

## 4 VITAL NATURAL ENVIRONMENT

Promote an open space plan that conserves the natural canyons and the hillsides to the south, the Santa Ana River and wash to the north, and the Crafton Hills and agricultural lands to the east; enables continued agriculture and citrus production; and completes the “Emerald Necklace” of open space, conserved lands, and trails around the city.

Redlands’ open spaces—the hillsides and canyons, aqueducts, farms, and the citrus groves—are highly valued. The General Plan seeks to preserve these open spaces, including those at the city’s edges, where agricultural uses and many citrus groves are located, and realize the community’s long-sought desire for a linked system of open spaces and trails around the community, forming an Emerald Necklace that is integrated with a regional open space system.

The Emerald Necklace is defined as those land uses that provide a green belt around the city and includes San Timoteo and Live Oak canyons, the Crafton Hills, agricultural lands in Crafton and San Timoteo Canyon, and the Santa Anna River and wash. These open spaces, agricultural lands, natural habitats, conservation areas, flood plains, waterways, aqueducts, and parks make up the land uses of the Emerald Necklace, as well as the system of parks, trails, streams, farms, and citrus groves that link the Emerald Necklace to the interior of the City.

### 4.1 LAND CONSERVATION AND OPEN SPACE

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#### Principles

- 4-P.1 Develop a balanced and integrated open space system that reflects a variety of considerations, including resource conservation, production of agriculture, recreation, aesthetics, and community identity. (Staff recommendation)
- 4-P.2 Designate and develop the Emerald Necklace around the city, consisting of open spaces and conserved lands, that showcase and link unique resources both within and surrounding the Planning Area and serve as a distinct boundary for urban development within Redlands. (Staff recommendation)
- 4-P.3 Seek to link the various elements of the Emerald Necklace through a system of open spaces, waterways, parks, and trails. (GPSC recommendation)
- 4-P.4 Preserve and enhance open space and agricultural land to define the Mentone and Crafton areas as distinct from Redlands. (GPSC recommendation)
- 4-P.5 Encourage the preservation of natural habitat areas as open space. (GPSC recommendation)

- 4-P.6 Promote access to and views of conservation areas in a manner consistent with good land resource stewardship. (GPSC recommendation)

### **Actions**

- 4-A.1 Preserve as open space those areas that contain unique habitats, natural resources, and visual amenities such as citrus groves, hillsides, canyons, and waterways, which provide natural contrast with the urban cityscape. (Staff recommendation)
- 4-A.2 Identify gaps in the Emerald Necklace and work with San Bernardino County and neighboring cities, conservation organizations, and willing landowners to prioritize land acquisition or other resource preservation strategies in those areas. (Staff recommendation)
- 4-A.3 Designate and map open space, recreation areas, and trails that compose the Emerald Necklace. (Staff recommendation)
- 4-A.4 Identify portions of the Emerald Necklace that are not in public ownership and work with conservation organizations and landowners to ensure that the land is dedicated or otherwise conserved. (Staff recommendation)
- 4-A.5 Develop standards for planning, design, management, and maintenance of trails and pathways within parks, preserves, open space, and rights-of-way. (GPSC recommendation)
- 4-A.6 Work with San Bernardino County, neighboring cities, conservation organizations, and landowners to maintain and enhance the trails, roadways, and lands that make up the Emerald Necklace, and to ensure that sensitive resources in these areas are not disturbed or degraded. (Staff recommendation)
- 4-A.7 Provide sufficient resources for the maintenance of trails and conservation areas through both volunteer and City mechanisms. (GPSC recommendation).
- 4-A.8 Develop and implement a wayfinding program along the Emerald Necklace to identify sites of interest and provide directions along trails and roadways. Ensure that any signs are consistently designed and visually compatible with the surroundings. (Staff recommendation)
- 4-A.9 Maintain and enhance Redlands' network of urban forest and street trees. (GPSC recommendation)

## **4.2 NATURAL ENVIRONMENT**

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### **BIOLOGICAL RESOURCES**

#### **Principles**

- 4-P.7 Protect environmentally sensitive lands, wildlife habitats, and rare, threatened, or endangered plant and animal communities. (1995 General Plan modified)
- 4-P.8 Minimize disruption of wildlife and valued habitat throughout the Planning Area and emphasize that open space is for more than just human use, but also serves as habitat for biological resources. (1995 General Plan modified)

- 4-P.9 Recognize the links between biological resources in discrete locations throughout Redlands. (1995 General Plan)
- 4-P.10 Preserve, protect, and enhance wildlife corridors, including natural watercourses, connecting the San Bernardino National Forest, Santa Ana River Wash, Crafton Hills, San Timoteo and Live Oak canyons, the Badlands, and other open space areas. (Combines two principles—relating to wildlife corridors and watercourses in the 1995 General Plan)
- 4-P.11 Landscape public areas using native vegetation where practical. (1995 General Plan)

## Actions

- 4-A.10 Require a biological assessment of any proposed project site within the Planning Area where species that are State or Federally listed as rare, threatened, or endangered are identified as potentially present. (1995 General Plan modified)
- 4-A.11 Require that proposed projects adjacent to, surrounding, or containing wetlands, riparian corridors, or wildlife corridors be subject to a site-specific analysis that will determine the appropriate size and configuration of a buffer zone. (1995 General Plan)
- 4-A.12 Utilize conservation easements and preserves as a means to conserve natural habitats. (GPSC recommendation)
- 4-A.13 Construct freeway and arterial street undercrossings or overpasses where necessary to establish and preserve identified wildlife corridors. (1995 General Plan modified)
- 4-A.14 Enhance the Mill Creek Zanja and Morey Arroyo and tributary drainages as riparian corridors, where feasible, to provide habitat as well as recreational and aesthetic value. (1995 General Plan modified to specify the Zanja)
- 4-A.15 Work with the Crafton Hills Open Space Conservancy to preserve, enhance, and maintain the Crafton Hills as an ecosystem. (1995 General Plan)
- 4-A.16 Coordinate open space and habitat preservation in the Crafton Hills with the City of Yucaipa. (Staff recommendation).
- 4-A.17 Coordinate open space and habitat preservation in San Timoteo and Live Oak canyons with Riverside County. (1995 General Plan)
- 4-A.18 Continue participation in regional planning efforts to protect habitat and environmentally sensitive species, including efforts by the City of Yucaipa on habitat preservation along Yucaipa Creek and in Live Oak Canyon throughout its length. (Yucaipa policy from current General Plan; added regional planning wording)
- 4-A.19 Ensure conservation of the Santa Ana River woolly star by working with the San Bernardino Valley Water Conservation District to implement the Upper Santa Ana Wash Habitat Conservation Plan, and working with other concerned agencies and organizations to preserve the species in the Planning Area. (Updated from 1995 General Plan)
- 4-A.20 Coordinate development and maintenance of trails with habitat preservation and protection of species sensitive to human intrusion. (1995 General Plan)

- 4-A.21 Explore opportunities to have nature displays that provide environmental and habitat educational information in conjunction with trails along the Santa Ana River, San Timoteo Creek, Mill Creek, and their tributaries. (1995 General Plan modified)
- 4-A.22 Support innovative site design techniques such as cluster-type housing, conservation easements, and transfer of development rights to preserve sensitive environmental resources, where appropriate. (Staff recommendation)
- 4-A.23 Establish specific design guidelines that address drainage, use of native plants, edge treatments, and access – both physical and visual – for private and public development adjacent to public preserves, conservations areas, parks, and open spaces. (GPSC recommendation)

## **GEOLOGY/SOILS**

### **Principles**

- 4-P.12 Ensure that future mining activity in the Santa Ana River Wash area is consistent with the Upper Santa Ana River Land Management Habitat Conservation (Wash Plan). (Staff recommendation)
- 4-P.13 Ensure that adequate aggregate reserves for local and regional needs are available in accordance with the Wash Plan. (1995 General Plan modified)
- 4-P.14 Reserve designated Mineral Resource Zone (MRZ) areas outside the Santa Ana Wash for agricultural or open space uses. (1995 General Plan modified)

### **Actions**

- 4-A.24 Incorporate mineral resource (mining) areas identified in the Wash Plan. (1995 General Plan updated)
- 4-A.25 Apply zoning regulations to mineral resource areas allowing aggregate extraction as a conditional use and prohibiting incompatible land uses in Regionally Significant Construction Aggregate Resource Areas. (1995 General Plan modified)
- 4-A.26 Deny approval of surface mining permits at locations where unmitigated adverse impacts would be significantly greater than at alternative locations within the San Bernardino Production-Consumption Region. (1995 General Plan)
- 4-A.27 Make issuance of a surface mining permit conditional upon approval of a reclamation plan and financial assurances for reclamation in accord with Public Resource Code Section 2770. (1995 General Plan)

## **WATER RESOURCES AND WATER QUALITY**

### **Principles**

- 4-P.15 Promote the protection of waterways in Redlands from pollution and degradation as a result of urban activities. (Staff recommendation)
- 4-P.16 Pursue creative, innovative, and environmentally sound methods to capture and use storm water and urban runoff for beneficial purposes. (Committee added)

- 4-P.17 Work with regional organizations to manage groundwater resources of the Bunker Hill Basin. (GPSC recommendation)

## Actions

- 4-A.28 Update City development standards to improve the capture of runoff and storm water management through innovative green and blue infrastructure solutions such as the use of permeable surfaces, vegetation areas, swales, BMPs, and other methods to recharge of the groundwater basin. (GPSC recommendation)
- 4-A.29 Promote the use of Low Impact Development strategies, BMPs, pervious paving materials, and on-site infiltration to create blue infrastructure for treating and reducing storm water runoff before it reaches the municipal storm water system. (Staff recommendation)
- 4-A.30 Require measures during construction and post construction to limit land disturbance activities such as clearing and grading and cut-and-fill; avoid steep slopes, unstable areas and erosive soils; and minimize disturbance of natural vegetation and other physical or biological features important to preventing erosion or sedimentation. (Staff recommendation)
- 4-A.31 Protect and, where feasible, enhance or restore the city's waterways, including zanjas and ditches, preventing erosion along the banks, removing litter and debris, and promoting riparian vegetation and buffers. (Staff recommendation)
- 4-A.32 Encourage development that reflects an integrated approach to building design, civil engineering, and landscape architecture that maximizes rainwater harvesting and storm water retention for landscape irrigation. (GPSC recommendation)
- 4-A.33 Require that new development provides landscaping and re-vegetation of graded or disturbed areas with drought-tolerant native or non-invasive plants (Staff recommendation)
- 4-A.34 Maximize the amount of pervious surfaces in public spaces to permit the percolation of urban runoff. (Staff recommendation)
- 4-A.35 Provide a comprehensive public outreach program to educate residents and local businesses about the importance of storm water pollution prevention. (GPSC recommendation)
- 4-A.36 Ensure that public areas, including streets and recreational areas, are routinely cleaned of litter, debris, and contaminant residue. Coordinate with and support efforts by other organizations or volunteer groups to promote clean-ups of parks and public open spaces. Require the City, property owners, or homeowners associations, as applicable, to sweep permitted parking lots and public and private streets frequently to remove debris and contaminated residue. (Staff recommendation)

## 4.3 AGRICULTURE

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### Principles

- 4-P.18 Retain the maximum feasible amount of agricultural land for its contributions to the local economy, lifestyle, air quality, habitat value and sense of Redlands' heritage. (1995 General Plan)

- 4-P.19 Support the viability of agriculture through efforts to promote locally-grown produce and livestock as part of Redlands lifestyle and economy. (GPSC recommendation)
- 4-P.20 Preserve the identity of Crafton and San Timoteo canyons as farming neighborhoods. (GPSC recommendation)
- 4-P.21 Provide for the continued operation of existing livestock/dairy farms in areas of the San Timoteo and Live Oak canyons and Crafton designated as Rural Preservation and Rural Living, and Very Low Density Residential on the General Plan Land Use map. (1995 General Plan modified)
- 4-P.22 Support appropriate commercial activities (i.e horse stables, agritourism) in rural areas.

## **Actions**

- 4-A.37 Employ zoning for agricultural use and rural living to maintain citrus and other croplands in production where designated on the General Plan Land Use map. (1995 General Plan modified)
- 4-A.38 Permit transfer of development rights (TDR) between agreeable owners to preserve agricultural land and citrus groves. (modified 1995 General Plan – introduced TDRs, replaced PRDs)
- 4-A.39 Explore an acre-for-acre replacement program for farmland lost to development. (GPSC recommendation)
- 4-A.40 Utilize local land trusts to make the most efficient use of funds available for agricultural preservation. (1995 General Plan)
- 4-A.41 Utilize State and non-profit funds for agricultural conservation easements with willing participants. (GPSC recommendation)
- 4-A.42 Permit agricultural roadside stands as an allowed use in appropriate districts per the Zoning Ordinance. (Staff recommendation)
- 4-A.43 Ensure that new development adjacent to an agricultural use is compatible with the continuation of the use by requiring appropriate design criteria, such as site layout and buffer areas. (Staff recommendation)
- 4-A.44 Promote “agri-tourism”, farm-to-table promotions, and farmers markets to enhance the economic viability of farming in Redlands. (GPSC recommendation)
- 4-A.45 Permit and encourage community gardens in City parks and open spaces, and in the open space areas of new developments. (GPSC recommendation)
- 4-A.46 Encourage retention or establishment of horse stables and riding academies in the Highland-Canyons planning subarea to meet the needs of the Planning Area's equestrians. (1995 General Plan modified)

## **4.4 WATER SUPPLY AND TREATMENT**

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### **Principles**

- 4-P.23 Preserve and improve groundwater resources and quality. (Staff recommendation)

- 4-P.24 Maintain the natural condition of waterways and floodplains to ensure adequate groundwater recharge and water quality where feasible given flood control requirements. (1995 General Plan)
- 4-P.25 Provide Redlands residents the highest quality water for domestic use as is reasonably available. Prioritize water sourcing in the following order: (Modified 1995 General Plan – includes water sourcing prioritization)
- Surface water of Mill Creek, which is the highest quality water presently available
  - Surface water of the Santa Ana River through stock ownership rights or other rights
  - Local groundwater sources of good quality
  - State Water Project water
- 4-P.26 Consider the State Water Project, to the extent possible, as supplemental water, and to be utilized only as necessary to meet demand. (1995 General Plan)
- 4-P.27 Expand the City’s reclaimed water storage and distribution system to make reclaimed water available through the city where practical. (GPSC recommendation)
- 4-P.28 Explore the use of non-potable water from wells throughout Redlands for landscape and agricultural irrigation. (GPSC recommendation)
- 4-P.29 Ensure that adequate wastewater collection, treatment, recycling, and disposal facilities are provided in a timely fashion to serve existing and future needs. (Staff recommendation)

## Actions

- 4-A.47 Prepare and implement a program to eliminate groundwater contamination from industrial and agricultural operations. (Staff recommendation)
- 4-A.48 Protect all water supply sources from contamination and from a diminution of supply to the extent legally possible, and undertake all necessary steps to provide a secure supply of high quality water to meet the present and future needs of Redlands citizens. (1995 General Plan)
- 4-A.49 Work with the local and regional water agencies to improve and enhance groundwater quality in the region. (1995 General Plan modified)
- 4-A.50 As landfills close, continue groundwater monitoring to detect leaks into the aquifer. (1995 General Plan – removed commentary on past levels of toxic substances)
- 4-A.51 Require that applicants take soil samples prior to grading or construction in existing or past orchard or other agricultural areas that were historically treated with toxic chemicals such as DBCP. If contamination is discovered, consult with the appropriate agencies for proper cleanup measures prior to development. (1995 General Plan)
- 4-A.52 Construct treatment plants or systems to treat contaminated groundwater as necessary to ensure availability of potable groundwater. (1995 General Plan – removed outdated information on available treatment plants)
- 4-A.53 Deny approval of development projects within the Planning Area that would rely on package wastewater treatment plants. (1995 General Plan)

- 4-A.54 Establish a program to increase the use of rainwater collection and use for landscape irrigation, providing information and incentives to encourage rainwater collection systems in new construction and in retrofitting existing buildings. (Sustainability Plan)
- 4-A.55 Periodically review and update development impact fees, wastewater connection charges, groundwater mitigation fees, and monthly service charges to ensure that adequate funds are collected to operate and maintain existing facilities and to construct new facilities. (Staff recommendation)
- 4-A.56 Require industrial water users to pretreat wastewater on-site prior to discharging into the sewer system, in accordance with Redlands' industrial wastewater pretreatment ordinance. (1995 General Plan)
- 4-A.57 Continue routine maintenance of the water and sewer facilities within the community, ensuring collaboration among City departments when funding and siting improvements to manage the efficient timing and replacement of infrastructure. (Staff recommendation)
- 4-A.58 Ensure that post-development peak stormwater runoff discharge rates do not exceed the estimated pre-development rate. Dry weather runoff from new development must not exceed the pre-development baseline flow rate to receiving waterbodies. (Staff recommendation)
- 4-A.59 Continue partnerships with other local agencies to implement the Area-Wide Urban Storm Water Runoff Management Program and the Integrated Regional Watershed Management Plan. (Staff recommendation)

## **4.5 ARCHEOLOGICAL AND PALEONTOLOGICAL RESOURCES**

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### **Principle**

- 4-P.30 Work with local paleontologists, including the San Bernardino County Museum, to identify significant non-renewable paleontological resources. (1995 General Plan)
- 4-P.31 Protect archaeological and paleontological resources for their aesthetic, scientific, educational, and cultural values. (1995 General Plan)

### **Actions**

- 4-A.60 Using an annually updated Archaeological Resource Sensitivity Map, review proposed development projects to determine whether a 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. (1995 General Plan)
- 4-A.61 Require that applicants for projects identified by the Southern California Coastal Information Center as potentially affecting sensitive resource sites hire a consulting archaeologist to develop an archaeological resource mitigation plan and to monitor the project to ensure that mitigation measures are implemented. (1995 General Plan)

- 4-A.62 Require that areas found during construction to contain significant historic or prehistoric archaeological artifacts be examined by a qualified consulting archaeologist (RPA certified) or historian for appropriate protection and preservation. (1995 General Plan)
- 4-A.63 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. (1995 General Plan)
- 4-A.64 Proactively coordinate with the area's native tribes in the review of archeological and paleontological resources at development sites. (Staff recommendation)