005 Urban Water Management Plan (UWMP)*, which details the reliability of the EVWD's current and future water supply. The document finds that with all of its existing and planned supplies, the EVWD can meet 100 percent of projected supplemental demand through 2025, even through a severe drought. In addition, the UWMP addresses conservation, local supplies, and reliability of imported supplies. Table 4.16.C identifies the EVWD's past, current, and projected water supplies.

Table 4.16.C – East Valley Water District Current and Projected Water Supplies (acre-feet/year)

Water Source	2005	2010	2015	2020	2025
Imported State Project Water ¹	4,481	8,961	8,961	8,961	8,961
Native Groundwater	43,395	49,041	49,041	49,041	49,041
Surface Water (potable) ²	4,481	4,481	7,841	7,841	7,841
Total	52,357	62,483	65,843	65,843	65,843

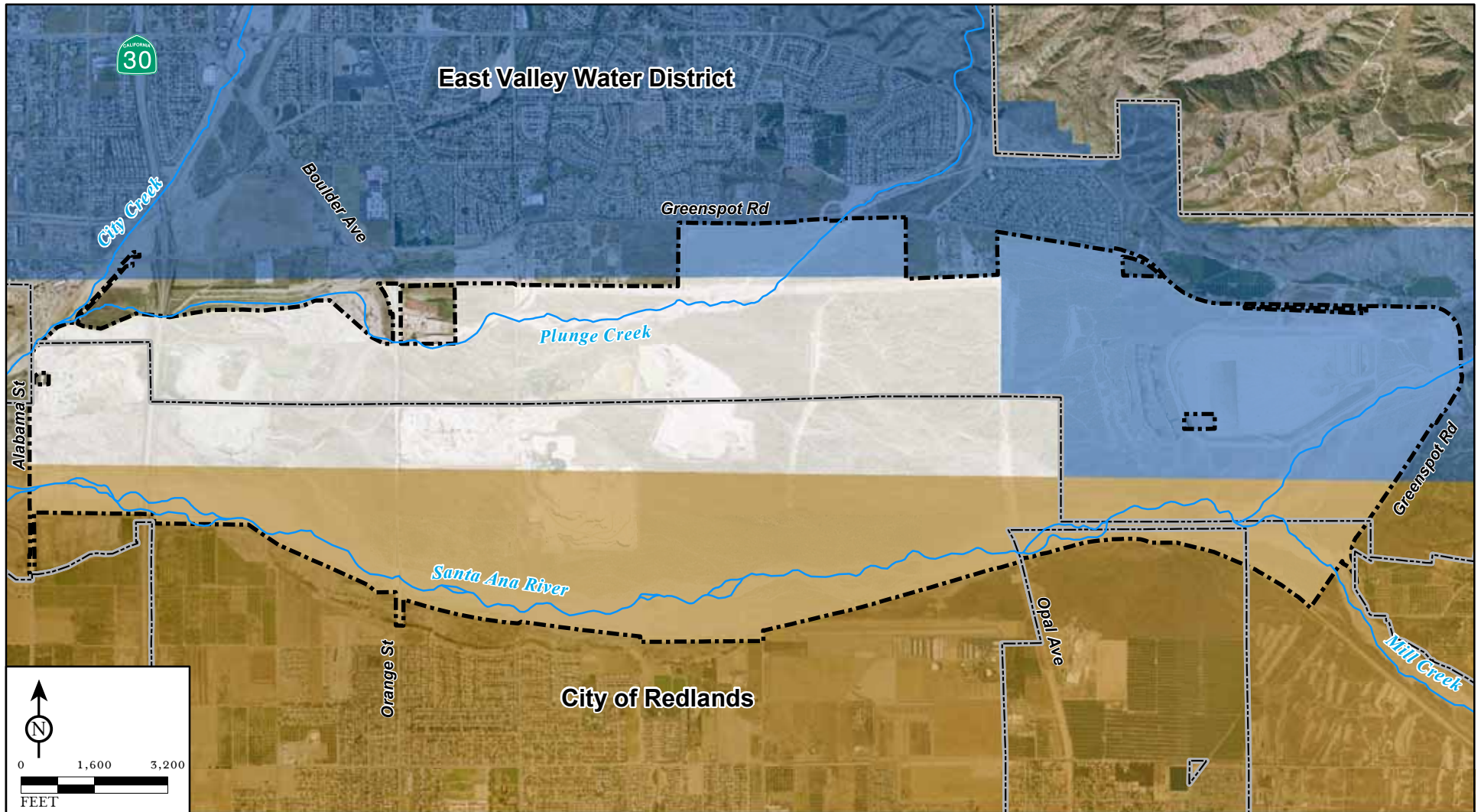
¹ Assuming increased purchases for water treatment plant.

² Water rights to Santa Ana River.

Source: East Valley Water District 2005 Urban Water Management Plan, December 5, 2005.





¹ Section 2.2: History, Service Area, and Demographics, East Valley Water District 2005 Urban Water Management Plan, East Valley Water District, December 5, 2005.

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FIGURE 4.16.2

-  PLAN BOUNDARY
-  JURISDICTIONAL BOUNDARY
-  EAST VALLEY WATER DISTRICT
-  REDLANDS MUNICIPAL UTILITY DEPARTMENT

*Upper Santa Ana River Wash
Land Management Plan
Environmental Impact Report*

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RMUD. Water service to the City of Redlands is provided by the RMUD. As summarized in Table 4.16.D, RMUD's service area encompasses 46 square miles with 36 square miles within the City of Redlands and the remaining 10 square miles encompassing surrounding unincorporated areas of San Bernardino County.¹ The RMUD maintains approximately 20,600 service connections, serves a population of approximately 79,000, and obtains water from a variety of sources, including the following:

- Surface water from the Mill Creek and the Santa Ana River;
- Groundwater from wells in Redlands, Mentone, Yucaipa, and Calimesa;
- Imported water from the California State Water Project; and
- Recycled water.

Table 4.16.D – RMUD Department Characteristics

Factor	Description
Population Served	The population served is approximately 79,000 people
Service Area	The service boundaries encompass approximately 46 square miles

Source: City of Redlands 2005 Urban Water Management Plan, November 2005.

Approximately 50 percent of the City of Redlands' water supply originates from local groundwater sources and 42 percent originates from local surface water. The remaining 8 percent is imported water from the State Water Project. In December 2005, the City of Redlands adopted its *2005 Urban Water Management Plan*, which details the reliability of the City of Redlands' current and future water supply. Additionally, the UWMP addresses conservation, local supplies, and reliability of imported supplies. Table 4.16.E identifies the City of Redlands' current and projected water supplies.

Table 4.16.E – RMUD Current and Projected Water Supplies (acre-feet/year)

Water Source	2005	2010	2015	2020	2025
Potable Sources					
Local Groundwater ¹	38,000	46,000	46,000	46,000	46,000
Local Surface Water ²	32,000	32,000	39,000	39,000	39,000
State Project Water	5,000	5,000	5,000	5,000	5,000
Non-Potable Sources					
Local Groundwater	4,500	6,000	8,000	10,000	10,000
Recycled Water	7,000	4,500	8,000	8,500	8,500
Total	86,500	96,500	106,000	108,500	108,500

¹ Potable groundwater is based on current pumping capacity of 34 million gallons per day for the year 2005.

² Potable surface water is based on current treatment capacity.

Source: City of Redlands 2005 Urban Water Management Plan, November 2005.

Existing Solid Waste Systems

Solid waste generated within the Planning Area that falls within the City of Highland is anticipated to be transported to the San Timoteo Sanitary Landfill. Solid waste disposal and recycling services for the areas within the Planning Area that are within the City of Redlands' jurisdiction are anticipated to be transported to the California Street Landfill.

Both the San Timoteo Sanitary Landfill and the California Street Landfill are classified as Class III landfills.² Class III landfills are required to be located where adequate separation can be provided

¹ City of Redlands 2005 Urban Water Management Plan, prepared by CH2MHill, November 2005.

² California Regional Water Quality Control Board Santa Ana Region, <http://www.swrcb.ca.gov/rwqcb8/pdf/02-92.pdf>, web site accessed August 28, 2007.

between non-hazardous solid waste and surface and subsurface waters. This class of landfill is not permitted to accept hazardous waste. Waste types accepted at the San Timoteo Landfill include agricultural, construction/demolition, industrial, mixed municipal, and bio-solids.¹ Waste types accepted at the California Street Landfill include construction/demolition, mixed municipal, and bio-solids.²

Based on the California Integrated Waste Management Board's (CIWMB) Solid Waste Information System (SWIS) database, the San Timoteo Landfill has a permitted capacity of 20.4 million cubic yards with a remaining capacity of 9.5 million cubic yards.³ The tonnage of any mass of solid waste is dependent on (1) the material (e.g., metals, paper, green waste) and (2) its density (compacted or uncompacted). Utilizing conversion factors from various jurisdictions, one cubic yard of compacted municipal solid waste typically weighs 995 pounds (0.50 ton).⁴ Based on this conversion factor, remaining space at the San Timoteo Landfill totals approximately 4.75 million tons. The daily permitted throughput of this facility is 1,000 tons/day and currently accepts approximately 690 tons/day.⁵ The estimated closure date of the San Timoteo Landfill is May 2016. The California Street Landfill has a permitted capacity of 10.0 million cubic yards with a remaining capacity of 6.8 million cubic yards. Remaining space at the California Street Landfill totals approximately 3.4 million tons. The daily permitted throughput of this facility is 829 tons/day and currently accepts approximately 300 tons/day.⁶ The estimated closure date of the California Street Landfill is January 2031.

4.16.2 Policies and Regulations

Local policies and regulations are those goals and policies that are contained in the following General Plans:

- *City of Highland General Plan Update*,⁷ and
- *City of Redlands 1995 General Plan*.⁸

The following paragraphs identify the applicable goals and policies for utilities and address how the proposed project is consistent with these goals and policies. Many entities affected by changes in utilities and service systems within the Wash Plan are directly involved with the proposed project. These include the City of Highland and the City of Redlands, along with:

- San Bernardino Valley Water Conservation District
- U.S. Department of Interior, Bureau of Land Management
- Cemex Construction Materials, LP
- Robertson's Ready Mix, Ltd.
- San Bernardino County Flood Control District
- East Valley Water District
- Redlands Municipal Utilities Department
- County of San Bernardino

¹ Active Landfills Profile for San Timoteo Sanitary Landfill (36-AA-0087), California Integrated Waste Management Board, <http://www.ciwmb.ca.gov/Profiles/Facility/Landfill/LFProfile2.asp?COID=36&FACID=36-AA-0087>, web site accessed August 28, 2007.

² Active Landfills Profile for California Street Landfill (36-AA-0017), California Integrated Waste Management Board, <http://www.ciwmb.ca.gov/Profiles/Facility/Landfill/LFProfile2.asp?COID=36&FACID=36-AA-0017>, web site accessed August 28, 2007.

³ Integrated Waste Management Board website, <http://www.ciwmb.ca.gov/SWIS/detail.asp?PG=DET&SITESCH=36-AA-0087&OUT=HTML>, web site accessed August 28, 2007.

⁴ <http://www.recyclemaniacs.org/doc/measurement-tracking/CURC-profile-input-form-with-conversion-guide.xls>, web site accessed January 8, 2007.

⁵ Tracey Anthony, San Bernardino County Solid Waste Management, e-mail communication dated January 18, 2007.

⁶ Gary VanDorst, City of Redlands Solid Waste Manager, e-mail communication dated January 8, 2007.

⁷ *City of Highland General Plan Update*, City of Highland, updated March 14, 2006.

⁸ *City of Redlands 1995 General Plan*, City of Redlands, as amended on December 12, 1997.

City of Highland General Plan Policies

The following policies within the City of Highland General Plan apply to the management of utilities and service systems. Their main intentions follow the goals and objectives of the proposed project.

Public Services and Facilities Element:

- Goal 4.2** Provide a water system that produces high quality water, sufficient water pressure and necessary quantities of water to meet domestic demands.
- Policy 1** Continue to work with the East Valley Water District to provide an efficient and economic distribution of adequate water supply and pressure to the District's service areas in Highland.
- Policy 2** Ensure a high quality water supply that meets or exceeds State and Federal standards.
- Policy 3** Work with the East Valley Water District and local elected representatives to better define the future availability of water for the Highland community.
- Goal 4.3** Provide a safe and effective sewer system that meets the needs of Highland residents, businesses, and visitors.
- Policy 1** Continue an ongoing dialogue with the East Valley Water District regarding funding and scheduling of any additional sewage facilities needed to serve the City.
- Policy 2** Work with relevant agencies to determine the long-term supply of reclaimed wastewater and service to potential future uses within the City.
- Goal 4.5** Minimize, recycle, and dispose of solid waste in an efficient and environmentally sound manner.
- Policy 1** Ensure that solid waste generated within the City is collected and transported in a cost-effective manner and protects the public's health and safety.

City of Redlands General Plan Policies

The following policies within the City of Redlands General Plan apply to the management of utilities and service systems.

Open Space and Conservation Element

- Policy 7.22a** Minimize dependence on imported water by increasing entitlement in local surface sources, using wise groundwater management practices, conservation measures, and the use of reclaimed wastewater and non-potable water for irrigation of landscaping and agriculture, where feasible.
- Policy 7.22b** The City of Redlands overlies a portion of the Bunker Hill Groundwater Basin. This Basin contains in excess of 3 million acre-feet of water. This local supply source must be cleaned up, used to its full potential, and protected from outside interests. This requires the cooperation of all agencies within the Basin.
- Policy 7.22c** The City of Redlands recognizes that the water sources that constitute the water supply of the City of Redlands are a limited and renewable resource subject to increasing demands; that the conservation and efficient use of urban water supplies are of statewide concern; but that planning for that use and the implementation of those plans can best be accomplished at the local level.
- Policy 7.22d** The City of Redlands believes it is in the best interests of its citizens to conserve the highest quality of water reasonably available to it for domestic use. Effort by its water users to achieve water conservation and efficient use of water will produce a sustainable lifestyle consistent with Redlands' unique heritage and community goals.

- Policy 7.22f** If the City's updated Water Master Plan shows water supply to be inadequate, increase supply and reduce demand or curtail development until adequate supplies are secured.
- Policy 7.22g** Work with the Bear Valley Mutual Water Company, San Bernardino Valley Municipal Water District, and Western Heights Water Company to implement water conservation measures as specified in Redlands' Water Conservation Plan, Ordinance No. 2151.
- Policy 7.22h** Coordinate with the Western Heights Water Company, East Valley Resource Conservation District, and SBVMWD to educate the public and encourage participation in voluntary water conservation measures.
- Policy 7.24a** Reduce the generation of solid waste, including household hazardous waste, and recycle those materials which are used, to slow the filling of local and regional landfills.
- Policy 7.24b** Implement measures specified in the Source Reduction and Recycling Element and the Household Hazardous Waste Element.

State Regulations

The following State regulations apply to water and solid waste management:

- Urban Water Management Planning Act;
- Senate Bill 901—Water Supply and Demand Reliability Assessment;
- Senate Bill 610—Water Supply Planning;
- AB 939—California Integrated Waste Management Act; and
- AB 1327—California Solid Waste Reuse and Recycling Access Act of 1991.

Urban Water Management Planning Act. Since 1984, the Urban Water Management Planning Act has required urban water suppliers to develop written urban water management plans. While generally aimed at encouraging water suppliers to implement water conservation measures, the Act also created long-term planning obligations. In preparing urban water management plans, urban water suppliers must describe the following:

- Existing and planned water supply and demand;
- Water conservation measures and a schedule for implementing and evaluating such measures; and
- Water shortage contingency measures.

The Urban Water Management Planning Act requires urban water suppliers to use a 20-year planning horizon and to update the data in the urban water plans every 5 years. In preparing their 20-year management plans, water suppliers must directly address the subject of future population growth. The suppliers must also identify sources of supply to meet demand. The plan must "identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier." In identifying these future water sources, though, the suppliers need not conduct environmental review. Urban water management plans are exempt from CEQA, and thus do not generate any Environmental Impact Reports (EIRs) for future land use or water planning.

Senate Bill 901—Water Supply and Demand Reliability Assessment. Signed into law on October 16, 1995, Senate Bill (SB) 901 required every urban water supplier to identify as part of its urban

water management plan, the existing and planned sources of water available to the supplier over a prescribed five-year period. SB 901 required additional information to be included as part of an urban water management plan if groundwater is identified as a source of water available to the supplier. Provisions of SB 901 require an urban water supplier to include in the plan a description of all water supply projects and programs that may be undertaken to meet total project water use.

A city or county, at the time it submits a Notice of Preparation (NOP) for an EIR for a project, shall request each public water system serving a project to assess the projected water demand associated with said project and an assessment of whether the projected water demand associated with selected projects was included as part of the most recent Urban Water Management Plan. As part of this assessment, the public water system is required to indicate whether its total projected water supplies available during normal, single-dry, and multiple-dry water years would meet the demand associated with a proposed project, in addition to the public water system's existing and planned uses.

Compliance with the provisions of SB 901 is required if a project requires the adoption of a specific plan; or the amendment to, or revision of the land use element of a general plan or specific plan, that would result in a net increase in the stated population density of building intensity. Pursuant to Section 10913 of the State Water Code, a "project" is specifically defined as development meeting any of the following criteria:

- 500 or more dwelling units;
- Commercial center employing more than 1,000 persons or having more than 500,000 square feet;
- Office building employing more than 1,000 persons or having more than 250,000 square feet;
- A hotel/motel with 500 or more rooms;
- An industrial, manufacturing, processing plant, or industrial park employing more than 1,000 persons or occupying more than 40 acres, or having more than 650,000 square feet of floor area;
- A mixed-use project that would demand an amount of water equivalent of equal to the amount of water required by a 500-dwelling unit project; or
- In areas where the public water system has fewer than 5,000 service connections, any development that would increase water demand by 10 percent or greater in the number of existing service connections, or in the case of a mixed-use development, an increase in water required by residential development representing a 10 percent or greater in the number of existing service connections.

After receiving such information, cities and counties may agree or disagree with the conclusions of the water purveyors, but cannot approve projects in the face of documented water shortfalls without first making certain findings.

Senate Bill 610—Water Supply Planning. Signed into law October 9, 2001, Senate Bill 610 resulted in amendments to the Public Resources Code. Revising provisions established by SB 901, SB 610 requires that any city or county having determined that a project is subject to CEQA to identify any public water system that may supply water for the project and to request those public water systems to prepare a specified water supply assessment. Such an assessment would include, among other information, the identification of existing water entitlements, water rights, or water service contracts relevant to the water supply identified for a proposed project, and the amount of water received pursuant to such entitlements, rights, or contracts.

Senate Bill 610 requires the public water system, city, or county to submit plans for acquiring the required water supply for a proposed project if the water supply assessment concludes that water supplies are or would become insufficient. Any such water supply assessment and other information would be included in the environmental document prepared for the project pursuant to CEQA.

According to § 10912 of the State Water Code as amended (§ 10913 was repealed and added to § 10912), changes to the definition of a “project” were not made, except for the changes pertaining to the definition of a mixed-used project.

AB 939—California Integrated Waste Management Act. Signed into law in 1989, AB 939 established an integrated waste management system that focused on source reduction, recycling, composting, and land disposal of waste. In addition, it established a 50 percent waste reduction requirement for cities and counties by the year 2000, along with a process to ensure environmentally safe disposal of waste that could not be diverted. AB 939 required that each County prepare a new Integrated Waste Management Plan and a Source Reduction and Recycling Element (SRRE) prior to July 1, 1991. Jurisdictions select and implement the combination of waste prevention, reuse, recycling, and composting that best meets the needs of their residents while achieving the diversion requirements of the Act. Cities and counties also have the flexibility to work cooperatively toward the 50 percent goal by forming a regional agency. Pursuant to the provisions of the act, in the year 2000, waste-to-energy or biomass conversion may contribute 10 percent toward the goal, with the remaining 40 percent accomplished through source reduction, recycling, and composting. The statute also allows a time extension to meet these goals for cities and counties that experience adverse market or economic conditions.

AB 1327—California Solid Waste Reuse and Recycling Access Act of 1991. Signed into law in 1991, this bill added Chapter 18 to Part 3 of Division 30 of the Public Resources Code. Chapter 18 required the CIWMB to develop a model ordinance for adoption of recyclable materials in development projects. Local agencies were then required to adopt the model, or an ordinance of their own, to govern adequate areas for collection and loading of recyclable materials in development project by September 1, 1993. If a local agency had not adopted a model ordinance by that date, the CIWMB model would be adopted and enforced by the local agency.

Federal Regulations

The following Federal regulations and policies apply to the provision of utilities and service systems.

Federal Water Pollution Control Act. The major piece of federal legislation dealing with wastewater is the Federal Water Pollution Control Act, which is designed to restore and preserve the integrity of the nation’s waters. In addition to the Federal Water Pollution Control Act, other Federal environmental laws have a bearing on the location, type, planning, and funding of wastewater treatment facilities.

National Safe Drinking Water Act (SDWA). Passed in 1974, the U.S. Environmental Protection Agency (EPA) regulates contaminants of concern to domestic water supply. Contaminants of concern relevant to domestic water supply are defined as those that pose a public health threat or that alter the aesthetic acceptability of the water. The EPA regulates these types of contaminants through the development of national primary and secondary maximum contaminant levels (MCLs) for water. MCLs and the process for setting these standards were to be reviewed triennially. Amendments to the SDWA in 1986 and 1996 revised the schedule for EPA to develop certain drinking water MCLs and extended the review period to a 6-year cycle.

4.16.3 Thresholds of Significance

The following thresholds of significance regarding impacts to utilities and service systems are based on the recommended questions contained in *Guidelines for California Environmental Quality Act* (as

amended December 1, 2005). A project would have a significant impact on the provision of utilities or service systems if it would result in any of the following:

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board (RWQCB);
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental concerns;
- Have insufficient 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 which serves or may serve the project that it has inadequate 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; and/or
- Fail to comply with Federal, State, and local statutes and regulations related to solid waste.

For the purpose of this EIR, significant and unavoidable impacts would occur if the aforementioned conditions cannot be overcome by reasonable design, construction, and maintenance practices.

As identified in Section 15130(b) of the CEQA Guidelines, "the discussion of cumulative impacts shall ... focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact." For example, if another project contributes only to a cumulative impact upon natural resources, its impacts on public services need not be discussed as part of the cumulative impact analysis. A cumulative discussion has been provided for each component under each threshold of significance analysis.

4.16.4 Impacts Analysis

4.16.4.1 Wastewater Treatment Requirements

Threshold	Would the proposed project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?
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Water Conservation Operations/Maintenance Activities of the District

The District will continue to operate, maintain, and repair its water conservation facilities (access roads, canals, culverts, dikes, basins, and diversion structures) within the Planning Area in the same manner as existing conditions. As described in Section 3.6.1, while there is the potential for future water conservation facilities to be built within the Planning Area, at this point in time, the specific location, size, and type of facilities are unknown. Aside from this EIR's programmatic evaluation of impacts to biological resources associated with any potential future water conservation facilities, these facilities will be required to undergo project-specific environmental analysis prior to their construction and implementation. However, water conservation activities within the Planning Area typically involve the routing of water to percolation basins and do not handle the treatment of wastewater; therefore no impacts associated with this issue would occur and no mitigation is required.

Cumulative. The cumulative area for water conservation operations is the Planning Area. Water conservation activities would not result in the generation, treatment, or handling of wastewater and would therefore not exceed any applicable wastewater treatment requirements. Cumulative projects located within the Planning Area are projects that would not generate or require the treatment of

wastewater, and the cumulative projects that would generate wastewater would be required to adhere to existing wastewater treatment requirements. Therefore, the water conservation component, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on wastewater treatment requirements.

Flood Control Operations/Maintenance Activities of the SBCFCD

Flood control operations do not handle the treatment of wastewater and would not exceed wastewater treatment requirements. Therefore, no impacts associated with this issue would occur and no mitigation is required.

Cumulative. Similar to the cumulative discussion for water conservation operations, the cumulative area for the flood control component is the Planning Area. Flood control activities do not generate, treat, or handle wastewater and would therefore not exceed any applicable wastewater treatment requirements. Cumulative projects located within the Planning Area are projects that would not generate or require the treatment of wastewater, and the cumulative projects that would generate wastewater would be required to adhere to existing wastewater treatment requirements. Therefore, the flood control component, in combination with other identified cumulative projects, would have a less than significant cumulative impact on wastewater treatment requirements.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Similar to what was identified for water conservation and flood control operations, water production activities within the Planning Area would not deal with the treatment of wastewater. Since wastewater treatment requirements are not applicable to this component of the proposed project, no impact associated with this issue would occur and no mitigation is required.

Cumulative. Similar to the cumulative discussion for flood control operations, the cumulative area for water production operations is the Planning Area. Water production activities do not generate, treat, or handle wastewater and would therefore not exceed any applicable wastewater treatment requirements. Cumulative projects located within the Planning Area are projects that would not generate or require the treatment of wastewater, and the cumulative projects that would generate wastewater would be required to adhere to existing wastewater treatment requirements. Therefore, the water production component, in combination with other identified cumulative projects, would have a less than significant cumulative impact on wastewater treatment requirements.

Aggregate Mining

As previously stated, current wastewater treatment associated with mining activities consists of on-site septic tanks, leach fields, and portable toilets in the mining areas. Septic tanks and leach fields are located near the existing processing plants and batch plants. Portable toilets are utilized in the active mining areas and disposal of waste generated in these areas is contracted to a licensed septic plumber who transports it to a waste acceptance facility. Implementation of the proposed project would increase the area in which mining would occur and would increase the amount of wastewater generated. However, it is anticipated that the additional waste generated in these active mining areas would be serviced by portable toilet facilities.

The proposed project would not involve the use of manufacturing processes or chemicals that would cause processing impairment of the wastewater treatment system that would handle additional waste from the portable toilets. In addition, portable toilet waste haulers must be permitted by the local wastewater treatment facility for disposal of waste and must fill out a waste manifest describing the source and volume of each disposal load, sampling of effluent for acceptable heavy metal concentrations and pH range to ensure compliance with the wastewater treatment requirements of the local wastewater treatment facility. The permitting and completion of the waste manifest is

required of any waste hauler that discharges to the local wastewater treatment facility. Because the permit requirements established by the cities and WDRs would ensure that discharges into the sewer system resulting from the operation of the proposed project would not exceed applicable RWQCB wastewater treatment requirements, a less than significant impact related to this issue would occur and no mitigation is required.

Cumulative. The aggregate mining component would generate wastewater. However, by adhering to the wastewater treatment requirements established by the RWQCB through the NPDES permit, wastewater from the mining component of the project that is processed through the existing septic systems and additional portable toilets would meet established standards. Cumulative projects located within the Planning Area are projects that would not generate wastewater and would not violate wastewater treatment requirements. Therefore, the aggregate mining component in conjunction with other identified cumulative projects would have a less than significant cumulative impact on wastewater treatment requirements.

Adoption of General Plan Amendments

Adoption of the General Plan Amendments associated with this project would not deal with the wastewater treatment requirements. The adoption of the General Plan Amendments would enable the Cities of Highland and Redlands to amend their General Plans to allow for the different components of the project to occur. Each of the project components has been analyzed separately to identify if wastewater treatment requirements of the Santa Ana RWQCB would be exceeded. Since the adoption of the General Plan Amendments would allow these various components to occur, and since none of the components would result in the exceedence of wastewater treatment requirements, a less than significant impact would occur and no mitigation would be required.

Cumulative. This component is an administrative process that would not impact wastewater treatment facilities as no wastewater would be generated. Cumulative projects located within the Planning Area are projects that would not generate wastewater. Therefore, the General Plan Amendment component, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on wastewater treatment facilities.

Roadway/Bridge Rights-of-Way

The ~~dedication~~ designation of additional rights-of-way does not involve the treatment of wastewater. Because wastewater treatment requirements would not apply to this component, no impact associated with this issue would occur and no mitigation would be required.

Cumulative. This component consists of the setting aside of roadway and bridge rights-of-way and would not impact wastewater treatment facilities. Cumulative projects located within the Planning Area are projects that would not generate wastewater. Therefore, the roadway/bridge rights-of-way component, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on wastewater treatment facilities.

Recreational Trail Rights-of-Way

The ~~dedication~~ designation of recreational trail rights-of-way would occur within existing roadways, rail lines, and bridges. Since the ~~dedication~~ designation of rights-of-way for the trails does not involve the treatment of wastewater, wastewater treatment requirements would not apply to this component of the proposed project. As such, no impacts associated with the issue are anticipated to occur and no mitigation would be required.

Cumulative. This component consists of the setting aside of trail rights-of-way and would not generate wastewater. Cumulative projects located within the Planning Area are projects that would

not generate wastewater and would not result in violations of wastewater treatment requirements. The cumulative projects that would generate wastewater would be required to comply with existing wastewater treatment requirements. Therefore, the recreational trail rights-of-way component, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on wastewater treatment requirements.

Land Exchange between the District and BLM

The land exchange that would occur between the District and the BLM would result in mining activities on property currently owned by the BLM and habitat preservation on land that is currently owned by the District. The land that would be set aside for habitat conservation would be left in its natural state and would not involve the treatment of wastewater; therefore, no impacts are anticipated to occur with this issue as wastewater treatment requirements would not apply. For the land that would be exchanged to the District, the activities associated with extraction of mineral aggregate would generate some wastewater from the portable toilets that would be utilized in the active mining area. However, the generation and the resulting treatment of the wastewater has already been analyzed and identified as having a less than significant impact under the aggregate mining component in this section. Because the resulting land exchange between the District and the BLM would result in a less than significant impact associated with exceeding wastewater treatment requirements, no mitigation is required.

Cumulative. This component consists of an administrative process that would not generate wastewater. Cumulative projects that are located within the Planning Area are projects that would not result in violations to wastewater treatment requirements as no wastewater would be generated from these uses. The cumulative projects that would generate wastewater (e.g., mining activities) would be required to comply with existing wastewater treatment requirements. Therefore, the land exchange between the District and BLM, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on wastewater treatment requirements.

Land Exchange between the SBCFCD and Robertson's

The land exchange that would occur between the SBCFCD and Robertson's would result in mining activities on property currently owned by the SBCFCD and habitat preservation on land that is currently owned by Robertson's. As indicated in the analysis for the land exchange between the District and BLM, the land that would be set aside for habitat conservation would be left in its natural state and would not involve the treatment of wastewater; therefore, no impacts are anticipated to occur with this issue as wastewater treatment requirements would not apply. For the land that would be exchanged to Robertson's, the activities associated with extraction of mineral aggregate would generate some wastewater from the portable toilets that would be utilized in the active mining area. However, the generation and the resulting treatment of the wastewater has already been analyzed and identified as having a less than significant impact under the aggregate mining component in this section. Because the resulting land exchange between the SBCFCD and Robertson's would result in a less than significant impact associated with exceeding wastewater treatment requirements, no mitigation is required.

Cumulative. This component consists of an administrative process that would not generate wastewater. Cumulative projects that are located within the Planning Area are projects that would not result in violations to wastewater treatment requirements as no wastewater would be generated from these uses. The cumulative projects that would generate wastewater (e.g., mining activities) would be required to comply with existing wastewater treatment requirements. Therefore, the land exchange between the SBCFCD and Robertson's, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on wastewater treatment requirements.

4.16.4.2 New or Expanded Wastewater Treatment Facilities

Threshold	Would the proposed project require the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which would cause significant environmental effects?
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Water Conservation Operations/Maintenance Activities of the District

Because water conservation activities within the Planning Area typically involve the routing of water to percolation basins and do not require the construction of new wastewater treatment facilities or the expansion of existing wastewater treatment facilities, no impacts associated with this issue would occur and no mitigation is required.

Cumulative. The cumulative area for water conservation operations is the Planning Area. Water conservation activities would not result in the generation, treatment or handling of wastewater and would therefore not require new or expanded wastewater treatment facilities. Cumulative projects located within the Planning Area are projects that would not generate nor require the treatment of wastewater. Cumulative projects that would generate wastewater (e.g., mining activities) would generate minimal amounts that would not require the expansion of wastewater treatment facilities. Therefore, the water conservation component, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on new or expanded wastewater treatment facilities.

Flood Control Operations/Maintenance Activities of the SBCFCD

Flood control operations do not require the construction or expansion of new or existing wastewater treatment facilities. Therefore, no impacts associated with this issue would occur and no mitigation is required.

Cumulative. The cumulative area for flood control operations is the Planning Area. Flood control activities would not generate, treat or handle wastewater and would not require new or expanded wastewater treatment facilities. Cumulative projects located within the Planning Area are projects that would not require additional wastewater treatment facilities. Cumulative projects that would generate wastewater (e.g., mining activities) would generate minimal amounts that would not require the expansion of wastewater treatment facilities. Therefore, the flood control component, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on new or expanded wastewater treatment facilities.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Similar to what was identified for water conservation and flood control operations, water production activities within the Planning Area do not require the construction or expansion of new or existing wastewater treatment facilities. Since new or expanded wastewater treatment facilities are not applicable to this component of the proposed project, no impact associated with this issue would occur and no mitigation is required.

Cumulative. The cumulative area for water production operations is the Planning Area. Water production operations would not require new or expanded wastewater treatment facilities as no wastewater is generated from these activities. Cumulative projects located within the Planning Area are projects that would not require additional wastewater treatment facilities. Cumulative projects that would generate wastewater (e.g., mining activities) would generate minimal amounts that would not require the expansion of wastewater treatment facilities. Therefore, the water production component, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on new or expanded wastewater treatment facilities.

Aggregate Mining

Currently, only limited wastewater conveyance/disposal systems exist on-site and are limited to septic tanks and leach fields within the mining areas. Typically, the delivery, conveyance and/or reclamation of water and wastewater would require the installation and maintenance of a variety of infrastructure features. The development of such features may result in direct effects (e.g., the removal of native vegetation, ground disturbance, and construction noise) to sensitive resources or adjacent populations. The severity of such effects is dependent on:

- Location and timing of infrastructure development;
- Type and scale of infrastructure feature being developed; and
- Sensitivity of resources or populations on or nearby the infrastructure development site.

The generation of additional wastewater would occur within the active mining areas; however, mining operations would use portable toilets. Thus, impacts related to this issue are less than significant and no mitigation is required.

Cumulative. The aggregate mining component would generate minimal amounts of wastewater, and would not require the expansion of wastewater treatment facilities. Cumulative projects located within the Planning Area are projects that would not generate wastewater. Therefore, the aggregate mining component, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on new or expanded wastewater treatment facilities.

Adoption of General Plan Amendments

The adoption of the General Plan Amendments would enable the Cities of Highland and Redlands to amend their General Plans to allow for the different components of the project to occur. Each of the project components has been analyzed separately to identify if the construction or expansion of wastewater treatment facilities in the Planning Area would cause significant environmental effects. Since the adoption of the General Plan Amendments would allow these various components to occur, and since none of the components would result in the significant environmental effects associated with the construction or expansion of wastewater treatment facilities, a less than significant impact would occur and no mitigation would be required.

Cumulative. This component is an administrative process that would not impact wastewater treatment facilities as no wastewater would be generated. Cumulative projects located within the Planning Area are projects that would not generate wastewater. The cumulative projects that would generate wastewater (e.g., mining activities) would generate minimal amounts that would not require the expansion of wastewater treatment facilities. Therefore, the General Plan Amendment component, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on new or expanded wastewater treatment facilities.

Roadway/Bridge Rights-of-Way

The dedication designation of additional rights-of-way does not involve the construction or expansion of wastewater treatment facilities. Therefore, no impact associated with this issue would occur and no mitigation would be required.

Cumulative. This component consists of the setting aside of roadway/bridge rights-of-way and would not impact wastewater treatment facilities. Cumulative projects located within the Planning Area are projects that would not generate wastewater. The cumulative projects that would generate wastewater (e.g., mining activities) would generate minimal amounts that would not require new or expanded wastewater treatment facilities. Therefore, the roadway/bridge rights-of-way component, in

conjunction with other identified cumulative projects, would have a less than significant cumulative impact on wastewater treatment facilities.

Recreational Trail Rights-of-Way

The ~~dedication~~ designation of recreational trail rights-of-way would occur within existing roadways, rail lines, and bridges. Since the ~~dedication~~ designation of rights-of-way for the trails does not involve the construction or expansion of wastewater treatment facilities, no impacts associated with the issue are anticipated to occur and no mitigation would be required.

Cumulative. This component consists of the setting aside of trail rights-of-way and would not impact wastewater treatment facilities. Cumulative projects located within the Planning Area are projects that would not generate wastewater. The cumulative projects that would generate wastewater (e.g., mining activities) would generate minimal amounts that would not require new or expanded wastewater treatment facilities. Therefore, the recreational trail rights-of-way component, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on wastewater treatment facilities.

Land Exchange between the District and BLM

The land exchange that would occur between the District and the BLM would result in mining activities on property currently owned by the BLM and habitat preservation on land that is currently owned by the District. The land that would be set aside for habitat conservation would be left in its natural state and would therefore not result in the construction or expansion of wastewater treatment facilities. Therefore, no impacts are anticipated to occur with this issue. For the land that would be exchanged to the District, the activities associated with extraction of mineral aggregate would generate a minimal amount of wastewater from the use of portable toilets in the active mining areas. However, the generation of this wastewater has already been analyzed and identified under the aggregate mining component in this section. The amount of wastewater generated from the aggregate mining activities would not necessitate the construction or expansion of wastewater treatment facilities. In addition, wastewater treatment facilities within the aggregate mining area would consist of portable toilets. Because the resulting land exchange between the District and the BLM would result in a less than significant impact associated with construction or expansion of wastewater treatment facilities, no mitigation is required.

Cumulative. This component consists of an administrative process that would not impact wastewater treatment facilities. Cumulative projects that are located within the Planning Area are projects that would not require additional wastewater treatment services. The cumulative projects that would generate wastewater (e.g., mining activities) would generate a minimum amount that would not require the expansion of wastewater treatment facilities. Therefore, the land exchange between the District and BLM, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on wastewater treatment facilities.

Land Exchange between the SBCFCD and Robertson's

The land exchange that would occur between the SBCFCD and Robertson's would result in mining activities on property currently owned by the SBCFCD and habitat preservation on land that is currently owned by Robertson's. As indicated in the analysis for the land exchange between the District and BLM, the land that would be set aside for habitat conservation would be left in its natural state and would therefore not result in the construction or expansion of wastewater treatment facilities. Therefore, no impacts are anticipated to occur with this issue. For the land that would be exchanged to Robertson's, the activities associated with extraction of mineral aggregate would generate a minimal amount of wastewater from the use of portable toilets in the active mining areas. However, the generation of this wastewater has already been analyzed and identified under the

aggregate mining component in this section. The amount of wastewater generated from the aggregate mining activities would not necessitate the construction or expansion of wastewater treatment facilities. In addition, wastewater treatment facilities within the aggregate mining area would consist of portable toilets. Because the resulting land exchange between the SBCFCD and Robertson's would result in a less than significant impact associated with construction or expansion of wastewater treatment facilities, no mitigation is required.

Cumulative. This component consists of an administrative process that would not impact wastewater treatment facilities. Cumulative projects that are located within the Planning Area are projects that would not require additional wastewater treatment services. The cumulative projects that would generate wastewater (e.g., mining activities) would generate a minimum amount that would not require the expansion of wastewater treatment facilities. Therefore, the land exchange between the SBCFCD and Robertson's, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on wastewater treatment facilities.

4.16.4.3 Construction or Expansion of Water Treatment Facilities

Threshold	Would the proposed project require the construction of new water treatment facilities or expansion of existing facilities, the construction of which would cause significant environmental effects?
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Water Conservation Operations/Maintenance Activities of the District

As described in Section 3.6.1, while there is the potential for future water conservation facilities to be built within the Planning Area, at this point in time, the specific location, size, and type of facilities are unknown. Aside from this EIR's programmatic evaluation of impacts to biological resources associated with any potential future water conservation facilities, these facilities will be required to undergo project-specific environmental analysis prior to their construction and implementation. However, water conservation activities within the Planning Area typically involve the routing of water to percolation basins and do not require activities anticipated to result in a demand or a requirement for expanded water treatment facilities; therefore, no impacts associated with this issue would occur and no mitigation is required.

Cumulative. The cumulative area for water conservation operations is the Planning Area. While there is the potential for future water conservation facilities to be built within the Planning Area, at this point in time, the specific location, size, and type of facilities are unknown. The nature of water conservation activities ultimately includes the treatment of water. However, because water conservation activities would utilize existing basins and water spreading over natural surfaces, there would be no activities anticipated to result in a demand or a requirements for expanded water treatment facilities. Cumulative projects located within the Planning Area are projects that would not require the treatment of water and the use of water treatment facilities. Therefore, the water conservation component, in combination with other identified cumulative projects, would have a less than significant cumulative impact on new or expanded water treatment facilities.

Flood Control Operations/Maintenance Activities of the SBCFCD

Flood control operations do not require the construction or expansion of new or existing water treatment facilities. Therefore, no impacts associated with this issue would occur and no mitigation is required.

Cumulative. The cumulative area for flood control operations is the Planning Area. Flood control activities do not require the treatment of water and would have no need for new or expanded water treatment facilities. Cumulative projects located within the Planning Area are projects that would not require the treatment of water and the use of water treatment facilities. There have been certain

issues with turbidity levels of water being stored for flood control purposes behind Seven Oaks Dam. This issue is one currently under study with the EVWD, the ACOE, and others. Use of the Seven Oaks Dam for water conservation purposes may require some sort of water treatment strategy or facility in order to make stored water held behind the dam available for surface delivery purposes. At this juncture, it is speculative to assess whether such facilities may be needed, where, and of what type, since water quality data from the Seven Oaks Dam operation is still being gathered to assess the existence, and range, of the problem. Any such future treatment strategy or facility will have to involve local water surveyors, the local sponsors who operate the dam, and the federal government. It will also have to undergo full environmental review once it is conceptualized and mitigate all environmental impacts to the extent feasible. At this juncture, it is impossible to foresee how the different entities may work together in posing a solution, what the full extent of the issue is, and what measures may be posed to address it. This project neither creates nor contributes to such turbidity issues, however, and, as such, there are no effects from the project that are considered cumulatively significant.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Water production activities within the Planning Area would continue as they currently exist with implementation of the proposed project. Since these activities would not change, it is anticipated that the construction or expansion of water treatment facilities would not be required. Therefore, no impacts associated with this issue would occur and no mitigation is required.

Cumulative. The cumulative area for water production operations is the Planning Area. Water production activities do not require the treatment of water and would have no need for new or expanded water treatment facilities. Cumulative projects located within the Planning Area are projects that would not require the treatment of water and the use of water treatment facilities. Therefore, the water production component, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on new or expanded water treatment facilities.

Aggregate Mining

The mining component of the proposed project would locate mining operations at the San Bernardino Valley Water Conservation District No. 4 well. This well provides information needed to monitor depth of water for the aggregate mining activities, as well as information on groundwater migration within the Bunker Hill Basin. This well would be relocated outside the mining area on the upstream, dry side of "D" dike and percolation basin. The specific site will be determined in coordination with BLM and USFWS at the time the well is to be relocated, because the projected site will then be on property exchanged to BLM as part of the land exchange between the District and BLM. Because this well is utilized for monitoring and not for production, the relocation of the well to a different area would not be significant since the replacement of a well with similar production capabilities would not be needed. With adherence to **Mitigation Measure UTIL-01**, the impacts associated with the relocation of the San Bernardino Valley Water Conservation District No. 4 Well would be reduced to a less than significant level.

UTIL-01 Prior to mining excavations occurring in East Quarry North within 100 feet of the San Bernardino Valley Water Conservation District Well No. 4, the mining operator of East Quarry North shall assure an agreement has been documented between the operator, the District, BLM, and USFWS for the relocation of Well No. 4 to assure the well site is outside of any ACOE Section 404 or DFG Sections 1600 et seq. permitting jurisdiction, or if this is not feasible, secure all such required permits prior to beginning construction.

Level of Significance after Mitigation. With the implementation of **Mitigation Measure UTIL-01**, impacts related to the relocation of San Bernardino Valley Water Conservation District No. 4 Well would be mitigated to a level that is considered less than significant.

Cumulative. The aggregate mining component would not require the treatment of water and would have no need for new or expanded water treatment facilities. Cumulative projects located within the Planning Area are projects that would not require water treatment facilities. Therefore, the aggregate mining component, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on water treatment facilities.

Adoption of General Plan Amendments.

The adoption of the General Plan Amendments would enable the Cities of Highland and Redlands to amend their General Plans to allow the various components to occur. Each of the project components has been analyzed separately to identify if the construction or expansion of water treatment facilities would be required and the resulting impact if additional facilities would be needed. Since the adoption of the General Plan Amendments would allow these various components to occur, and since none of the components would result in the significant environmental effects associated with the construction or expansion of water treatment facilities, a less than significant impact would occur.

Cumulative. This component is an administrative process that does not require the treatment of water and would have no need for new or expanded water treatment facilities. Cumulative projects located within the Planning Area are projects that would not require water treatment facilities. Therefore, the General Plan Amendment component, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on water treatment facilities.

Roadway/Bridge Rights-of-Way

The dedication designation of additional rights-of-way does not involve the construction or expansion of water treatment facilities as no wastewater is generated from the dedication designation of additional rights-of-way. Therefore, no impact associated with this issue would occur and no mitigation would be required.

Cumulative. This component consists of the setting aside of roadway/bridge rights-of-way and would not impact water treatment facilities. Cumulative projects located within the Planning Area are projects that would not require water treatment facilities. Therefore, the roadway/bridge rights-of-way component, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on water treatment facilities.

Recreational Trail Rights-of-Way

The dedication designation of recreational trail rights-of-way would occur within existing roadways, rail lines, and bridges. Since the dedication designation of rights-of-way for the trails does not involve the construction or expansion of water treatment facilities as no wastewater is generated from the dedication designation of additional rights-of-way for trails, no impacts associated with the issue are anticipated to occur and no mitigation would be required.

Cumulative. This component consists of the setting aside of trail rights-of-way and would not impact water treatment facilities. Cumulative projects located within the Planning Area are projects that would not require water treatment facilities. Therefore, the recreational trail rights-of-way component, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on water treatment facilities.

Land Exchange between the District and BLM

The land exchange that would occur between the District and the BLM would result in mining activities on property currently owned by the BLM and habitat preservation on land that is currently

owned by the District. The land that would be set aside for habitat conservation would be left in its natural state and would not result in the construction or expansion of water treatment facilities; therefore, no impacts are anticipated to occur with this issue. For the land that would be exchanged to the District, the activities associated with extraction of mineral aggregate have already been analyzed and identified under the aggregate mining component in this section. The resulting land exchange between the District and the BLM would result in a less than significant impact associated with this issue.

Cumulative. This component consists of an administrative process that would not impact water treatment facilities. Cumulative projects that are located within the Planning Area are projects that would not require additional water treatment services. The cumulative projects that would require additional water (e.g., mining activities) would require a minimal amount of treated water due to the nature of mining operations. Therefore, the land exchange between the District and BLM, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on water treatment facilities.

Land Exchange between the SBCFCD and Robertson's

The land exchange that would occur between the SBCFCD and Robertson's would result in mining activities on property currently owned by the SBCFCD and habitat preservation on land that is currently owned by Robertson's. As indicated in the analysis for the land exchange between the District and BLM, the land that would be set aside for habitat conservation would be left in its natural state and would not result in the construction or expansion of water treatment facilities; therefore, no impacts are anticipated to occur with this issue. For the land that would be exchanged to Robertson's, the activities associated with extraction of mineral aggregate have already been analyzed and identified under the aggregate mining component in this section. The resulting land exchange between the SBCFCD and Robertson's would result in a less than significant impact associated with this issue.

Cumulative. This component consists of an administrative process that would not impact water treatment facilities. Cumulative projects that are located within the Planning Area are projects that would not require additional water treatment services. The cumulative projects that would require additional treated water (e.g., mining activities) would require a minimum amount of treated water due to the nature of mining operations. Therefore, the land exchange between the SBCFCD and Robertson's, in conjunction with other identified cumulative projects, and would have a less than significant cumulative impact on water treatment facilities.

4.16.4.4 New or Expanded Stormwater Drainage Facilities

Threshold	Would the proposed project require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental concerns?
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Water Conservation Operations/Maintenance Activities of the District

Because water conservation activities within the Planning Area typically involve the routing of water to percolation basins and do not require the construction of new stormwater drainage facilities, no impacts associated with this issue would occur and no mitigation is required.

Cumulative. The cumulative area for water conservation operations is the Planning Area. The nature of water conservation activities ultimately includes the treatment of water and does not require stormwater drainage facilities. Other components of the project (excluding the roadway/bridge rights-of-way component) and cumulative projects located within the Planning Area are projects that would not require the stormwater drainage facilities. The roadway/bridge rights-of-way component would need new or expanded stormwater drainage facilities. However, these would be analyzed and

mitigated under separate environmental documents prepared for each roadway. Therefore, the water conservation component, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on new or expanded stormwater treatment facilities.

Flood Control Operations/Maintenance Activities of the SBCFCD

Flood control operations would continue as they currently exist with implementation of the proposed project. Since activities associated with flood control operations primarily include the upkeep and maintenance of existing flood control facilities, the construction or expansion of stormwater drainage facilities would not occur. Therefore, no impacts associated with this issue would occur and no mitigation is required.

Cumulative. The cumulative area for water production operations is the Planning Area. Flood control activities do not require stormwater drainage facilities. Other components of the project (excluding the roadway/bridge rights-of-way component) and cumulative projects located within the Planning Area are projects that would not require the stormwater drainage facilities. Although the roadway/bridge rights-of-way component would need new or expanded stormwater drainage infrastructure, these would be analyzed and mitigated under separate environmental documents prepared for each roadway. Therefore, the flood control component, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on new or expanded stormwater drainage infrastructure.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Similar to what was identified for water conservation and flood control operations, water production activities within the Planning Area do not require the construction or expansion of stormwater drainage facilities. Since new or expanded stormwater drainage facilities are not applicable to this component of the proposed project, no impact associated with this issue would occur and no mitigation is required.

Cumulative. The cumulative area for water production operations is the Planning Area. Water production activities do not require stormwater drainage facilities. Other components of the project (excluding the roadway/bridge rights-of-way component) and cumulative projects located within the Planning Area are projects that would not require the stormwater drainage facilities. Although the roadway/bridge rights-of-way component would need new or expanded stormwater drainage infrastructure, these would be analyzed and mitigated under separate environmental documents prepared for each roadway. Therefore, the water production component, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on new or expanded stormwater drainage infrastructure.

Aggregate Mining

Cemex operations currently include a drainage system for the existing processing plant, which consists of a pipeline to a series of settling or clarification ponds located in the southwest corner of the Johnson Pit North site. Robertson's operations currently include a similar drainage system consisting of open v-ditches and corrugated steel pipes to a series of settling or clarification ponds. With the implementation of the proposed project, it is anticipated that the expansion of mining activities would be primarily limited to excavation activities that would not have planned drainage systems. However, it is anticipated that minor local sheet and surface runoff draining into the active excavation area would percolate rapidly into the porous alluvium material so the construction or expansion of existing stormwater drainage facilities is not required. Since impacts associated with the construction or expansion of existing stormwater drainage facilities would not occur, no mitigation would be required.

Along with the expansion in aggregate mining activities, a new road to access 5th Street and the pavement of an existing haul road from Orange Street-Boulder Avenue to Alabama Street would occur. The new access road would be constructed along the existing City Creek east-side levee between 5th Street and the east-west boundary of the project. This road segment would connect with an existing haul road that would be paved from Orange Street-Boulder Avenue to Alabama Street within the aggregate mining area to serve the processing plants of Cemex and Robertson's. Prior to project approval, the proposed project would include conditions of approval to construct all off-site and on-site stormwater drainage facilities needed to distribute stormwater within the new 5th Street access road. As any environmental effect resulting from the installation of required water infrastructure would be offset through conditions imposed on the project by each respective jurisdiction and through the payment of required fees, impacts related to this issue would be less than significant and no mitigation would be required.

Cumulative. The aggregate mining component does not require expansion of stormwater drainage infrastructure. Other components of the project (excluding the roadway/bridge rights-of-way component) and cumulative projects located within the Planning Area are projects that would not utilize new or expanded stormwater drainage infrastructure due to the nature of the activities. Therefore, the aggregate mining component, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on stormwater drainage infrastructure.

Adoption of General Plan Amendments

With the adoption of the General Plan Amendments, the Cities of Highland and Redlands would allow the different components of the project to occur. Each of the project components has been analyzed separately to identify if the construction or expansion of stormwater drainage facilities in the Planning Area would be required and if the construction or expansion of such facilities result in significant environmental effects. Since none of the components would result in the significant environmental effects associated with the construction or expansion of stormwater drainage facilities, a less than significant impact would occur and no mitigation would be required.

Cumulative. This component is an administrative process that does not require expansion of stormwater drainage infrastructure. Other components of the project (excluding the roadway/bridge rights-of-way component) and cumulative projects located within the Planning Area are projects that would not require stormwater drainage features. Although the roadway/bridge rights-of-way component would need new or expanded stormwater drainage facilities, these would be analyzed and mitigated under separate environmental documents prepared for each roadway. Therefore, the General Plan Amendment component, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on stormwater drainage facilities.

Roadway/Bridge Rights-of-Way

The installation of impermeable surfaces, such as pavement, generally increases the velocity and volume of runoff. As runoff flows over impermeable surfaces, it carries off pollutants such as automobile oil, antifreeze, and litter into the storm drain. The storm drain system collects water from the streets and transports it directly or indirectly to nearby waterways where it is typically not filtered or treated. New storm drainage systems would not be required for the majority of the uses proposed for the Planning Area. With the implementation of the proposed project, the following rights-of-way would be ~~dedicated~~ designated:

- Extension of right-of-way for Alabama Street;
- Extension of right-of-way for Orange Street-Boulder Avenue; and
- Extension of rights-of-way for Greenspot Road and Greenspot Bridge.

Pursuant to the Clean Water Act, persons or companies found guilty of dumping into storm drains can be fined up to \$25,000 per day. The Santa Ana RWQCB issued the third-term NPDES permit (Order No. R8-2002-0012) in April 2002 for the District, the County of San Bernardino, and the incorporated cities of San Bernardino County within the Santa Ana Region. This permit governs the public storm drain system discharges in San Bernardino County and its incorporated cities, which include the Cities of Highland and Redlands, and regulates urban runoff discharges from the proposed project. Adherence to stormwater treatment standards is required of all projects within the cities. On October 26, 2006, the permittees filed a Report of Waste Discharge (ROWD) as an application for permit renewal within 180 days of expiration of their permit. Regional Board staff will prepare the next permit for San Bernardino County in the coming months and will hold at least one public workshop on the new permit prior to a public hearing where the final permit will be considered for adoption. It is anticipated that adoption will take place in the first half of 2008.¹ Because the proposed project would be required to adhere to storm drainage requirements found within the NPDES permit process as well as provisions required by the Cities of Highland and Redlands, a less than significant impact associated with stormwater drainage requirements would occur with the implementation of the proposed project.

Prior to project approval, the proposed project would include conditions of approval to construct all off-site and on-site stormwater drainage facilities needed to distribute stormwater within the additional rights-of-way for Alabama Street, Orange Street-Boulder Avenue, and Greenspot Road. As any environmental effect resulting from the installation of required water infrastructure would be offset through conditions imposed on the project by the Cities of Highland and Redlands and through the payment of required fees, impacts related to this issue would be less than significant and no mitigation would be required.

Cumulative. This component consists of the setting aside of roadway/bridge rights-of-way and would require additional stormwater drainage infrastructure. However, these additional stormwater drainage infrastructure features would be analyzed and mitigated under separate environmental documents prepared for each roadway or bridge. Other components of the project and cumulative projects located within the Planning Area are projects that would not require or utilize stormwater drainage facilities. Therefore, the roadway/bridge rights-of-way component in conjunction, with other identified cumulative projects, would have a less than significant cumulative impact on stormwater drainage.

Recreational Trail Rights-of-Way

The dedication designation of recreational trail rights-of-way would occur within existing roadways, rail lines, and bridges. Since the dedication designation of rights-of-way for the trails does not involve the construction or expansion of stormwater drainage facilities, no impacts associated with the issue are anticipated to occur and no mitigation would be required.

Cumulative. This component consists of the setting aside of trail rights-of-way and would not require or impact stormwater drainage infrastructure. Other components of the project (excluding roadway rights-of-way) and cumulative projects located within the Planning Area are projects that would not utilize stormwater drainage facilities. Although the roadway/bridge rights-of-way component would need new or expanded stormwater drainage infrastructure, these would be analyzed and mitigated under separate environmental documents prepared for each roadway or bridge. Therefore, the recreational trail rights-of-way component, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on stormwater drainage.

¹ State Water Resources Control Board, http://www.swrcb.ca.gov/rwqcb8/html/san_bernardino_permit.html, site accessed December 19, 2007.

Land Exchange between the District and BLM

The land exchange that would occur between the District and the BLM would result in mining activities on property currently owned by the BLM and habitat preservation on land that is currently owned by the District. The land that would be set aside for habitat conservation would be left in its natural state and would not result in the construction or expansion of stormwater drainage facilities; therefore, no impacts are anticipated to occur with this issue. For the land that would be exchanged to the District, the stormwater drainage facilities impacts associated with extraction of mineral aggregate have already been analyzed and identified as less than significant under the aggregate mining component in this section. Because the resulting land exchange between the District and the BLM would result in a less than significant impact associated with construction or expansion of stormwater drainage facilities, no mitigation is required.

Cumulative. This component consists of an administrative process that would not require stormwater drainage infrastructure. Other components of the project (excluding roadway/bridge rights-of-way) and cumulative projects that are located within the Planning Area are projects that would not require stormwater drainage infrastructure and would not generate impacts associated with the provision of additional stormwater drainage infrastructure. Although the roadway/bridge rights-of-way component would need new or expanded stormwater drainage infrastructure, these would be analyzed and mitigated under separate environmental documents prepared for each roadway. Therefore, the land exchange between the District and BLM, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on the expansion of stormwater drainage infrastructure.

Land Exchange between the SBCFCD and Robertson's

The land exchange that would occur between the SBCFCD and Robertson's would result in mining activities on property currently owned by the SBCFCD and habitat preservation on land that is currently owned by Robertson's. As indicated in the analysis for the land exchange between the District and BLM, the land that would be set aside for habitat conservation would be left in its natural state and would not result in the construction or expansion of stormwater drainage facilities; therefore, no impacts are anticipated to occur with this issue. For the land that would be exchanged to Robertson's, the stormwater drainage facilities impacts associated with extraction of mineral aggregate have already been analyzed and identified as less than significant under the aggregate mining component in this section. Because the resulting land exchange between the SBCFCD and Robertson's would result in a less than significant impact associated with construction or expansion of stormwater drainage facilities, no mitigation is required.

Cumulative. This component consists of an administrative process that would not require stormwater drainage infrastructure. Other components of the project (excluding roadway/bridge rights-of-way) and cumulative projects that are located within the Planning Area are projects that would not require stormwater drainage infrastructure and would not generate impacts associated with the provision of additional stormwater drainage infrastructure. Although the roadway/bridge rights-of-way component would need new or expanded stormwater drainage infrastructure, these would be analyzed and mitigated under separate environmental documents prepared for each roadway. Therefore, the land exchange between the SBCFCD and Robertson's, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on the expansion of stormwater drainage infrastructure.

4.16.4.5 Adequate Water Supply

Threshold	Would the proposed project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?
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Water Conservation Operations/Maintenance Activities of the District

The District water spreading would continue at, or potentially somewhat below, historical recharge practices. Although specific water recharge in District-owned basins may decrease, under the comprehensive regional groundwater management structure contemplated under the Seven Oaks accord and/or the Integrated Regional Management Plan, such water supplies, when available, would be diverted to other regional uses, specifically those deemed through the deliberative management process as better applied to other areas or uses. There is therefore no increase in water demand generated as a result of the project, although there may be a reallocation of application of existing water resources. There are therefore no impacts associated with this issue expected and no mitigation is required.

Cumulative. The cumulative area for water conservation operations is the Planning Area. The nature of water conservation activities ultimately ensures that adequate water supplies would be available for other projects in the area. Water conservation operations consist of infrastructure that do not themselves demand water. Other components of the project (excluding aggregate mining) and cumulative projects located within the Planning Area are projects that would not demand additional water as these projects also consist of infrastructure and land use plans. The aggregate mining component would need additional water for the increased mining operations; however, it is anticipated that existing water supply is adequate to support these uses. Therefore, the water conservation component, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on existing and projected water supply.

Flood Control Operations/Maintenance Activities of the SBCFCD

Flood control operations do not typically require the use of water as the main purpose of flood control operations is to redirect or divert water from a certain area. These activities would not require any water. Therefore, no impacts associated with this issue would occur and no mitigation is required.

Cumulative. The cumulative area for flood control operations is the Planning Area. Flood control facilities consist of infrastructure that does not demand water. Other components of the project (excluding aggregate mining) and cumulative projects located within the Planning Area are projects that would not demand additional water as these projects also consist of infrastructure and land use plans. The aggregate mining component would need additional water for the increased mining operations; however, it is anticipated that existing water supply is adequate to support these uses. Therefore, the flood control component, in combination with other identified cumulative projects, would have a less than significant cumulative impact on existing and projected water supply.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Water production activities are the source of water supplies within the Planning Area. Since these water production activities would remain the same with the implementation of the proposed project, no impact associated with this issue is anticipated to occur. Therefore, no mitigation is required.

Cumulative. The cumulative area for water supply-related issues is existing and future development within the EVWD and RMUD service areas that would demand additional quantities of water. Increases in population and intensity of uses would contribute to increases in the overall regional water demand. Based on information contained in the EVWD and RMUD UWMPs, the demand estimated for the permit proponent is within the growth limits projected in both of the UWMPs. Because the EVWD and RMUD would both have water supplies for projected growth through 2025 in wet, dry, and multiple-dry years, cumulative impacts to water supply would be less than significant. Additionally, projects within the service boundaries of the EVWD and RMUD would be required to analyze water supply and water treatment infrastructure requirements and effects on existing systems. Because this analysis would be required for projects within these service boundaries, no cumulatively significant effect on water infrastructure and supply would occur.

Other components of the project (excluding aggregate mining) and cumulative projects located within the Planning Area are projects that would not demand additional water as these projects also consist of infrastructure and land use plans. The aggregate mining component would need additional water for the increased mining operations; however, it is anticipated that existing water supply is adequate to support these uses. Therefore, the water production component, in combination with other identified cumulative projects, would have a less than significant cumulative impact on existing and projected water supply.

Aggregate Mining

Based on water demand calculations contained in Section 4.8.4.2 *Deplete or Interfere with Groundwater Supplies or Recharge*, an estimated 86,292,200 gallons or 264.7 acre-feet of water per year would be required to mine and process the additional aggregates that could be mined upon the implementation of the proposed project. This water would be used by both Cemex and Robertson's.

It is anticipated that both Cemex and Robertson's would use their own wells for existing aggregate mining extractions. However, in the event that either Cemex or Robertson's is unable to extract water, based on various agreements, entitlements, and assurances, the EVWD has stated it is able to meet an increased demand for water over the next 20 years, even during drought conditions. As summarized in Table 4.16.F, it is anticipated that the EVWD would have a surplus in water supplies as the demand anticipated is less than the supply projected.

Table 4.16.F – East Valley Water District Projected Supply and Demand (acre-feet/year)

	2010	2015	2020	2025
Supply	62,483	65,843	65,843	65,843
Demand	30,357	34,179	35,923	35,923
Difference	32,125	31,663	29,920	29,920
Surplus/Deficit	Surplus	Surplus	Surplus	Surplus

Source: East Valley Water District 2005 Urban Water Management Plan, December 5, 2005.

This is based, in part, on continued commitment to conservation programs, additional water recycling, and continued development of local water resources. Anticipated water supplies in the EVWD, as identified in Table 4.16.F, total 62,483 and 65,843 acre-feet per year in 2010 and 2025. The amount of water that would be used by mining operations within the EVWD service boundaries would be approximately 125.7 acre-feet per year.¹ The amount of water required for the mining component within EVWD service boundaries would total 0.34 and 0.37 percent of the EVWD's 2005 and 2025 supplies. The demand estimated for this project is within the growth limits projected in the 2005 UWMP.

As identified in Table 4.16.G, anticipated water supplies for the City of Redlands total 96,500 and 108,500 acre-feet per year in 2010 and 2025, respectively. The amount of water that would be used by mining operations within the Redlands Water Utility service boundaries would be approximately 138.7 acre-feet per year.² The amount of water required for the mining component would total 0.27 and 0.26 percent of the RMUD's 2010 and 2025 supplies.

¹ 105 acres out of 221 total acres of additional mining is located in the City of Highland and amounts to approximately 47.5% of additional total water required (which is 264.7 acre-feet). 47.5% of 264.7 acre-feet = 125.7 acre-feet.

² 116 acres out of 221 total acres of additional mining is located in the City of Redlands and amounts to approximately 52.4% of additional total water required (which is 264.7 acre-feet). 52.4% of 264.7 acre-feet = 138.7 acre-feet.

Table 4.16.G – RMUD Projected Supply and Demand (acre-feet/year)

	2010	2015	2020	2025
Supply (potable and non-potable)	96,500	106,000	108,500	108,500
Demand	50,600	55,000	59,500	61,500
Difference	45,900	51,000	49,000	47,000
Surplus/Deficit	Surplus	Surplus	Surplus	Surplus

Source: City of Redlands 2005 Urban Water Management Plan, December 2005.

Based on various agreements, entitlements, and assurances, the RMUD has stated it is able to meet an increased demand for water through 2030,¹ even during drought conditions. As summarized in Table 4.16.G, it is anticipated that the RMUD would have a surplus in water supplies, as the demand anticipated is less than the supply projected.

The demand estimated for this project is within the growth limits projected in the 2005 UWMP; therefore, impacts associated with water supply would be less than significant. The implementation of the proposed project would result in additional water usage for mining activities; however, it is anticipated that these additional mining activities would not use a significant amount of water. Additionally, the proposed project would be within the limitations of growth projected in both the EVWD and RMUD 2005 UWMPs. Because the proposed project would not use a significant amount of water and would be within the growth projections of the UWMPs, impacts associated with water supply would be less than significant.

Cumulative. The aggregate mining component would require additional water supplies. However, as identified in this section, mining activities would have adequate water to support those uses through existing entitlements. Other components of the project and cumulative projects located within the Planning Area are projects that would not require additional water. Therefore, the aggregate mining component, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on water supply.

Adoption of General Plan Amendments

The adoption of the General Plan Amendments would allow the Cities of Highland and Redlands to implement the different components of the project. Each of the project components has been analyzed separately to identify if there would be adequate water supplies. Since none of the components would result in the significant environmental effects associated with adequate water supplies, a less than significant impact would occur and no mitigation would be required.

Cumulative. This component is an administrative process that does not require additional water supplies. Other components of the project (excluding aggregate mining) and cumulative projects located within the Planning Area are projects that would not require additional water. The cumulative projects that would need additional water (e.g., mining activities) would have adequate water to support those uses. Therefore, the General Plan Amendment component, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on water supply.

Roadway/Bridge Rights-of-Way

The dedication designation of additional rights-of-way does not involve the use of water. In the future, when the roadway/bridge is built out to its maximum right-of-way width, water may be required during the construction phase. However, such water usage would be temporary and minimal and would be

¹ Section 10 – Water Service Reliability, *City of Redlands 2005 Urban Water Management Plan*, prepared by CH2MHILL, November 2005.

discussed in a separate environment document for the roadway/bridge. Therefore, no impact associated with this issue would occur and no mitigation would be required.

Cumulative. This component consists of the setting aside of roadway/bridge rights-of-way and would not impact water supplies. Other components of the project (excluding aggregate mining) and cumulative projects located within the Planning Area are projects that would not require additional water. The cumulative projects that would require additional water (e.g., mining activities) would have adequate water to support those uses through existing entitlements. Therefore, the roadway/bridge rights-of-way component, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on water supplies.

Recreational Trail Rights-of-Way

The ~~dedication~~ designation of recreational trail rights-of-way would occur within existing roadways, rail lines, and bridges. Since the ~~dedication~~ designation of rights-of-way for the trails would not require the use of water and since there would be no additional demand for water, no impacts associated with the issue are anticipated to occur and no mitigation would be required.

Cumulative. This component consists of the setting aside of trail rights-of-way and would not impact water supplies. Other components of the project (excluding aggregate mining) and cumulative projects located within the Planning Area are projects that would not require additional water. The cumulative projects that would require additional water (e.g., mining activities) would have adequate water to support those uses through existing entitlements. Therefore, the recreational trail rights-of-way component, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on water supplies.

Land Exchange between the District and BLM

The land exchange that would occur between the District and the BLM would result in mining activities on property currently owned by the BLM and habitat preservation on land that is currently owned by District. The land that would be set aside for habitat conservation would be left in its natural state and would not require additional water; therefore, no impacts are anticipated to occur with this issue. For the land that would be exchanged to the District, the activities associated with extraction of mineral aggregate would require additional water supplies. However, these impacts have already been analyzed and identified under the aggregate mining component in this section. Because the resulting land exchange between the District and the BLM would result in a less than significant impact associated with this issue, no mitigation is required.

Cumulative. This component consists of an administrative process that would not require water. Other components of the project (excluding aggregate mining) and cumulative projects that are located within the Planning Area are projects that would not require additional water aside from what currently exists. The cumulative projects that would need additional water (e.g., mining activities) would have adequate water to support those uses through existing entitlements. Therefore, the land exchange between the District and BLM, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on water supply.

Land Exchange between the SBCFCD and Robertson's

The land exchange that would occur between the SBCFCD and Robertson's would result in mining activities on property currently owned by the SBCFCD and habitat preservation on land that is currently owned by Robertson's. As indicated in the analysis for the land exchange between the District and BLM, the land that would be set aside for habitat conservation would be left in its natural state and would not require additional water; therefore, no impacts are anticipated to occur with this issue. For the land that would be exchanged to Robertson's, the activities associated with extraction

of mineral aggregate would require additional water supplies. However, these impacts have already been analyzed and identified under the aggregate mining component in this section. Because the resulting land exchange between the SBCFCD and Robertson's would result in a less than significant impact associated with this issue, no mitigation is required.

Cumulative. This component consists of an administrative process that would not require water. Other components of the project (excluding aggregate mining) and cumulative projects that are located within the Planning Area are projects that would not require additional water aside from what currently exists. The cumulative projects that would need additional water (e.g., mining activities) would have adequate water to support those uses through existing entitlements. Therefore, the land exchange between the SBCFCD and Robertson's, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on water supply.

4.16.4.6 Wastewater Treatment Capacity

Threshold	Would the proposed project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?
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Water Conservation Operations/Maintenance Activities of the District

Water conservation activities within the Planning Area typically involve the routing of water to percolation basins and do not generate wastewater. Therefore, effects related to wastewater treatment capacity would not be applicable to this component of the project and no impacts associated with this issue would occur. No mitigation would be required.

Cumulative. The cumulative area for water conservation operations is the Planning Area. Water conservation activities would not result in the generation, treatment or handling of wastewater and would therefore not impact existing or wastewater treatment facility capacity. Other components of the project (excluding aggregate mining) and cumulative projects located within the Planning Area are projects that would not require the treatment of wastewater. Cumulative projects that would generate wastewater (e.g., mining activities) would generate minimal amounts that would not require an increase in the capacity of existing wastewater treatment facilities. Therefore, the water conservation component, in combination with other identified cumulative projects, would have a less than significant cumulative impact on wastewater treatment capacity.

Flood Control Operations/Maintenance Activities of the SBCFCD

Flood control operations do not generate wastewater and would not affect wastewater treatment capacity. Therefore, no impacts associated with this issue would occur and no mitigation is required.

Cumulative. Similar to the cumulative analysis conducted for water conservation operations, the cumulative area for flood control operations is the Planning Area. Flood control does not generate, treat, or handle wastewater and would not impact existing or wastewater treatment facility capacity. Other components of the project (excluding aggregate mining) and cumulative projects located within the Planning Area are projects that would not generate or require the treatment of wastewater. Cumulative projects that would generate wastewater (e.g., mining activities) would generate minimal amounts that would not require an increase in the capacity of existing wastewater treatment facilities. Therefore, the flood control component, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on wastewater treatment capacity.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Similar to what was identified for water conservation and flood control operations, water production activities within the Planning Area do not generate wastewater and would not affect existing wastewater treatment capacity. Since wastewater treatment capacity effects are not applicable to this component of the proposed project, no impact associated with this issue would occur and no mitigation is required.

Cumulative. The cumulative area for water production activities is the Planning Area. Water production does not generate wastewater and would not impact existing or wastewater treatment facility capacity. Other components of the project (excluding aggregate mining) and cumulative projects located within the Planning Area are projects that would not generate or require the treatment of wastewater. Cumulative projects that would generate wastewater (e.g., mining activities) would generate minimal amounts that would not require an increase in the capacity of existing wastewater treatment facilities. Therefore, the water production component, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on wastewater treatment capacity.

Aggregate Mining

The mining operations would not generate significant amounts of additional wastewater. Portable toilets are currently used for remote mining locations; therefore, it is reasonable to anticipate that additional portable toilets would be used in expanded mining areas. Portable toilet facilities typically include individual plastic stalls containing toilets, each with its own independent sanitary system consisting of rudimentary plumbing, a holding tank, and sanitizing chemicals.

The contents of portable toilet holding tanks must be disposed of in accordance with State and Federal environmental regulations. The chemicals used to sanitize the portable toilet facility are biodegradable and the waste in the holding tanks must be disposed of as any other form of sewage; it is subject to local, State, and Federal regulation. The collection of the wastewater from portable toilet facilities would be removed by a licensed waste hauler and transported for disposal at an approved disposal facility. Because the expansion of mining activities would generate small and limited quantities of wastewater from portable toilets and because this activity would be conducted per applicable regulations, impacts related to this issue are less than significant and no mitigation is required.

Cumulative. The aggregate mining component would generate wastewater. However, as identified in this section, mining activities would generate minimal amounts of wastewater that would not require an increase in the capacity of existing wastewater treatment facilities. Other components of the project and cumulative projects located within the Planning Area are projects that would not generate wastewater. Therefore, the aggregate mining component, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on wastewater treatment capacity.

Adoption of General Plan Amendments

The adoption of the General Plan Amendments would allow the Cities of Highland and Redlands to implement the different components of the project. Each of the project components has been analyzed separately to identify wastewater treatment capacity would be significantly affected. Since the adoption of the General Plan Amendments would allow these various components to occur, and since none of the components would result in the significant environmental effects associated with the wastewater treatment capacity, a less than significant impact would occur and no mitigation would be required.

Cumulative. This component is an administrative process that does not generate wastewater and would not impact existing or wastewater treatment facility capacity. Other components of the project (excluding aggregate mining) and cumulative projects located within the Planning Area are projects that would not generate wastewater. The cumulative projects that would generate wastewater (e.g. mining activities) would generate minimal amounts that would not require an increase in the capacity of existing wastewater treatment facilities. Therefore, the General Plan Amendment component in conjunction with other identified cumulative projects would have a less than significant cumulative impact on wastewater treatment capacity.

Roadway/Bridge Rights-of-Way

The ~~dedication~~ designation of additional rights-of-way does not generate wastewater and would not affect existing wastewater treatment capacity within the Planning Area. Therefore, no impact associated with this issue would occur and no mitigation would be required.

Cumulative. This component consists of the setting aside of roadway/bridge rights-of-way and would not impact wastewater treatment facility capacity. The construction of roadway improvements in the dedicated rights-of-way, when it occurs, is anticipated to be implemented consistent with existing wastewater conveyance facilities and applicable design criteria governing wastewater conveyance facility sizing requirements consistent with the roadway improvement being posed. As such, no cumulatively significant impact relating to wastewater is expected. Other components of the project (excluding aggregate mining) and cumulative projects located within the Planning Area are projects that would not generate wastewater. The cumulative projects that would generate wastewater (e.g., mining activities) would generate minimal amounts that would not require an increase in the capacity of existing wastewater treatment facilities. Therefore, the roadway/bridge rights-of-way component, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on wastewater treatment capacity.

Recreational Trail Rights-of-Way

The ~~dedication~~ designation of recreational trail rights-of-way would occur within existing roadways, rail lines, and bridges. Since the ~~dedication~~ designation of rights-of-way for the trails does not generate wastewater and would not affect of existing wastewater treatment capacity, no impacts associated with the issue are anticipated to occur and no mitigation would be required.

Cumulative. This component consists of the setting aside of trail rights-of-way and would not impact wastewater treatment facility capacity. Other components of the project (excluding aggregate mining) and cumulative projects located within the Planning Area are projects that would not generate wastewater. The cumulative projects that would generate wastewater (e.g., mining activities) would generate minimal amounts that would not require an increase in the capacity of existing wastewater treatment facilities. Therefore, the recreational trail rights-of-way component, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on wastewater treatment capacity.

Land Exchange between the District and BLM

The land exchange that would occur between the District and the BLM would result in mining activities on property currently owned by the BLM and habitat preservation on land that is currently owned by District. The land that would be set aside for habitat conservation would be left in its natural state and would not result in the generation of wastewater or affect existing wastewater treatment capacity; therefore, no impacts are anticipated to occur with this issue. For the land that would be exchanged to the District, the activities associated with extraction of mineral aggregate would generate some wastewater. However, the generation of this wastewater and its impact on wastewater treatment capacity has already been analyzed and identified under the aggregate mining component

in this section. Because the resulting land exchange between the District and the BLM would result in a less than significant impact associated with wastewater treatment capacity, no mitigation is required.

Cumulative. This component consists of an administrative process that would not generate wastewater. Other components of the project (excluding aggregate mining), and cumulative projects that are located within the Planning Area are projects that would not result in impacts to wastewater treatment facility capacity as no wastewater would be generated from these uses. The cumulative projects that would generate wastewater (e.g., mining activities) would generate minimal amounts that would not require an increase in the capacity of existing wastewater treatment facilities. Therefore, the land exchange between the District and BLM, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on wastewater treatment capacity.

Land Exchange between the SBCFCD and Robertson's

The land exchange that would occur between the SBCFCD and Robertson's would result in mining activities on property currently owned by the SBCFCD and habitat preservation on land that is currently owned by Robertson's. As indicated in the analysis for the land exchange between the District and BLM, the land that would be set aside for habitat conservation would be left in its natural state and would not result in the generation of wastewater or affect existing wastewater treatment capacity; therefore, no impacts are anticipated to occur with this issue. For the land that would be exchanged to Robertson's, the activities associated with extraction of mineral aggregate would generate some wastewater. However, the generation of this wastewater and its impact on wastewater treatment capacity has already been analyzed and identified under the aggregate mining component in this section. Because the resulting land exchange between the SBCFCD and Robertson's would result in a less than significant impact associated with wastewater treatment capacity, no mitigation is required.

Cumulative. This component consists of an administrative process that would not generate wastewater. Other components of the project (excluding aggregate mining), and cumulative projects that are located within the Planning Area are projects that would not result in impacts to wastewater treatment facility capacity as no wastewater would be generated from these uses. The cumulative projects that would generate wastewater (e.g., mining activities) would generate minimal amounts that would not require an increase in the capacity of existing wastewater treatment facilities. Therefore, the land exchange between the SBCFCD and Robertson's, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on wastewater treatment capacity.

4.16.4.7 Solid Waste Facilities

Threshold	Would the proposed project be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs?
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Water Conservation Operations/Maintenance Activities of the District

Because water conservation activities within the Planning Area typically involve the routing of water to percolation basins, it is anticipated that no solid waste would be generated by these activities. It is also anticipated that such activities would not affect the capacity of nearby landfills. Therefore, no impacts associated with this issue would occur and no mitigation is required.

Cumulative. The cumulative area for solid waste-related issues is San Bernardino County. Water conservation activities would not result in the generation of solid waste and would not impact existing or solid waste facilities. Other components of the project (excluding aggregate mining activities) and cumulative projects located within the Planning Area are projects that would not generate solid waste

in amounts that would impact solid waste facilities. The cumulative projects that would generate solid waste (e.g., mining activities) would be able to divert and utilize the majority of solid waste (consisting of boulders and soil) for other mining purposes. Therefore, the water conservation component, in combination with other identified cumulative projects, would have a less than significant cumulative impact on solid waste facilities.

Flood Control Operations/Maintenance Activities of the SBCFCD

Flood control operations are not anticipated to generate solid waste as flood control operations mainly include the maintenance of flood control structures. Therefore, no impacts associated with this issue would occur and no mitigation is required.

Cumulative. The cumulative area for solid waste-related issues is San Bernardino County. Flood control activities do not generate solid waste and would not impact waste facilities. Other components of the project (excluding aggregate mining) and cumulative projects located within the Planning Area are projects that would not generate solid waste in an amount that would impact solid waste facilities. The cumulative projects that would generate solid waste (e.g., mining activities) would be able to divert and utilize the majority of solid waste (consisting of boulders and soil) for other mining purposes. Therefore, the flood control component, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on solid waste facilities.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Similar to what was identified for water conservation and flood control operations, water production activities within the Planning Area do not typically generate solid waste that would affect capacity of nearby landfills. Therefore, no impact associated with this issue would occur and no mitigation is required.

Cumulative. The cumulative area for solid waste-related issues is San Bernardino County. Water production activities do not generate solid waste and would not impact waste facilities. Other components of the project (excluding aggregate mining) and cumulative projects located within the Planning Area are projects that would not generate solid waste in an amount that would impact solid waste facilities. The cumulative projects that would generate solid waste (e.g., mining activities) would be able to divert and utilize the majority of solid waste (consisting of boulders and soil) for other mining purposes. Therefore, the water production component, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on solid waste facilities.

Aggregate Mining

Solid waste collection is a “demand-responsive” service, and current service levels can be expanded and funded through user fees. Implementation of the proposed project would result in the expansion of mining activities. Wastes from additional mining operations would be collected and taken to an authorized landfill. Table 4.16.H summarizes the wastes that would be generated from mining operations.

Table 4.16.H – Mining Waste Profile

Mining Stage	Mining Activity	Other Waste Generated
Mineral Extraction	Drilling, secondary breakage	Overburden (soil, rock)
Mineral Transportation	Loading, conveying, off-road haulage, unloading	—
Mineral Processing	Crushing, grinding, screening, washing, drying, and floating	Tailings

Source: Exhibit 5 Process Waste Materials, Non-Fuel, Non-Metal Mining Sector Notebook Project, EPA, September 1995.

As summarized in Table 4.16.H, in the active mining areas, two types of solid waste are typically generated: (1) large rocks and boulders and (2) slag and tailings left over after processing. Waste (i.e., rocks, soil, and boulders) that would come from mining activities would be diverted from landfill disposal and could be sold or used for reclamation activities, revegetation, and haul roads. It is anticipated that the expansion of mining activities would not generate an amount of solid waste that would result in a change of current service levels, as the main activity would include excavation activities that typically would not generate significant solid waste. Therefore, no significant solid waste disposal impact would occur.

Cumulative. The aggregate mining component would generate solid waste; however, mining activities would be able to divert and utilize the majority of solid waste (consisting of boulders and soil) for other mining purposes and would not impact solid waste facilities. Other components of the project and cumulative projects located within the Planning Area are projects that would not generate solid waste and would not impact solid waste facilities. Therefore, the aggregate mining component, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on solid waste facilities.

Adoption of General Plan Amendments

The adoption of the General Plan Amendments would allow the Cities of Highland and Redlands to implement the different components. Each of the project components has been analyzed separately to identify if the solid waste that could be generated would affect the capacity of nearby landfills. Since the adoption of the General Plan Amendments would allow these various components to occur, and since none of the components would result in the significant effects associated with adequate landfill capacity, a less than significant impact would occur and no mitigation would be required.

Cumulative. This component is an administrative process that does not generate solid waste and would not impact solid waste facilities. Other components of the project (excluding aggregate mining) and cumulative projects located within the Planning Area are projects that would not generate solid waste and would not impact solid waste facilities. The cumulative projects that would generate solid waste (e.g., mining activities) would be able to divert and utilize the majority of solid waste (consisting of boulders and soil) for other mining purposes. Therefore, the General Plan Amendment component, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on solid waste facilities.

Roadway/Bridge Rights-of-Way

The ~~dedication~~ designation of additional rights-of-way itself does not generate solid waste. Therefore, no impacts associated with the ~~dedication~~ designation of additional rights-of-way would occur and no mitigation would be required.

Cumulative. This component consists of the setting aside of roadway/bridge rights-of-way and would not impact solid waste facilities. Other components of the project (excluding aggregate mining) and cumulative projects located within the Planning Area are projects that would not generate significant amounts of solid waste and would not impact solid waste facilities. The cumulative projects that would generate solid waste (e.g., mining activities) would be able to divert and utilize the majority of solid waste (consisting of boulders and soil) for other mining purposes. Therefore, the roadway/bridge rights-of-way component, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on solid waste facilities.

Recreational Trail Rights-of-Way

The ~~dedication~~ designation of recreational trail rights-of-way would occur within existing roadways, rail lines, and bridges and would not directly generate solid waste; however the future use of the trails

for recreational uses would indirectly generate some solid waste. Although such uses would generate solid waste in the form of trash, the amount generated is anticipated to be minimal as the use of land for passive recreational uses is not typically associated with the generation of large amounts of solid waste. Therefore, impacts are anticipated to be less than significant and no mitigation measures are required.

Cumulative. This component consists of the setting aside of trail rights-of-way and would not impact solid waste facilities. Other components of the project (excluding aggregate mining) and cumulative projects located within the Planning Area are projects that would not generate significant amounts of solid waste and would not impact solid waste facilities. The cumulative projects that would generate solid waste (e.g., mining activities) would be able to divert and utilize the majority of solid waste (consisting of boulders and soil) for other mining purposes. Therefore, the recreational trail rights-of-way component, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on solid waste facilities.

Land Exchange between the District and BLM

The land exchange that would occur between the District and the BLM would result in mining activities on property currently owned by the BLM and habitat preservation on land that is currently owned by the District. The land that would be set aside for habitat conservation would be left in its natural state and would not generate any solid waste; therefore, no impacts are anticipated to occur with this issue. For the land that would be exchanged to the District, the activities associated with extraction of mineral aggregate would generate some solid waste; however, these impacts have already been analyzed and identified under the aggregate mining component in this section. Because the resulting land exchange between the District and the BLM would result in a less than significant impact associated with generation of solid waste, no mitigation would be required.

Cumulative. This component consists of an administrative process that would not generate solid waste. Other components of the project (excluding aggregate mining), and cumulative projects that are located within the Planning Area are projects that would not result in impacts to solid waste facilities as no significant amount of waste would be generated from these uses. The cumulative projects that would generate solid waste (e.g., mining activities) would be able to divert and utilize the majority of solid waste (consisting of boulders and soil) for other mining purposes. Therefore, the land exchange between the District and BLM, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on solid waste facilities.

Land Exchange between the SBCFCD and Robertson's

The land exchange that would occur between the SBCFCD and Robertson's would result in mining activities on property currently owned by the SBCFCD and habitat preservation on land that is currently owned by Robertson's. As indicated in the analysis for the land exchange between the District and BLM, the land that would be set aside for habitat conservation would be left in its natural state and would not generate any solid waste; therefore, no impacts are anticipated to occur with this issue. For the land that would be exchanged to Robertson's, the activities associated with extraction of mineral aggregate would generate some solid waste; however, these impacts have already been analyzed and identified under the aggregate mining component in this section. Because the resulting land exchange between the SBCFCD and Robertson's would result in a less than significant impact associated with generation of solid waste, no mitigation would be required.

Cumulative. This component consists of an administrative process that would not generate solid waste. Other components of the project (excluding aggregate mining) and cumulative projects that are located within the Planning Area are projects that would not result in impacts to solid waste facilities as no significant amount of waste would be generated from these uses. The cumulative projects that would generate solid waste (e.g., mining activities) would be able to divert and utilize the majority of solid waste (consisting of boulders and soil) for other mining purposes. Therefore, the land

exchange between the SBCFCD and Robertson's, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on solid waste facilities.

4.16.4.8 Solid Waste Reduction

Threshold	Would the proposed project fail to comply with applicable Federal, State, and local statutes and regulations related to solid waste?
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The Cities of Highland and Redlands are responsible for meeting the requirements of AB 939, which includes a 50 percent reduction in disposal by the start of 2000 and preparation of a solid waste reduction plan to help reduce the amount of solid waste disposed of at the landfills. As of 2005, 43 percent of the solid waste generated by the City of Highland was diverted to recycling facilities.¹ As of 2005, 39 percent of the solid waste generated by the City of Redlands was diverted to recycling facilities.² Although these percentages fall short of the AB 939 requirement of 50 percent, the activities proposed within the Planning Area would produce minimal solid waste. Programs implemented by the Cities of Highland and Redlands to satisfy the mandated reduction in solid waste include (but are not limited to) the following:

- Curbside and on-site recycling program (recycling);
- Backyard and on-site composting (source reduction);
- Public outreach via print and electronic media (public education);
- Municipal solid waste ordinances (policy incentives); and
- Operation of material recovery and composting facilities (facility recovery).

The waste generators within the Planning Area would be required to coordinate with a waste hauler to develop collection of recyclable materials for the project on a common schedule as set forth in applicable local, regional, and state programs.

Water Conservation Operations/Maintenance Activities of the District

Because water conservation activities within the Planning Area typically involve the routing of water to percolation basins and do not generate solid waste, no impacts associated with this issue would occur and no mitigation is required.

Cumulative. The cumulative area for solid waste-related issues is San Bernardino County. Water conservation activities would not result in the generation of solid waste and would therefore not impact solid waste reduction strategies. Other components of the project (excluding aggregate mining) and cumulative projects located within the Planning Area are projects that would not generate solid waste or hinder solid waste reduction strategies. The cumulative projects that would generate solid waste (e.g., mining activities) would be able to divert and utilize the majority of solid waste (consisting of boulders and soil) for other mining purposes. Therefore, the water conservation component, in combination with other identified cumulative projects, would have a less than significant cumulative impact on solid waste reduction strategies.

¹ Countrywide, Regionwide, and Statewide Jurisdiction Diversion Progress Report, California Integrated Waste Management Board, <http://www.ciwmb.ca.gov/Igtools/MARS/JurDrSta.asp?VW=In>, web site accessed August 28, 2007.

² Countrywide, Regionwide, and Statewide Jurisdiction Diversion Progress Report, California Integrated Waste Management Board, <http://www.ciwmb.ca.gov/Igtools/MARS/JurDrSta.asp?VW=In>, web site accessed August 28, 2007.

Flood Control Operations/Maintenance Activities of the SBCFCD

Flood control operations are not anticipated to generate solid waste and would therefore not be in conflict with applicable Federal, State, and local statutes and regulations related to solid waste. Therefore, no impacts associated with this issue would occur and no mitigation is required.

Cumulative. The cumulative area for solid waste-related issues is San Bernardino County. Flood control activities do not generate solid waste and would not impact solid waste reduction strategies. Other components of the project (excluding aggregate mining) and cumulative projects located within the Planning Area are projects that would not generate solid waste or hinder solid waste reduction strategies. The cumulative projects that would generate solid waste (e.g., mining activities) would be able to divert and utilize the majority of solid waste (consisting of boulders and soil) for other mining purposes. Therefore, the flood control, component in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on solid waste reduction strategies.

Water Production Operations/Maintenance Activities of the EVWD and RMUD

Similar to what was identified for water conservation and flood control operations, water production activities within the Planning Area do not generate solid waste and would not be in conflict with applicable Federal, State, and local statutes and regulations related to solid waste. Therefore, no impact associated with this issue would occur and no mitigation is required.

Cumulative. The cumulative area for solid waste-related issues is San Bernardino County. Water production activities do not generate solid waste and would not impact solid waste reduction strategies. Other components of the project (excluding aggregate mining) and cumulative projects located within the Planning Area are projects that would not generate solid waste or hinder solid waste reduction strategies. The cumulative projects that would generate solid waste (e.g., mining activities) would be able to divert and utilize the majority of solid waste (consisting of boulders and soil) for other mining purposes. Therefore, the water production, component in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on solid waste reduction strategies.

Aggregate Mining

Most of the waste (i.e., rocks, soil, and boulders) that would come from mining activities would be diverted from landfill disposal and recycled. As identified in the Robertson's¹ and Cemex² mine and reclamation plans, boulders not sold or crushed would be stockpiled on site and re-graded into the final reclamation of the sites. The silt or fine material produced at Robertson's East Basin Processing Plant would be routed to the existing silt ponds southwest of the processing plant. The silt or fine material produced at Cemex's Orange Street Plant would be routed to the existing silt ponds in the eastern half of Johnson Pit North. In future years, silt from both Cemex and Robertson's would be routed to the Silt Pond Quarry. In both instances, the silts or fine material would be diverted from landfill disposal and could be sold or used for reclamation activities, revegetation, and haul roads. Because most of the waste that would be generated with the implementation of the proposed project would be diverted from landfill disposal and be recycled, impacts related to compliance of solid waste regulations would be less than significant.

Cumulative. The cumulative area for solid waste-related issues is San Bernardino County. The aggregate mining component would generate solid waste; however, mining activities would be able to divert and utilize the majority of solid waste (consisting of boulders and soil) for other mining purposes. AB 939 mandates the reduction of solid waste disposal in landfills. Approximately three

¹ Mine and Reclamation Plans for the Santa Ana Wash Mine to be operated by Robertson's, Lilburn Corporation, March 2006.

² Mine and Reclamation Plans for the Santa Ana Wash Mine to be operated by Cemex Construction materials L.P., Lilburn Corporation, March 2006.

million tons of solid waste is generated each year in San Bernardino County to accommodate the anticipated amount of solid waste cumulatively generated in the County. The vast majority of this waste is disposed in 26 County-operated waste disposal sites and approximately 50 non-County disposal facilities. As identified in the San Bernardino County General Plan, there is ample landfill capacity within San Bernardino County. With planned expansion activities of County landfills, it is anticipated that sufficient landfill capacity would exist to accommodate future disposal needs throughout San Bernardino County. Other components of the project and cumulative projects located within the Planning Area are projects that would not generate solid waste and would not hinder solid waste reduction strategies. Therefore, the aggregate mining component, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on solid waste reduction strategies.

Adoption of General Plan Amendments

The adoption of the General Plan Amendments would allow the Cities of Highland and Redlands to implement the different components of the project. Each of the project components has been analyzed separately to identify if the component would be in conflict with applicable Federal, State, and local statutes and regulations related to solid waste. Since the adoption of the General Plan Amendments would allow these various components to occur, and since none of the components would conflict with applicable Federal, State, and local statutes and regulations related to solid waste, a less than significant impact would occur and no mitigation would be required.

Cumulative. This component is an administrative process that would not impact solid waste reduction strategies. Other components of the project (excluding aggregate mining) and cumulative projects located within the Planning Area are projects that would not generate solid waste and would not hinder solid waste reduction strategies. The cumulative projects that would generate solid waste (e.g., mining activities) would be able to divert and utilize the majority of solid waste (consisting of boulders and soil) for other mining purposes. Therefore, the General Plan Amendment component, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on solid waste reduction strategies.

Roadway/Bridge Rights-of-Way

The ~~dedication~~ designation of additional rights-of-way would not conflict with applicable Federal, State, and local statutes and regulations related to solid waste. Therefore, no impact associated with this issue would occur and no mitigation would be required.

Cumulative. This component consists of the setting aside of roadway/bridge rights-of-way and would not impact solid waste reduction strategies. Other components of the project (excluding aggregate mining), and cumulative projects located within the Planning Area are projects that would not generate solid waste and would not hinder solid waste reduction strategies. The cumulative projects that would generate solid waste (e.g., mining activities) would be able to divert and utilize the majority of solid waste (consisting of boulders and soil) for other mining purposes. Therefore, the roadway/bridge rights-of-way component, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on solid waste reduction strategies.

Recreational Trail Rights-of-Way

The ~~dedication~~ designation of recreational trail rights-of-way would occur within existing roadways, rail lines, and bridges. Although recreational trails would generate a minimal amount of solid waste in the form of trash from recreational users, the disposal of this solid waste would comply with applicable Federal, State, and local statutes and regulations related to solid waste. Therefore, impacts associated with the issue are anticipated to be less than significant and no mitigation would be required.

Cumulative. This component consists of the setting aside of trail rights-of-way and would not impact solid waste reduction strategies. Other components of the project (excluding aggregate mining) and cumulative projects located within the Planning Area are projects that would not generate solid waste and would not hinder solid waste reduction strategies. The cumulative projects that would generate solid waste (e.g., mining activities) would be able to divert and utilize the majority of solid waste (consisting of boulders and soil) for other mining purposes. Therefore, the recreational trail rights-of-way component, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on solid waste reduction strategies.

Land Exchange between the District and BLM

The land exchange that would occur between the District and the BLM would result in mining activities on property currently owned by the BLM and habitat preservation on land that is currently owned by the District. The land that would be set aside for habitat conservation would be left in its natural state, would not generate any solid waste, and would not be in conflict with applicable federal, state, and local statutes and regulations related to solid waste. Therefore, no impacts are anticipated to occur with this issue. For the land that would be exchanged to the District, the activities associated with extraction of mineral aggregate would generate some solid waste; however, the generation and disposal of solid waste associated with aggregate mining activities would comply with applicable Federal, State, and local statutes and regulations related to solid waste. Because the resulting land exchange between the District and the BLM would result in a less than significant impacts associated with this issue, no mitigation is required.

Cumulative. This component consists of an administrative process that does not generate solid waste. Other components of the project (excluding aggregate mining) and cumulative projects located within the Planning Area are projects that would not generate solid waste and would not hinder solid waste reduction strategies. The cumulative projects that would generate solid waste (e.g., mining activities) would be able to divert and utilize the majority of solid waste (consisting of boulders and soil) for other mining purposes. Therefore, the land exchange between the District and BLM, in conjunction with other identified cumulative projects, would have a less than significant cumulative impact on solid waste reduction strategies.

Land Exchange between the SBCFCD and Robertson's

The land exchange that would occur between the SBCFCD and Robertson's would result in mining activities on property currently owned by the SBCFCD and habitat preservation on land that is currently owned by Robertson's. As indicated in the analysis for the land exchange between the District and BLM, the land that would be set aside for habitat conservation would be left in its natural state, would not generate any solid waste, and would not be in conflict with applicable Federal, State, and local statutes and regulations related to solid waste. Therefore, no impacts are anticipated to occur with this issue. For the land that would be exchanged to Robertson's, the activities associated with extraction of mineral aggregate would generate some solid waste; however, the generation and disposal of solid waste associated with aggregate mining activities would comply with applicable Federal, State, and local statutes and regulations related to solid waste. Because the resulting land exchange between the SBCFCD and Robertson's would result in a less than significant impacts associated with this issue, no mitigation is required.

Cumulative. This component consists of an administrative process that would not impact solid waste reduction strategies. Other components of the project (excluding aggregate mining) and cumulative projects that are located within the Planning Area are projects that would not hinder solid waste reduction strategies. The cumulative projects that would generate solid waste (e.g., mining activities) would be able to divert and utilize the majority of solid waste (consisting of boulders and soil) for other mining purposes. Therefore, the land exchange between the SBCFCD and Robertson's, in

conjunction with other identified cumulative projects, would have a less than significant cumulative impact on solid waste reduction strategies.

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