

ARROYO SECO MASTER PLANS



Lower Arroyo Master Plan

City of Pasadena
Adopted September 29, 2003
Revised February 2, 2015

AUTHORIZATION TO CORRECT THE LOWER ARROYO MASTER PLAN

On February 2, 2015, the City Pasadena Council approved a correction of language in the Lower Arroyo Master Plan (LAMP) to remove references to the number of targets in the southern archery range. The staff report provided to the City Council for this item can be found at:

http://ww2.cityofpasadena.net/councilagendas/2015%20Agendas/Feb_02_15/AR%2013.pdf

The City Council meeting minutes from the action taken on February 2, 2015 can be found on page 12 at:

<http://ww2.cityofpasadena.net/councilagendas/2015%20Agendas/Minutes/20150202.pdf>

As a result of Council's action on February 2, 2015, this LAMP document has been revised. The revisions to the LAMP are effective February 2, 2015 and include:

- Revision to the LAMP cover with a new revised date of February 2, 2015
- Revision to the LAMP title page with a new revised date of February 2, 2015
- Revisions to pages 4-9 and D-4 to remove the number "14" as a reference to the number of targets in the southern archery range
- Revision date on each page that is edited



THE CITY OF PASADENA

LOWER ARROYO MASTER PLAN

Adopted September 29, 2003
(Revised February 2, 2015)

The Arroyo Seco Master Plans consist
of the following:

Hahamongna Watershed Park Master Plan
Central Arroyo Master Plan
Lower Arroyo Master Plan
Rose Bowl Use Plan
Arroyo Seco Design Guidelines

LOWER ARROYO MASTER PLAN

City of Pasadena
Recreation and Parks Commission

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TABLE OF CONTENTS

| <i>Section</i> | <i>Page</i> |
|---|-------------|
| 1.0 INTRODUCTION | 1-1 |
| 1.1 Overview | 1-1 |
| 1.2 Historical Background of the Lower Arroyo | 1-4 |
| 1.3 Project History | 1-5 |
| 1.4 Relationship to Other Plans..... | 1-9 |
| 1.5 The Guiding Principles for the Arroyo Seco..... | 1-12 |
| 1.6 Goals and Objectives of the Lower Arroyo Master Plan..... | 1-12 |
| 2.0 EXISTING CONDITIONS | 2-1 |
| 2.1 Ownership, Zoning, Easements | 2-1 |
| 2.2 Flood Control Channel / Water Resources | 2-3 |
| 2.3 Utilities | 2-4 |
| 2.4 Access, Parking, and Trails | 2-12 |
| 2.5 The Natural Environment | 2-15 |
| 2.6 Recreation | 2-23 |
| 2.7 Security | 2-28 |
| 2.8 Management and Maintenance | 2-28 |
| 3.0 ISSUES AND RECOMMENDATIONS | 3-1 |
| 3.1 Lower Arroyo Issues Identified by Previous Plans..... | 3-1 |
| 3.2 Lower Arroyo Issues Identified by Update Process | 3-3 |
| 3.2.1 Flood Management and Water Resources..... | 3-3 |
| 3.2.2 Restoration of Plant and Wildlife Habitats | 3-5 |
| 3.2.3 Recreation | 3-7 |
| 3.2.4 Landscape and Aesthetic Improvements..... | 3-13 |
| 3.2.5 Circulation and Parking | 3-14 |
| 3.2.6 Security and Accessibility | 3-15 |
| 3.2.7 Land and Conservation Acquisition..... | 3-16 |
| 3.2.8 Management and Maintenance | 3-16 |
| 3.2.9 Implementation | 3-17 |
| 4.0 LOWER ARROYO MASTER PLAN | 4-1 |
| 4.1 Primary Entrances | 4-4 |
| 4.2 East-Side Rim Improvements..... | 4-6 |
| 4.3 Central Use Area | 4-7 |
| 4.4 Trails and Related Improvements | 4-9 |
| 4.5 Memorial Grove Restoration | 4-13 |
| 4.6 Restore Banks of the Lower Arroyo Seco..... | 4-14 |
| 4.7 Restoration of Annandale Creek/Laguna Canyon..... | 4-14 |

APPENDIX A: Background Documentation for Project History

- A.1 Goals from the Draft Master Plan for the Lower Arroyo Seco, April 1996
- A.2 Agenda Report, Pasadena City Council, February 3, 1997
- A.3 Excerpt from the Minutes, Pasadena City Council, February 10, 1997

APPENDIX B: Inventory Surveys of Biological Resources at Lower Arroyo Seco Park

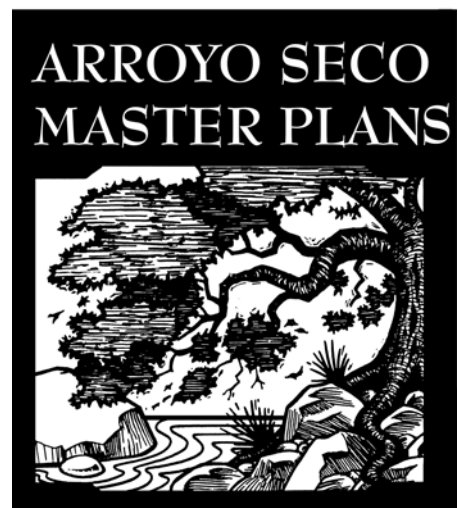
- B.1 Vascular Plants Observed at Lower Arroyo Seco Park
- B.2 Terrestrial Vertebrate Animals of Lower Arroyo Seco Park and
Nearby Areas With Similar Habitats; Recent Observations and Historical Records

APPENDIX C: Plant Palettes for Terrestrial Natural Plant Communities

- C.1 Coast Live Oak Woodland
- C.2 Southern Willow Scrub
- C.3 Mule Fat Scrub
- C.4 Sage Scrub
- C.5 Southern Sycamore Riparian Woodland

APPENDIX D: Lower Arroyo Master Plan Project Descriptions

Section 1. Introduction



SECTION 1: INTRODUCTION

1.1 OVERVIEW

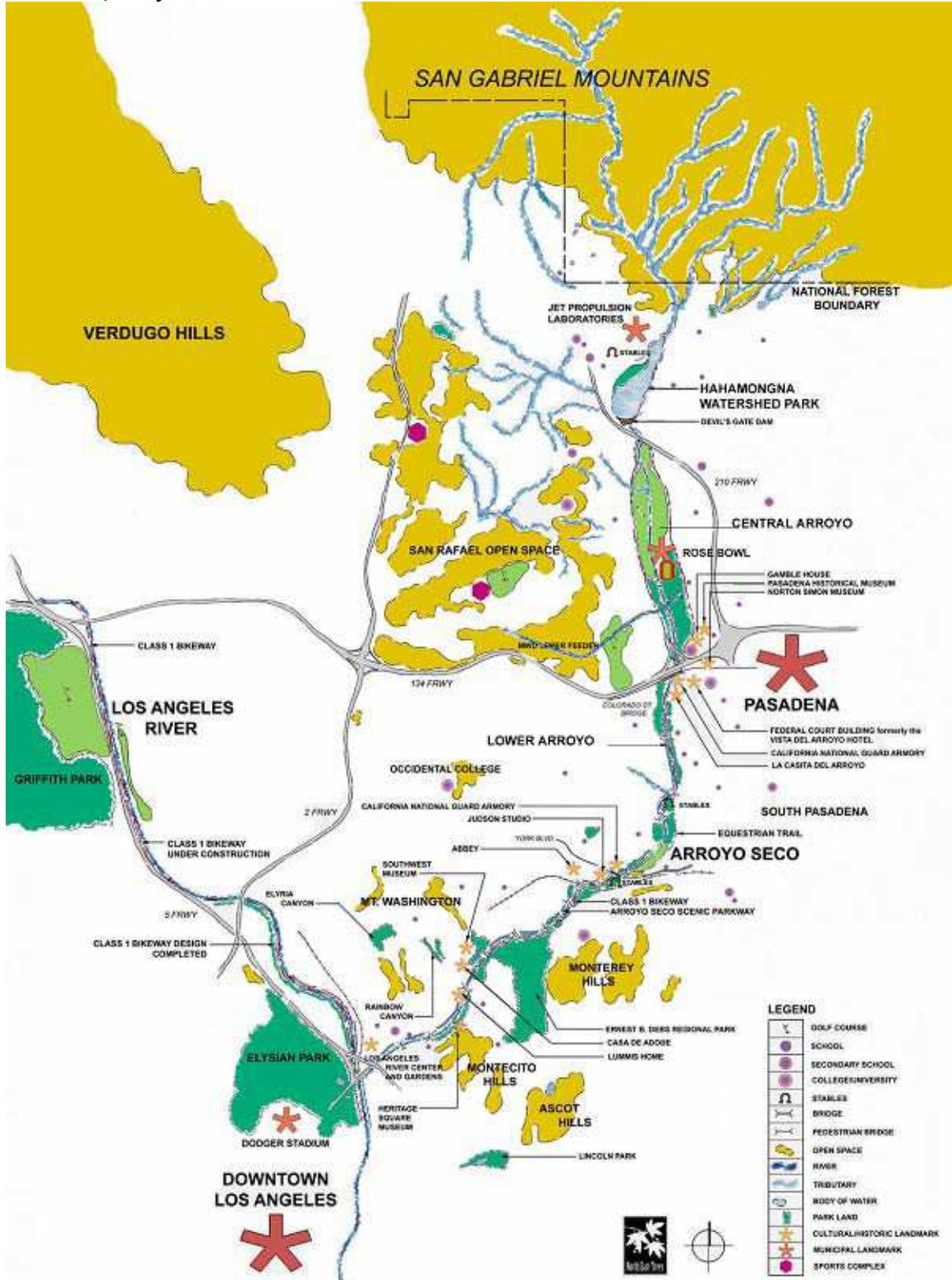
The Arroyo Seco, a major tributary to the Los Angeles River, flows out of the San Gabriel Mountains in the northwest corner of the City of Pasadena. As its waters flow through the City, the corridor created by the Arroyo Seco passes through three distinct geographical areas: Hahamongna Watershed Park (the upper Arroyo), the Central Arroyo, and the Lower Arroyo (See Exhibit 1-1, Arroyo Seco and Exhibit 1-2, Arroyo Seco in Pasadena). The Lower Arroyo Seco is an approximately 1.75-mile reach of this corridor bounded by the Colorado Street Bridge near the 134 Ventura Freeway to the north, the South Pasadena city limits at San Pascual Stables to the south, and various residential streets and properties that abut the publicly owned Arroyo banks to the east and west.



The Lower Arroyo extends from the Colorado Street Bridge on the right to the South Pasadena City limits on the left.

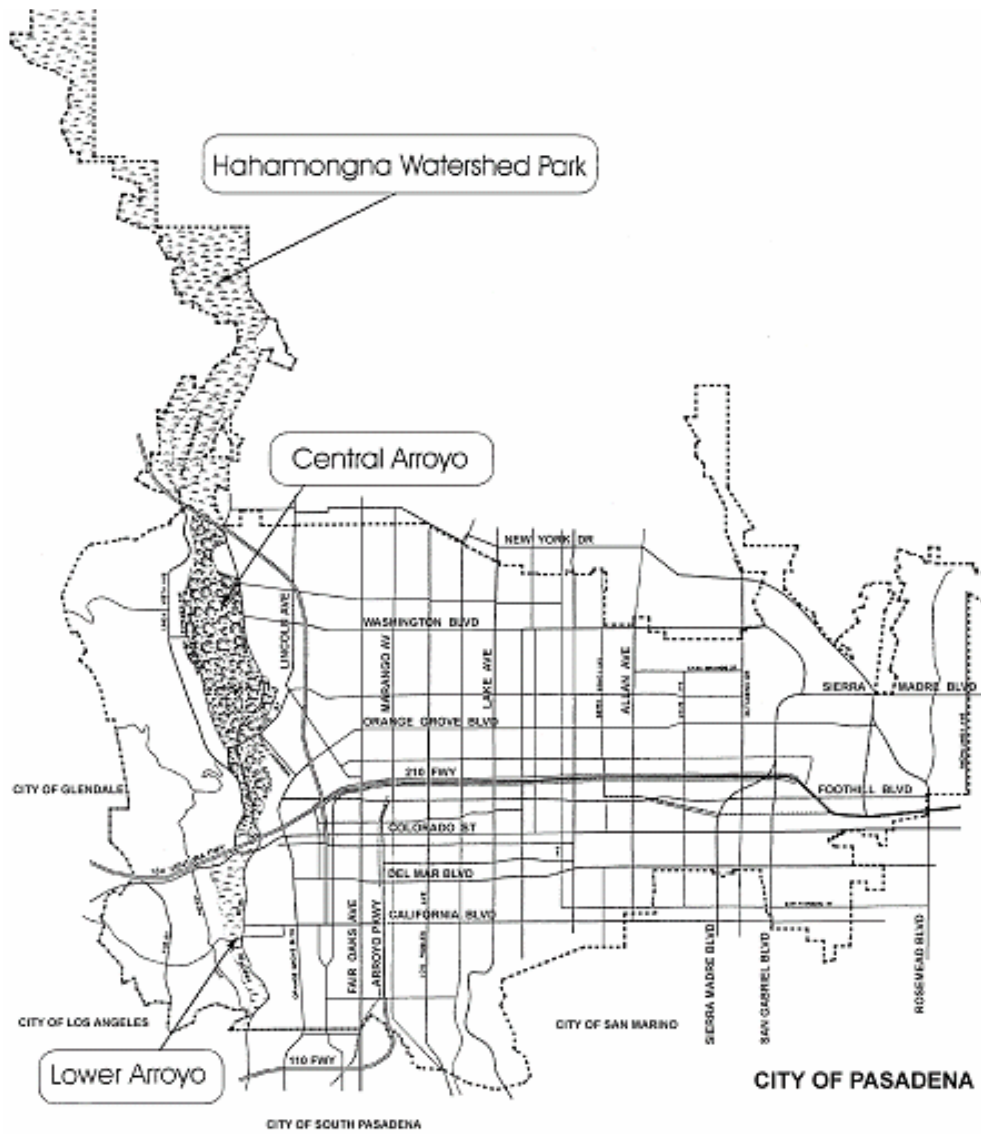
Coordinated planning efforts have been underway for the Arroyo Seco Master Plans. The Hahamongna Watershed Park Master Plan (HWPMP) was conceptually approved by the Pasadena City Council in February 2000. Hahamongna Watershed Park extends from the Devil's Gate Dam north and past the Jet Propulsion Laboratory (JPL) Bridge to the north city limits in the Angeles National Forest. The HWPMP comprises the 300 acres above Devil's Gate Dam to the JPL Bridge and the natural areas below the dam to the 210 Freeway. The Central Arroyo Master Plan (CAMP) was conceptually approved by the Pasadena City Council in January 2001; it covers an area that extends north from the Colorado Street Bridge to the 210 Freeway. This document is the Lower Arroyo Master Plan (LAMP). It is an update of the Draft Master Plan for the Lower Arroyo Seco that was conceptually approved by the Pasadena

Exhibit 1-1, Arroyo Seco



Source: NorthEast Trees

Exhibit 1-2, Arroyo Seco in Pasadena



City Council in February 1997. The LAMP, the CAMP, the HWPMP, the Rose Bowl Use Plan and the Arroyo Seco Design Guidelines are individual plans that make up the Arroyo Seco Master Plans for the City of Pasadena.

The major physical elements of the Lower Arroyo are identified in Exhibit 1-3, Study Area. For the purposes of this report, the area south of the casting pond on the east side of the flood channel is identified as the Memorial Grove. This area, unofficially known as the AIDS Grove for some years, has become the location for trees to be planted in memory of people who have passed away from various illnesses.

1.2 HISTORICAL BACKGROUND OF THE LOWER ARROYO

As early as 1887, the citizens of Pasadena recognized that the land surrounding the Arroyo Seco should become a park for the enjoyment and benefit of the public. Between 1911 and 1927, the City of Pasadena accumulated the land for what is now the Central and Lower Arroyo. In 1918, the Arroyo Park Committee headed by architect Myron Hunt recommended that a comprehensive plan be developed by noted landscape architect Emile Mische. The plan recommended that the Lower Arroyo be reserved for trails and bridle paths and planted only with native plants. In the early 1920's, Charles Lummis and others formed the Arroyo Seco Foundation. This was the first time a group banded together to promote the preservation of the Arroyo Seco.

Because of the Arroyo Park Plan and restrictions placed on the land in acquisition agreements, an early proposal for routing the Pasadena Freeway ("The First Highway in the West") through the entire Arroyo Seco was never realized. However, substantial flooding in the 1930's resulted in Works Progress Administration (WPA) flood control "improvements" to the Arroyo Seco in the form of a lined concrete channel built in the late 1930's and early 1940's through the Lower Arroyo Park. The flood control channel brought about the greatest change in the Arroyo Seco, eliminating natural flow patterns, restricting water availability, altering the local ecology, and generally detracting from the visual beauty and natural character of the area.

La Casita del Arroyo was constructed in 1932 as a joint project sponsored by the Pasadena Garden Club and the Pasadena City Parks Department to provide jobs for the unemployed. The small clubhouse, designed by Myron Hunt, was intended to become an art and nature center. The many rock walls and stone-lined trails gracing the Arroyo Seco today were subsidized by the Scoville family to create jobs during the Depression. The Bird Sanctuary, a small, formal seating area with a fountain and steps leading to a lower terrace situated on the crest of the canyon, also dates from this period.

The Pasadena Roving Archers found a home in the Lower Arroyo in 1935, creating a clubhouse and an extensive archery range for use by members for archery events and as an archery teaching facility. The Pasadena Casting Club followed in 1947, creating a clubhouse

with public restrooms and an approximately 20,000 square foot shallow, rectangular lined pond for practicing and teaching the principles of fly fishing. The Casting Club and the Roving Archers have continued to lease and maintain land in the Arroyo from the City to the present day. Dramatic recent changes to the Lower Arroyo resulted from the implementation of the Browning Ferris Industries of California, Inc. (BFI) low-flow stream restoration project in the 1990's, where streams and riparian habitat were created to emulate what was historically present in the Lower Arroyo Seco in the late 1800's.

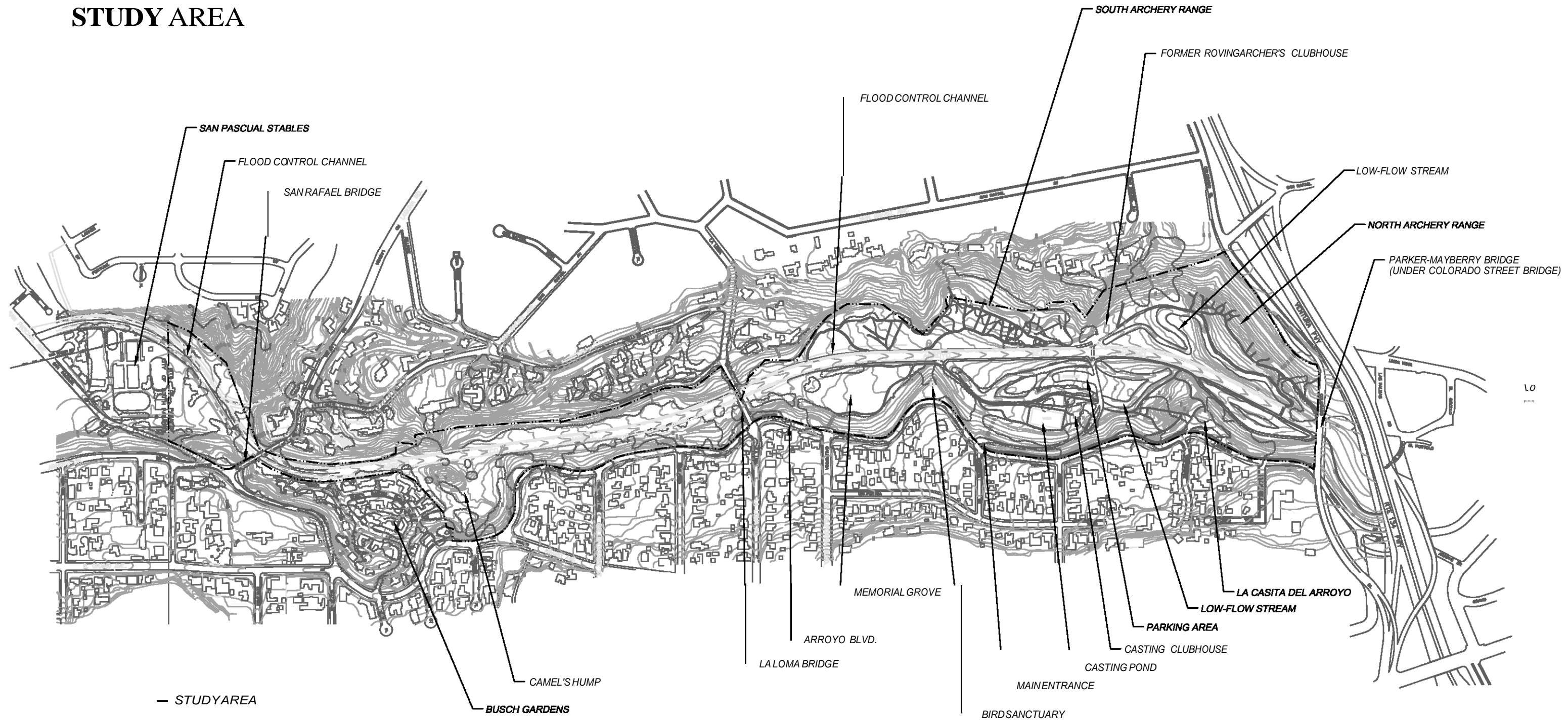
1.3 PROJECT HISTORY

Contemporary planning for the Lower Arroyo Seco dates to January 1988, when the City of Pasadena commissioned a design team from the Graduate Landscape Architecture Program at California State Polytechnic University at Pomona to develop a Master Plan for the area. That effort resulted in a document entitled *Master Plan for the Lower Arroyo Seco*, which was presented to the City Council in 1988. Among the design alternatives recommended in the Cal Poly study was a low-flow stream option that retained the concrete-lined flood-control channel through the area but created riparian “tributaries” on the terraces adjacent to the channel. While no further action was taken by the City Council at that time, the 1988 Cal Poly study generated interest in a “low flow” stream diversion project below the Colorado Street Bridge.



Early growth of plantings in the low-flow stream

Exhibit 1-3
STUDY AREA



In July 1991, the City and BFI entered into an agreement (*Arroyo Seco Site Restoration Agreement*, July 5, 1991) to plan, seek approvals for and implement such a project. Conceptual plans and environmental documentation in conformance with the California Environmental Quality Act (CEQA) were prepared, publicly reviewed and approved by the Pasadena City Council on February 25, 1992. The agreement and the plans provided for the phased implementation of a riparian woodland restoration project, including a low-flow diversion component, for the Lower Arroyo Seco on both the east and west sides of the flood control channel south of the Colorado Street Bridge.

For the first phase of the project, the City and BFI commenced initial restoration plantings on the west side of the flood control channel (Area D) in April, 1993 (see Exhibit 1-4, Low-Flow Stream Restoration Project). Grading for the stream zones and riparian parkland in the second phase of the project (Areas A, B and C) began in the spring of 1996. Construction of the low flow stream channels and the diversion structures to provide water for the newly created stream zones was completed in 1997; native riparian and woodland plantings were installed and water began to flow through the channels in the fall of that year.



Exhibit 1-4, Low-Flow Stream Restoration Project

In the spring of 1994, largely in response to this increasing activity and interest in the Lower Arroyo, the City Council requested that the Recreation and Parks Commission bring a recommended Lower Arroyo Master Plan to Council for formal adoption. In the fall of 1994, the Arroyo Committee of the Recreation and Parks Commission met to plan two community meetings to address the issues of the Lower Arroyo. The first meeting, held on October 15, 1994, co-sponsored by District 6, Recreation and Parks Department, and the Recreation and Parks Commission, included 230 participants. On December 19, 1994, the second and final community workshop was held to summarize Lower Arroyo issues, recommendations and

proposals. Participants included representatives from the Pasadena Chamber of Commerce, the Pasadena Unified School District, the Pasadena Casting Club, the Mayor's Bicycle Task Force, the Pasadena Dog Obedience Club, and various City Council District Representatives as well as interested neighbors and community members.

Both meetings were directed by a professional facilitator and were designed to thoroughly evaluate suggestions on how existing uses and other potential new uses could be accommodated and integrated in the Lower Arroyo. The meetings also focused on the community's vision of a more natural park. A dialogue was initiated to determine if there were possible plan alternatives that could accommodate new uses, including separate bicycle, equestrian and pedestrian trails as well as alternative days or times for off-leash dogs. Responses from the meeting participants demonstrated a divided reaction, with the majority of participants remaining extremely cautious or opposed to accommodating new uses. It was acknowledged that any such new uses would require amendments to existing municipal code provisions prohibiting bicycle use or dogs off-leash in the Lower Arroyo.

In early 1995, the former Recreation and Parks Department and Recreation and Parks Commission addressed the comments and information gathered at both community meetings and developed recommendations for further review by the Commission.

More than 200 letters requesting written input were sent to individuals who had participated in either of the two community meetings. These final comments were reviewed by the Commission before it developed a formal recommendation for the City Council.

On July 11, 1995, the Recreation and Parks Commission conceptually approved a Master Plan including recommendations to:

- 1.) Amend the Arroyo Seco Ordinance and any other applicable ordinances to allow bicycles on designated paths or trails; and
- 2.) Amend the Arroyo Seco Ordinance and any other applicable ordinances to allow dogs off-leash in designated areas at designated days and times.

The Recreation and Parks Commission also developed a time line for review by those Commissions affected, such as Cultural Heritage, Design, and Planning. During the late summer and fall of 1995, all three of these Commissions endorsed the Master Plan with the exception of the two recommendations identified above. On November 8, 1995, the Planning Commission rescinded its earlier decision to oppose dogs off-leash and voted to take no action on the issue of dogs in the Arroyo. However, the Planning Commission remained on record opposing the Recreation and Parks Commission's recommendation to allow bicycles in the Lower Arroyo. Finally, after further review and receipt of additional information from the City Attorney's office, the Recreation and Parks Commission voted not to continue with its recommendation for dogs off-leash.

On February 10, 1997, the Pasadena City Council approved in concept the Draft Master Plan for the Lower Arroyo Seco with the changes to the original Cal Poly study recommended by the Recreation and Parks Commission. The Council also directed City staff to prepare a final

plan with the appropriate amendments to existing ordinances and proceed with environmental reviews (see Appendix A).

After several years the City reinitiated its update process for the Lower Arroyo Master Plan in concert with its master planning for the entire Arroyo Seco. Public meetings, focused on an updated Master Plan for the Lower Arroyo, were held on February 14 and March 17, 2001. Recommendations to the updated plan included two alternatives: one alternative with a bicycle path on the west side of the flood control channel and one alternative without such a path. The recommendation for both of these alternatives to be included in the updated plan was presented to the Recreation and Parks Commission on March 21, 2001. The Commission took action to include only the alternative without the bicycle path. However, because of the City Council's prior act in conceptually approving the draft Master Plan with a bicycle path, staff was directed to retain the bicycle path in the Master Plan and to consider the Commission's action as advisory. Thus, in spite of substantial opposition to including a bicycle path in the Master Plan at both the community meetings as well as the Commission's action of March 21st, the bicycle path remains a component of the Master Plan presented here because it was an element required by the City Council in its 1997 conceptual approval. The current update process will also enable CEQA review as required by the Stipulated Judgment.

This Master Plan is the product of that update process. It represents the culmination of years of community planning and dialogue with the concepts of the original 1988 Cal Poly study at its core. As an update of the conceptually approved 1996 *Draft Master Plan for the Lower Arroyo Seco*, it is responsive to the direction that the Pasadena City Council expressed in its conceptual approval in 1997.

1.4 RELATIONSHIP TO OTHER PLANS

City of Pasadena General Plan

This Master Plan has been completed in response to the principles, objectives, and policies set forth in the City of Pasadena's Comprehensive General Plan. The second Guiding Principle of the General Plan states that "change will be harmonized to preserve Pasadena's historic character and environment." Pursuant to this Guiding Principle, Objective 9, Open Space Preservation and Acquisition, specifically identifies the Arroyo Seco for preservation. Policy 9.2 further states "continue and complete comprehensive planning for, and implementation of, plans for the Arroyo, including restoration of the natural area of the Lower Arroyo and the development of the Hahamongna Watershed Park Plan."

Draft Master Plan for the Lower Arroyo Seco

The Draft Master Plan for the Lower Arroyo Seco was prepared at the direction of the Pasadena City Council with full public participation, review by the Recreation and Parks Commission, Design Review Commission, Cultural Heritage Commission, and Planning

Commission, and approval in concept by the Pasadena City Council on February 10, 1997. In its approval, the City Council directed City staff to prepare a final plan that incorporated several key elements into the Master Plan, including the following:

- Reaffirm that the Lower Arroyo be restored and preserved as a natural area park.
- Continue to explore opportunities that could allow flood control channel removal.
- Continue to develop the area as a wetland area based on available funding.
- Reaffirm the guidelines of the Arroyo Seco Ordinance, especially as they apply to limitations on new structures in the Lower Arroyo.
- Retain parking capacity at current levels consistent with Accessibility Disability Act (ADA) guidelines, except in those cases where non-impacting expansion may be justified based on utilization.
- Develop a public land trust funding alternative for the purpose of acquiring sections of the Lower Arroyo for preservation.
- Retain City Ordinance requirement for dogs on leash.
- Develop a path on the west side of the flood control channel for bicycles and require equestrians to use a path on the eastern side of the flood control channel.

This Master Plan is an update of the conceptually approved draft and is responsive to the direction of the Pasadena City Council in 1997.

The Arroyo Seco Public Lands Ordinance

The Arroyo Seco Public Lands Ordinance, as part of the Pasadena Municipal Code (Chapter 3, Section 32), identifies the uses, activities, facilities and structures permitted on the public lands of the Arroyo Seco as well as their limitations. The Arroyo Seco is defined as those public lands lying within the area generally bounded by Devil's Gate Dam on the north, Linda Vista Avenue, San Rafael Avenue, and Hillside Terrace on the west, the city limits on the south, and Arroyo Boulevard, Arroyo Terrace, Scott Place, Prospect Boulevard, and Armada Drive on the east. This area includes the Central Arroyo and the Lower Arroyo. It does not include Hahamongna Watershed Park.

The Ordinance identifies sub-areas within the Arroyo Seco for the application of certain regulations. The identified sub-areas include: Natural Preservation area, Brookside Park area, Rose Bowl area, and Brookside Golf Course. The Lower Arroyo from the south city limit to the Holly Street Bridge is included as a natural preservation area. The following uses are permitted on public lands in the natural preservation areas established by the Ordinance (Section 3.32.070):

- A. Low-intensity recreational activities within defined activity areas including hiking, horseback riding, archery, casting, picnicking and jogging.
- B. New structures shall be limited to those required for utility operations, park maintenance, and protection of plant and animal communities. Such structures are to be adequately screened to conceal their visual presence.
- C. All existing uses may be allowed to remain but not allowed to expand.

Special regulations for the natural preservation area (Section 3.32.080 of the Ordinance) specify that all lands within the natural preservation area are to be designated as a natural preserve.

Century of Bikes, Bicycle Master Plan

The Final Bicycle Master Plan for the City of Pasadena was adopted by the Pasadena City Council on November 6, 2000. It was published as a guideline for the city to provide a safe and attractive environment needed to promote bicycling as a transportation mode. The Bicycle Master Plan expands upon the recommendations contained in the General Plan and provides guidance for meeting Pasadena's goal of becoming "bicycle friendly."

The master plan references an improvement program for a Pasadena-to-Los Angeles bikeway, which includes construction of an elevated bikeway over the Los Angeles River. It also discusses the Kenneth Newell Bikeway, which runs along the rim of the Arroyo Seco from Los Angeles to Altadena. However, no specific bicycle use in the Lower Arroyo Seco is included in the Bicycle Master Plan.

Arroyo Seco Watershed Restoration Feasibility Study

The Arroyo Seco Watershed Restoration Feasibility Study is a cooperative project of Northeast Trees and the Arroyo Seco Foundation, funded by the California Coastal Conservancy and the Santa Monica Mountains Conservancy, to develop an environmentally sensitive and sustainable plan to manage the Arroyo Seco watershed. The study is intended to integrate issues of flood management, stream naturalization, water resources, habitat rehabilitation, education and community recreational opportunities into a comprehensive, long-term plan to restore the Arroyo Seco and its watershed. The study is comprised of three phases: Phase I, published on March 2, 2001, includes the systematic collection and inventory of existing information and identification of critical issues and gaps in knowledge. Phase II will use this information to refine goals and objectives, develop standards to guide project designs, generate a list of demonstration projects and recommend an implementation strategy. Phase III, an independent component of the study, will consist of site-specific design of the demonstration projects recommended in the study. Initial goals identified through the Phase I report include:

- Goal 1: Restore the Natural Hydrological Functioning of the Watershed.
- Goal 2: Better Manage/Optimize/Conserve Water Resources and Improve Water Quality.
- Goal 3: Improve Habitat Quality, Quantity and Connectivity.
- Goal 4: Improve Recreational Activities.

As noted below, the goals and objectives of the Lower Arroyo Master Plan are consistent with those of the Arroyo Seco Watershed Restoration Feasibility Study.

1.5 THE GUIDING PRINCIPLES FOR THE ARROYO SECO

The Guiding Principles for the Arroyo Seco were developed to serve as the umbrella under which fall the specific goals and objectives for each of the Arroyo Seco Master Plans. These six Guiding Principles were developed collaboratively between members of the community, members of the Recreation and Parks Commission, members of the Hahamongna Watershed Park Advisory Committee, and City staff. These Guiding Principles will also serve as a bridge between the Arroyo Seco Master Plans and the City's General Plan Update. The six principles are:

- To encourage and promote the stewardship and enjoyment of the Arroyo Seco in Pasadena.
- To balance and integrate the interrelated issues of water resources, recreation, natural resource preservation and restoration, and flood management in the Arroyo Seco.
- To provide a safe, secure, and accessible Arroyo Seco for public enjoyment.
- To recognize the importance to Pasadena of the history, cultural resources, and unique character of the Arroyo Seco, and to conserve and enhance these assets.
- To preserve and acquire open space in or adjacent to the Arroyo Seco.
- To recognize that the Arroyo Seco in Pasadena is comprised of distinct geographical areas that are interconnected by a number of resources and features including, but not limited to, water, habitat, geology, recreation, and culture; and that it is part of a larger watershed.

1.6 GOALS AND OBJECTIVES OF THE LOWER ARROYO MASTER PLAN

The 1988 Cal Poly study developed a list of goals to guide the future of the Lower Arroyo Seco. Participants in the two community group meetings held in 1994 also expressed their goals for the Lower Arroyo. The 1996 Draft Master Plan included a list of goals that synthesized the community input with the Cal Poly list (see Appendix A). During the public meetings held in 2001 as part of the Master Plan update process, goals and objectives specific to the Lower Arroyo were also reviewed and discussed. The following goals and objectives consider recent community input and incorporate and expand upon the previous goal statements of the Cal Poly study:

Goal 1: Restore, preserve, and enhance the natural character of the Arroyo in its urban setting as a self-sustaining, healthy system of people, plants, and animals interacting with the land. The natural character will continue to inspire people, as it has throughout time, and provide a setting for human activities now and in the future.

Objectives:

- Maintain the Arroyo's function as a corridor for wildlife and people.

- Increase plant and habitat diversity for the benefit of wildlife and to enhance recreational experiences.
- Use only native plants indigenous to the area in any habitat restoration activities.

Goal 2: Maximize the effective use of available water for the benefit of people, plants, and animals.

Objectives:

- Maintain and improve upon the use of surface water that collects behind the weir below the Colorado Street Bridge.
- Maintain the ability to provide temporary irrigation for plant establishment through the use of local groundwater.

Goal 3: Provide appropriate recreational opportunities for the Pasadena community.

Objectives:

- Maintain and enhance the historic recreational uses within the Lower Arroyo.
- Limit new uses in the Lower Arroyo to those recreationally related activities that are ecologically appropriate and benefit most from the natural character of the Arroyo.
- Resolve conflicts among activities and eliminate negative environmental impacts that result from inappropriate use.
- Provide appropriate facilities for a natural park in an urban setting such as additional drinking fountains and restrooms, picnic facilities, and benches along trails and pathways.

Goal 4: Provide adequate circulation, access and parking.

Objectives:

- Encourage use of public transportation and nonmotorized access to the Lower Arroyo.
- Provide adequate parking for existing recreational activities and facilities.
- Improve local and regional trail connections.
- Maintain, restore, improve and enhance trails and pathways within the Lower Arroyo.
- Develop separate trail systems for pedestrians, equestrians, and bicyclists wherever possible.
- Comply with Accessibility Disability Act (ADA) standards for a “natural park.”
- Develop a signage system that provides clear directional information and informs park visitors without being intrusive.

Goal 5: Improve the aesthetics and preserve the historical elements of the Lower Arroyo.

Objectives:

- Enhance main entrance to Lower Arroyo.
- Restore the historic stone walls and paths in the Lower Arroyo in keeping with their historic character and native construction materials.
- Improve the grounds of La Casita del Arroyo.
- Enhance the Bird Sanctuary.
- Improve aesthetics and amenities of the Memorial Grove and Camel’s Hump areas.
- Improve aesthetics of chain-link fencing along the channel.
- Improve and upgrade interpretive and directional signage throughout the Lower Arroyo.

Goal 6: Provide a safe and secure environment for recreational activities.

Objectives:

- Encourage an active Neighborhood Watch Program with regular meeting/reporting protocol.
- Expand patrols by security personnel and volunteers.
- Provide security lighting and/or cameras at key locations.
- Provide ADA-accessible trails where feasible.

Goal 7: Manage and maintain the area to balance natural habitat values, recreational needs and public health and safety.

Objectives:

- Implement a brush-clearing program to reduce fire hazards in critical areas.
- Maintain programs to control and manage erosion.
- Retain the flood-control function of the canyon.
- Maintain program to control rodents in restoration areas in cooperation with Los Angeles County.
- Maintain program to control invasive nonnative weedy species.
- Maintain regular program of building and facilities repair and maintenance.
- Develop program for regular monitoring, trash removal, and sediment cleanout at inlets for low-flow stream system.
- Maintain existing groundwater well and irrigation system capability.
- Develop annual program for native tree and shrub plantings and replacement based on monitoring.
- Aggressively enforce existing leash laws and new on-trail regulations for bicyclists.

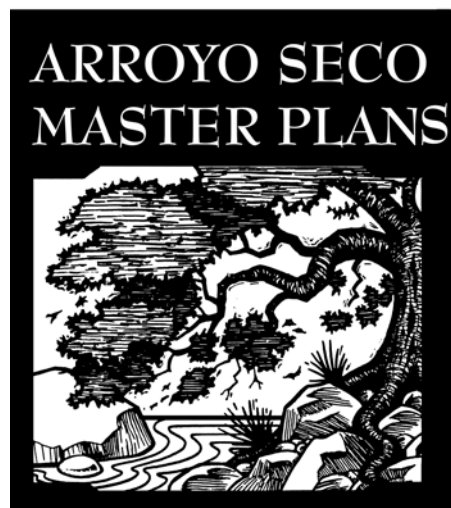
Goal 8: Enrich and promote the unique natural character of the Lower Arroyo Seco Park.

Objectives:

- Encourage use of the Lower Arroyo as a living laboratory.
- Develop volunteer/docent programs.
- Maintain public awareness/education programs
- Coordinate with local school districts and other educational organizations.
- Provide interpretive signage/information at appropriate locations.

The *Arroyo Seco Master Plans* were developed by the combined efforts of the Planning and Development Department and the Department of Public Works. The implementing department for the completed *Arroyo Seco Master Plans* will be the Department of Public Works. The projects identified in the *Arroyo Seco Master Plans* are described and listed to easily translate to the City's Capital Improvement Program.

Section 2. Existing Conditions



SECTION 2:

EXISTING CONDITIONS

The Lower Arroyo Seco is a designated natural preservation area that extends from the Colorado Street Bridge to the South Pasadena border. This section of the Arroyo Seco has not been developed into a golf course, parking lot, baseball field, or events arena. The Lower Arroyo remains valued by many for its natural beauty and as a wonderful, wild place to engage in all types of activities, including jogging, strolling, archery, horseback riding, bird watching or fly casting. Within the Lower Arroyo there are glimpses of Pasadena's past, trails to explore or exercise on, birds and other small animals to observe, and a refreshing contrast to the urban environment that spreads outward from its edges. The Lower Arroyo Seco retains scattered pieces of the natural wildness that has inspired settlers, recreationists, artists, writers, and poets for over a century.

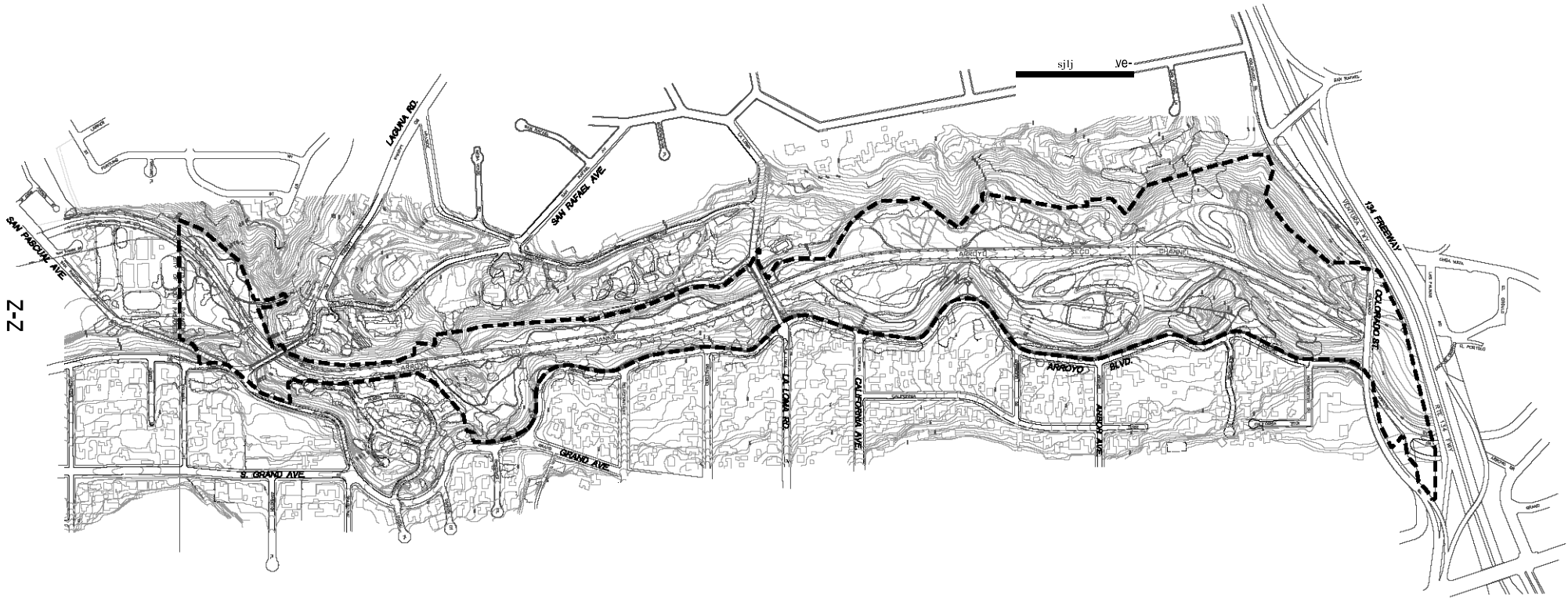
2.1 OWNERSHIP, ZONING, EASEMENTS

The majority of land in the Lower Arroyo Seco is owned by the City of Pasadena. However, private landholdings extend along the slopes of the Arroyo and, in the case of the Busch Gardens development, occupy portions of the former floodplain terrace adjacent to the natural park (see Exhibit 2-1, City of Pasadena Land Ownership). The San Pascual Stables on City of South Pasadena land are also located on the former floodplain terrace of the Arroyo and define the southern limits of the Lower Arroyo planning area. Most of the area is zoned and designated as “Open Space” by the City of Pasadena General Plan. “Open Space” is defined by the Pasadena General Plan as follows: “This category is for a variety of active and passive public recreational facilities and for City-owned, open-space facilities. This includes natural open spaces and areas, which have been designated as environmentally and ecologically significant. This category also applies to land, which is publicly owned, though in some instances public access may be restricted. Most importantly, this designation only applies to lands owned by the City.”

The adjacent neighborhoods to the Lower Arroyo are primarily zoned “Single Family Residential” in the hillside development district (RS4 HD or RS2 HD). Many adjacent residential parcels, especially those on the west side of the Arroyo, extend down into the historic Arroyo flood plain creating public access and management challenges.

The Los Angeles County Department of Public Works (formerly the Flood Control District) has an easement for the flood control channel that bisects the park. The County also maintains a 25-foot easement on either side of the channel.

Exhibit 2-1
CITY OF PASADENA
LAND OWNERSHIP



2.2 FLOOD CONTROL CHANNEL/WATER RESOURCES

The Los Angeles County flood control channel dominates the Lower Arroyo Seco Master Plan area, with the fenced, concrete structure essentially bisecting the arroyo bottom. As noted above, the County maintains an easement over the channel and an adjacent right-of-way and is responsible for maintenance of the structure. Stream channels, constructed as part of the low-flow stream restoration project, occupy the terraces adjacent to the concrete channel in an approximately ¾-mile reach south of the Colorado Street Bridge. A relatively shallow (± 30 feet deep) groundwater well, established in the eastern terrace near the Lower Arroyo parking area as part of the restoration project, provides irrigation for the establishment of native plantings.

The Devil’s Gate Dam has been upgraded and is now capable of impounding water and controlling the drainage from the upper Arroyo Seco watershed and Hahamongna Watershed Park into the flood-control channel. The dam is currently being managed for sediment releases during high-flow storm events. The waters released from Devil’s Gate Dam initially flow through a small reach of remnant natural river bed just below the dam, then into an open concrete channel extending from the Brookside Golf Course through the Central Arroyo to another reach of natural drainage channel under the Holly Street and Colorado Street Bridges. Beneath the Colorado Street Bridge, the flow is slowed by a concrete weir structure (the “slime slide”) and released over a spillway into the concrete channel through the Lower Arroyo. Two inlet structures in the wing-wall abutments on either side of the weir allow low flows to enter into the constructed stream channels of the Lower Arroyo.



Excavation work for the low-flow stream inlet structures at the “slime slide”

The Pasadena community and various organizations have expressed interest in restoring the natural stream channel in the Arroyo Seco. A feasibility study by the Arroyo Seco Foundation and Northeast Trees has been completed to identify opportunities for watershed restoration in the Arroyo Seco. The Los Angeles County Department of Public Works has also indicated a desire to study possible solutions for increasing the flood control capacity of the channel.

2.3 UTILITIES

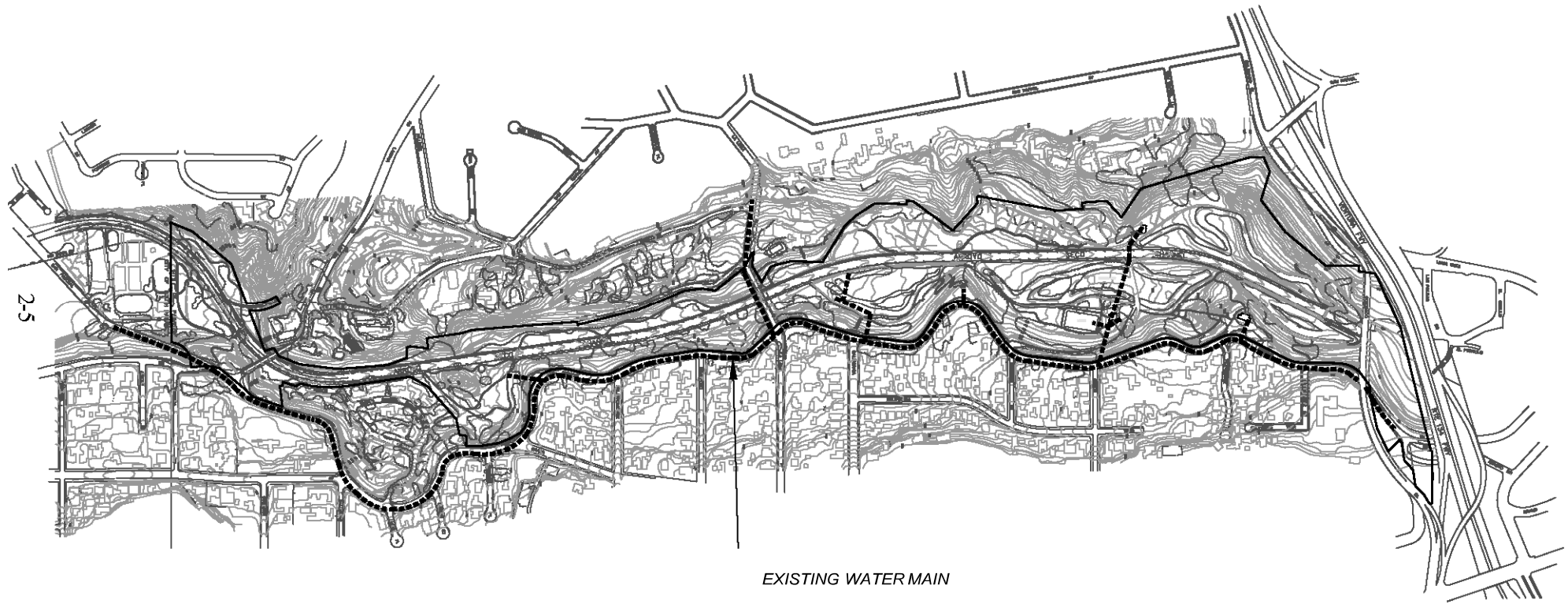
Water Lines

A municipal water main exists along Arroyo Boulevard on the easterly edge of the Lower Arroyo (see Exhibit 2-2, Water Lines). Two lateral water mains, an 8" and a 12" that service the San Rafael area of West Pasadena, also cross the Arroyo on the south side of the La Loma Road Bridge, running underground and down slope from the east, emerging above ground at the flood control channel, crossing the channel in truss bridging, and continuing up slope underground. There is a fire hydrant serviced from the 8" main next to the east side of the channel.

The water source or water service for landscaping, recreational facilities, and fire suppression in the Lower Arroyo is provided via a water main along Arroyo Boulevard. North of the main entrance area, a 6" underground water main descends the slope at Arbor Street, heading directly towards the access bridge to the archery range. A fire hydrant is located on the east side of the channel. This line services the Casting Club building and public restrooms, the casting pond, the Roving Archers building, and drinking fountains. Landscape irrigation systems are also serviced by this water main, from the Colorado Street Bridge south to the end of the low-flow stream on the east and to the south end of the archery range on the west. A shallow groundwater well was established near the Lower Arroyo parking area as part of the low-flow stream restoration project to provide temporary irrigation for restoration plantings.

There are various other connections, not shown on the map, to the water main in Arroyo Boulevard for irrigation systems and drinking fountains. A connection provides domestic and irrigation water to La Casita del Arroyo and the adjacent gardens, several connections provide for landscape irrigation and drinking fountains along the west side of Arroyo Boulevard, and another connection services the fountains at the Bird Sanctuary. There is a water line running down-slope, north of California Boulevard, to the existing Memorial Grove area. This line services the abandoned restroom and extends north and south along the flood control channel for landscape irrigation. Another connection at Arroyo Boulevard, north of the Camel's Hump, runs down-slope into the Arroyo for landscape irrigation in the Camel's Hump area.

Exhibit 2-2
WATER SERVICE



EXISTING WATER MAIN

Storm Drains

The Arroyo Seco is the primary drainage channel for western Pasadena. Storm drains serving adjacent residential areas discharge storm water and urban runoff directly into the Lower Arroyo and into the flood channel. Discharge from drains located on the slopes of the canyon has caused severe erosion in some cases. Many drains were constructed of corrugated metal pipe and over time these drains have become exposed to the elements, rusted and are now in need of replacement. Urban trash, washed through storm drains, enters the Arroyo Seco causing more problems than just unsightly litter. It can accumulate at the inlets to the east- and west-side low-flow streams, restricting the flow to and in the streams, and ultimately it can prevent the control gates from closing. The gates must be closed when storm water contains high levels of sediment.

The following descriptions of specific storm drains identified in Exhibit 2-3, Storms Drains, are preliminary. Additional study will be necessary to confirm which drains need repair, extending, or replacement.

Drain No. 1 takes water runoff from the immediate residential area at Arroyo Boulevard. The drain line runs underground, down-slope, across the Arroyo floor and directly into the flood channel. Storm water runoff from the main entrance road enters this drain line at an inlet at the bottom of the grade.

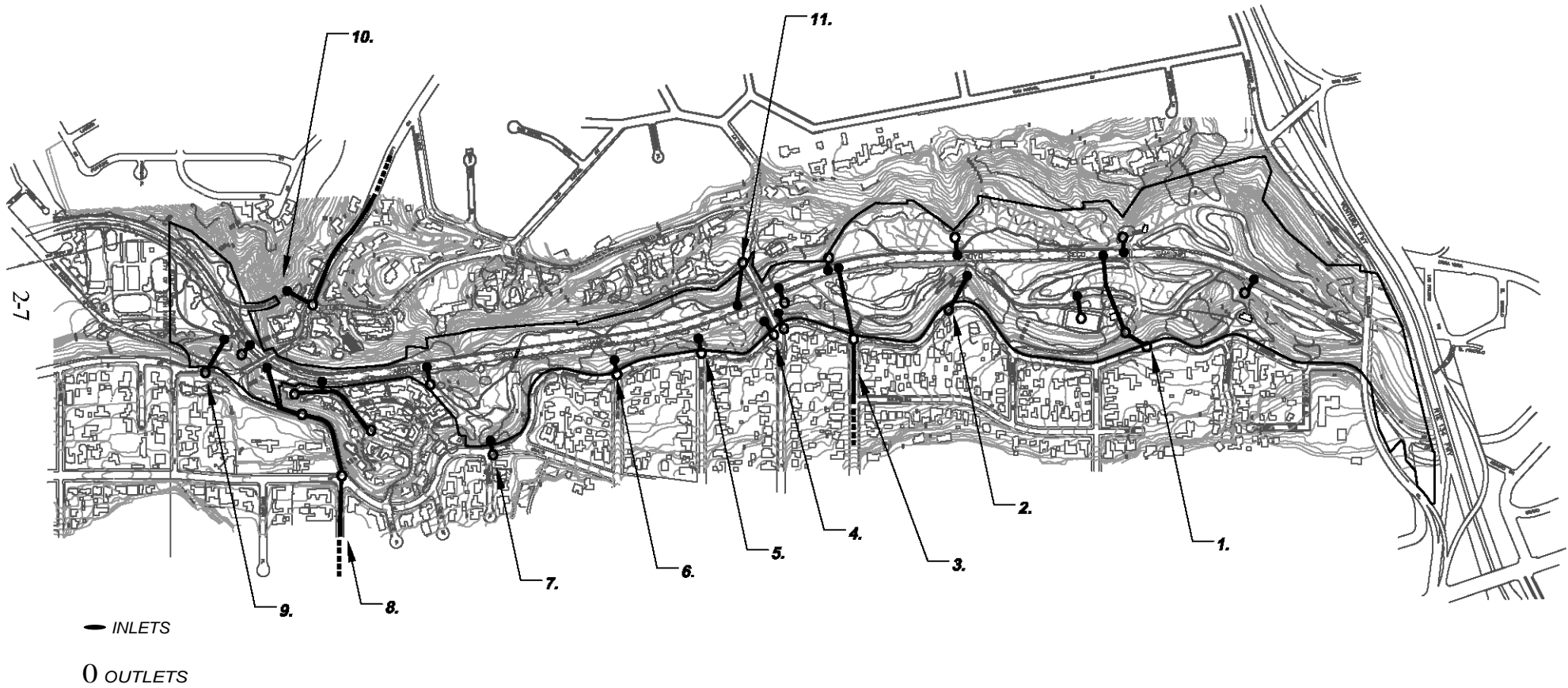
Drain No. 2 takes water runoff from the immediate residential area at Arroyo Boulevard and the Bird Sanctuary. This drain runs down to the base of the slope. Damaged, it now discharges water near the top of the slope above the south end of the low-flow stream. This has caused severe erosion damage threatening the stability of the lower terrace of the Bird Sanctuary and the sewer main. The water runoff and eroded earth enters the low-flow stream and then with the stream flows directly into the flood channel.

Drain No. 3 takes water runoff from an extensive area east and north of Arroyo Boulevard down California Boulevard in an underground system of drains and runs down-slope across the Arroyo floor directly into the flood control channel. In this same area, there is a small drain at the northeast end of the La Loma Road Bridge. This drains the west side of Arroyo Boulevard south of California Boulevard.

Drain No. 4 takes water runoff from the immediate residential area at Arroyo Boulevard. This drain runs down to the base of the slope. Damaged, it now discharges water near the top of the slope causing severe erosion damage, and exposing and threatening the stability of the adjacent 8" and 12" water mains.

Drain No. 5 takes water runoff from the immediate residential area at Arroyo Boulevard. This drain runs down to the base of the slope. Damaged, it now discharges water near the top of the slope. This has caused severe erosion, but the continuing urban runoff is sustaining thick vegetation, which has stabilized the slope.

Exhibit 2-3
STORM DRAINS



Drain No. 6 takes water runoff from the immediate residential area at Arroyo Boulevard. This drain discharges mid-slope, eroding the lower portion of the slope.

Drain No. 7 takes water runoff from the immediate residential area at Arroyo Boulevard. This underground drain discharges 40 feet from the edge of the road, at the top of a cliff. Although the slope is stabilized with vegetation and the drainage area is small, this drainpipe may need to be extended down the slope to the Arroyo floor.

Drain No. 8 takes water runoff from an extensive area east and north of Arroyo Boulevard down Madeline Drive and Arroyo Boulevard in a system of underground drains running down-slope, across the Arroyo floor and directly into the flood control channel.

Drain No. 9 takes water runoff from the immediate residential area at Arroyo Boulevard. This underground drain discharges at the base of the slope in the vicinity of the existing pedestrian bridge. The drainpipe is on the surface as it runs down-slope. This area of the Eastside Multi-Use Trail is constantly muddy due to year-round urban runoff. A ditch running north approximately 100 feet to a drain inlet requires constant maintenance during the winter-rain season.

Drain No. 10 takes water runoff from an extensive area south of the 134 Freeway, east of the crest of the San Rafael Hills, and west of the crest of the west rim of the Arroyo Seco. All storm water and urban runoff flows through an extensive system of underground storm drains and is discharged into the Laguna intermittent stream, entering a branch of the flood control channel on the Arroyo floor.

Drain No. 11 takes water runoff from the immediate residential area west of the La Loma Road Bridge. The underground drain runs down-slope and directly into the flood control channel.

Most of the large areas within the Lower Arroyo have short area drains to allow surface runoff to flow directly into the flood-control channel. On the west side, there are three inlets discharging storm water runoff from the slopes and the archery range, directly into the flood channel. On the east side, there are four inlets that drain the slopes north of La Casita, the Memorial Grove area, the Camel's Hump area, and the area south of the Busch Gardens Estates. The Busch Gardens residential area also has a small underground storm drain system that discharges directly into the flood channel.

The discharge from drains nos. 4, 5, and 6 and the surface runoff from this area flow south from the La Loma Road Bridge to the Camel's Hump causing severe erosion on the east-side trail every year. These drains could be either extended directly into the flood channel or the runoff could be directed to a single area drain. Alternatively, newly graded swales could direct the runoff to the Camel's Hump area for recharge into the groundwater aquifer.

All surface runoff from the large area containing the Casting Club building and pond, parking area, and Area C of the low-flow stream flows into the low-flow stream with

accumulated debris and sediment, and enters the channel via the stream discharge drain. The casting pond must be drained and cleaned of leaves and sediment four times a year. This drain line enters the low-flow stream west of the pond.

Sewer Mains

The sewer main that services La Canada, JPL, and Linda Vista, enters the Lower Arroyo Seco on the east side, mid-slope (see Exhibit 2-4, Sewer Lines). The sewer main serving the eastside residential neighborhoods, south of the Colorado Street Bridge and west of Orange Grove Boulevard, is located underground in Arroyo Boulevard. The two sewer mains join at the intersection of California Boulevard and Arroyo Boulevard, and continue south to the San Pascual Pump Station in South Pasadena. The sewer mains in the San Rafael area of West Pasadena cross the Arroyo Seco on the La Loma Road and San Rafael Avenue Bridges and connect to the eastside mains.

There are three sewage lift stations in the Lower Arroyo Seco. The Casting Club building with kitchenette and public restrooms has a pump station adjacent to the building as does the restroom building in the Memorial Grove area. The Busch Gardens residential area has a pump station on the floor of the Arroyo, south of the homes. Each lift station pumps the sewage up to the sewer main above.

Power Distribution

Power lines run overhead along Arroyo Boulevard (see Exhibit 2-5, Power Distribution). La Casita del Arroyo has underground service from one of these power poles. Overhead power lines run halfway down the slope, then underground to an electrical distribution room in the Casting Club building. From here, electrical power is provided to the building and the public restrooms, outside lighting, and a sewage lift station. Underground lines connect to exterior lighting at the casting pond and in the parking area. Power runs underground to a well that provides irrigation water to new plantings in the area and also to the Archery Rangel. Underground power was recently provided to the Bird Sanctuary for outside security lighting. At the Memorial Grove area, power runs overhead to the bottom of the slope. From this pole, power runs underground to the abandoned restrooms and the sewage lift station.

Exhibit 2-4
SEWER LINES

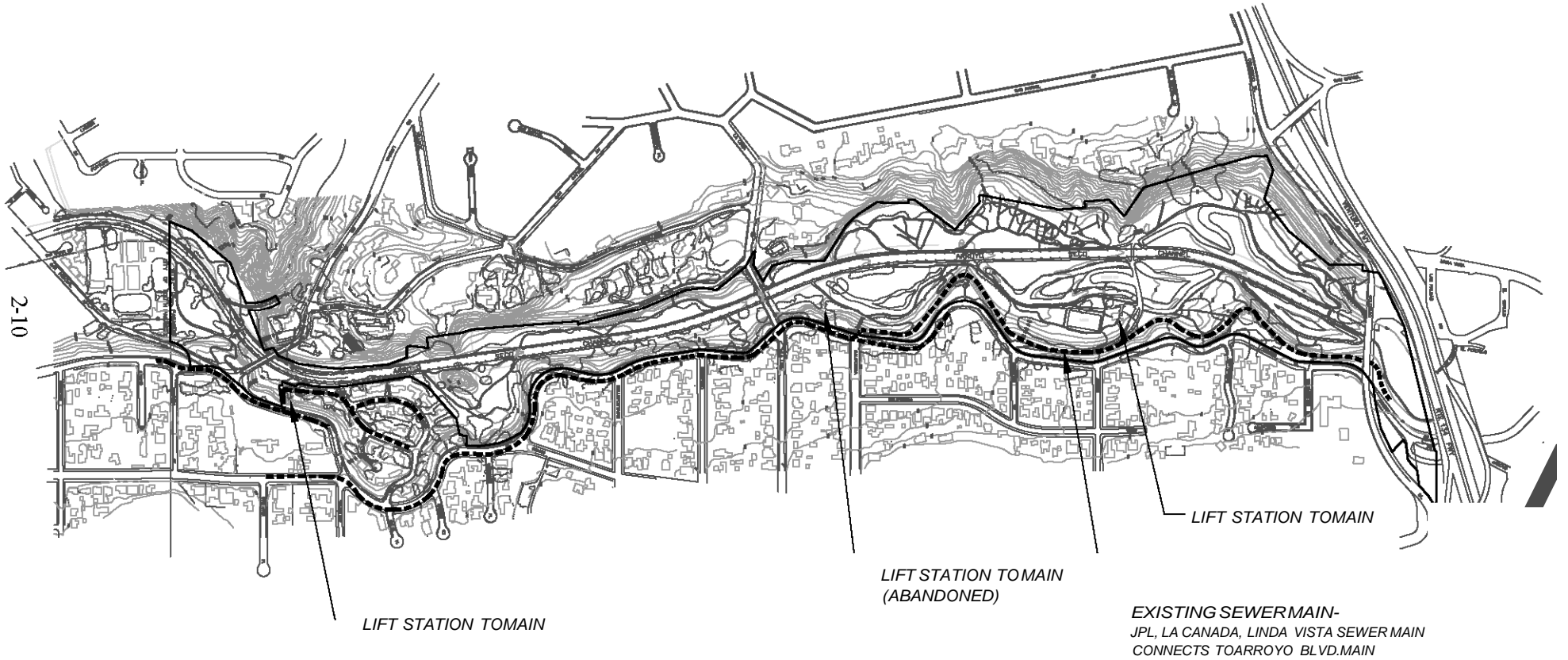
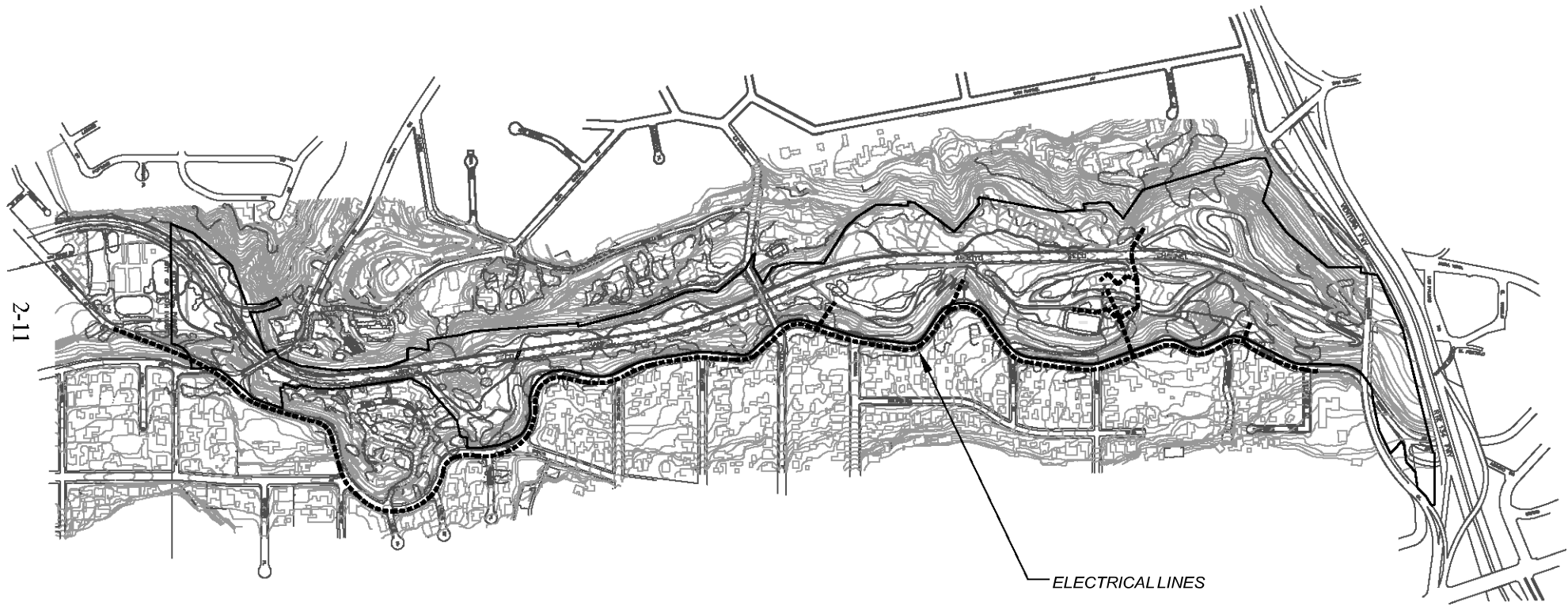


Exhibit 2-5
POWER DISTRIBUTION



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5J

2.4 ACCESS, PARKING, AND TRAILS

Vehicle Access and Parking

Automobile access to the Lower Arroyo is provided at one location—the main entrance and paved roadway on Arroyo Boulevard south of Arbor Street leading to an existing parking area located near the casting pond. Street access from Arroyo Boulevard to the Parker-Mayberry Bridge beneath the Colorado Street Bridge is restricted (by locked iron gates) to maintenance vehicles and other official purposes. Arroyo Boulevard is a two-lane major access roadway on the eastside rim of the Lower Arroyo. The speed limit is posted at 25mph and there is no parking allowed on the westerly curb of Arroyo Boulevard, though parking is allowed at selected locations along its easterly curb.

The parking area in the Lower Arroyo was reconfigured and resurfaced as part of the low-flow stream restoration project. It currently provides parking for approximately 70 cars, including space for the disabled. The lot at La Casita, which is also accessed from Arroyo Boulevard, provides additional limited-access parking for 41 cars.

Regional Trail Connections

Several regional trail systems link the three sections of the Arroyo Seco to the north and south (see Exhibit 2-6, Regional Trails). From the Lower Arroyo, one can travel the Arroyo Seco Trail through the Central Arroyo and into Hahamongna Watershed Park and the Angeles National Forest. The Arroyo Seco Trail through South Pasadena connects to Debs Regional Park and could potentially connect to the Los Angeles River. These regional hiking and equestrian trails and the local pedestrian pathways make up the network of trails in the Lower Arroyo. These trails also form part of the Rim of the Valley regional trail system that, when completed, will circle the entire San Fernando Valley and link the Arroyo Seco to the Santa Monica Mountains.

Pedestrian/Equestrian Access in the Lower Arroyo

The northern pedestrian/equestrian entrance to the east side of the Lower Arroyo from the pathway along the natural reach of the channel in the Central Arroyo is via an unimproved slope beneath the Parker-Mayberry Bridge, a maintenance bridge located under the Colorado Street Bridge. An unimproved trail also provides pedestrian access to the west side of the northern end of the Lower Arroyo from the Parker Mayberry Bridge. An unimproved maintenance road enters the Lower Arroyo from San Pascual Road at the southern end of the Lower Arroyo. This maintenance access requires entering and passing through the private San Pascual stables in South Pasadena to reach Pasadena's section of the Lower Arroyo Seco.

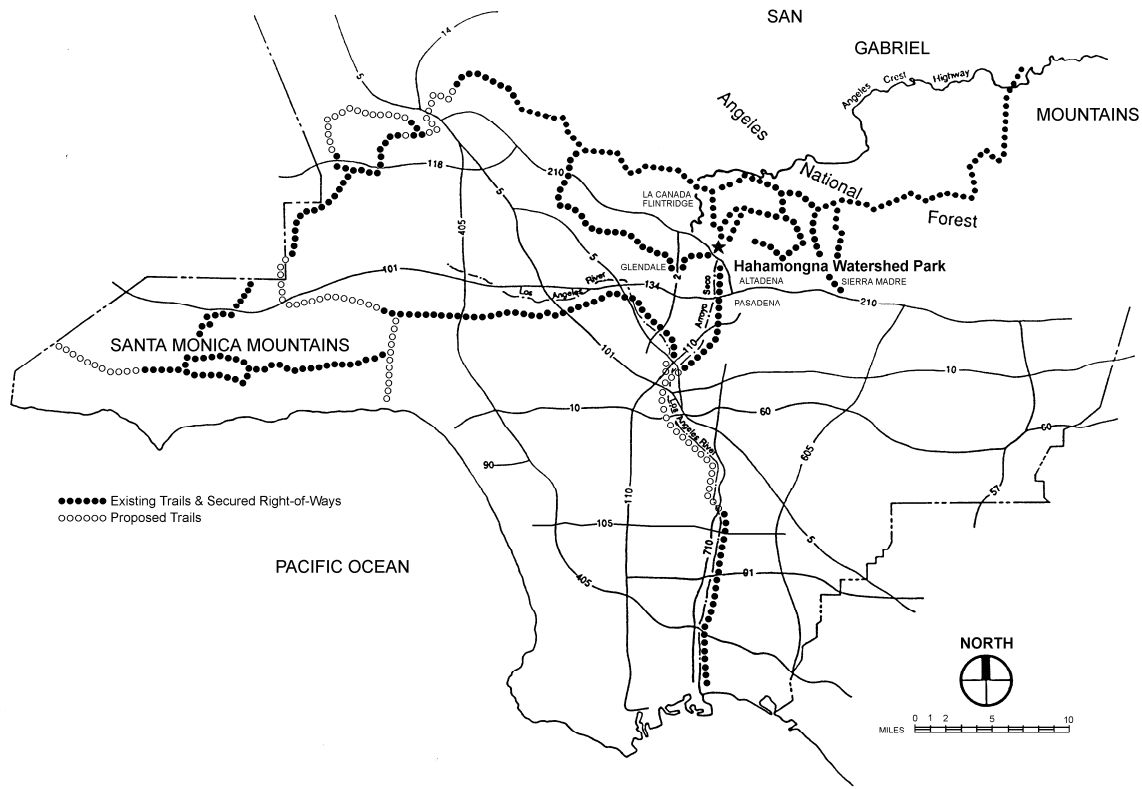


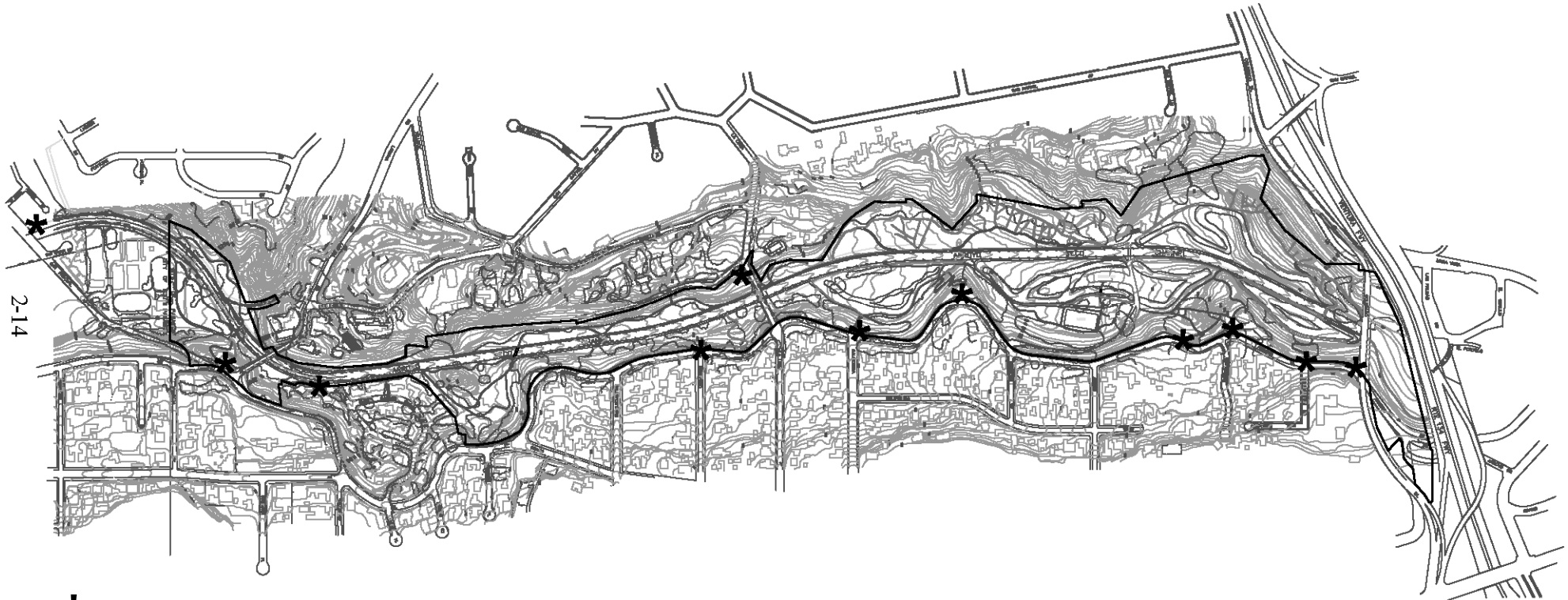
Exhibit 2-6, Regional Trails

The Rim Trail parallels Arroyo Boulevard on the top of the bank at the east side of the Lower Arroyo. Current conditions along this long-time trail vary throughout its length. In some areas it exists as a defined path along the road and in other areas it is overgrown and ill-defined.

A total of eleven pedestrian access points connect the Lower Arroyo with adjacent residential neighborhoods (see Exhibit 2-7, Neighborhood Access). Nine of these access points lead from the Rim Trail and the surrounding eastside residential area into the lower Arroyo. The trails from these easterly access points are typically stone-edged with similarly edged stairs and walls. The trails are in varying states of disrepair. Topography and private property limit the potential for pedestrian access points on the west side. There is only one deteriorated trail, located just south of the La Loma Road Bridge, that crosses private property. A final pedestrian access is located near the San Pascual Stables in the City of South Pasadena.

In the new low-flow stream areas on the west and east sides of the Lower Arroyo, the trails were rerouted and improved to relate to the sinuous shape of the now-established riparian areas. In the southern archery range area on the west side, the main trail more or less follows the alignment of the flood control maintenance road and parallels the flood control channel to the South Pasadena city limits. Similarly, on the east side the main trail also parallels the

Exhibit 2-7
NEIGHBORHOOD ACCESS



2-14



NEIGHBORHOOD TRAIL LOCATIONS

flood-control channel with a slight jog around the Camel's Hump. Trail sections narrow considerably on both sides of the flood control channel in the vicinity of the Camel's Hump.

There are three locations for pedestrians to cross from one side of the Arroyo to the other at the channel elevation: A pedestrian bridge just south of the Colorado Street Bridge, the maintenance bridge crossing at the central entrance/parking area (near the Roving Archers building), and another pedestrian bridge south of the Laguna Road/San Rafael Avenue Bridge crossing and just north of the San Pascual Stables.

2.5 5 THE NATURAL ENVIRONMENT

The plant communities, vegetation, and wildlife of the Lower Arroyo probably would not exist in their current condition without several of man's influences. The altered, and somewhat unnatural, environmental conditions currently found in the area are primarily due to two factors. These are the development of infrastructure for public works and recreation, and the earlier agricultural and landscaping practices that over time have significantly changed the appearance and composition of the Lower Arroyo and nearby areas from that once familiar to the original native Americans (i.e., the Gabrielinos). In spite of these changes, the Arroyo still serves as a corridor for wildlife and contains remnants of formerly more widespread plant communities that once thrived on the side slopes and the alluvial floodplain that formed the canyon.

Recent inventory surveys of the biological resources that currently exist in the Lower Arroyo were conducted between August 2000 and July 2001. Plant and animal species observed or known from the record were listed and plant communities were mapped. A total of 238 plant species and 74 animal species were recorded during the inventory survey period. These numbers demonstrate a relatively high biodiversity for the area. Three terrestrial natural plant communities (coast live oak woodland, southern willow scrub, and sage scrub) were recorded and mapped along with other vegetation types (ruderal and landscaped vegetation) that do not fit the usual definitions as terrestrial natural communities *per se*. Other features in the Lower Arroyo including roads, buildings, parking lots and the concrete flood control channel were also mapped. Exhibit 2-8 presents the results of this mapping. A complete listing of all species observed and recorded in the area is presented in Appendix B.

Plant Communities

Relatively natural plant communities are found primarily at the north end of the Lower Arroyo and along its side slopes. Oak woodland and sage scrub habitats occupy various niches along the perimeter and/or side slopes of the drainage. However, ruderal and landscaped vegetation dominate in the undeveloped portions of the terraces adjacent to the flood control channel. Landscaped areas are populated with introduced, ornamental shrubs and trees; and often include invasive, weedy species of grasses and forbs (herbaceous, non-grass species).

LOWER ARROYO MASTER PLAN

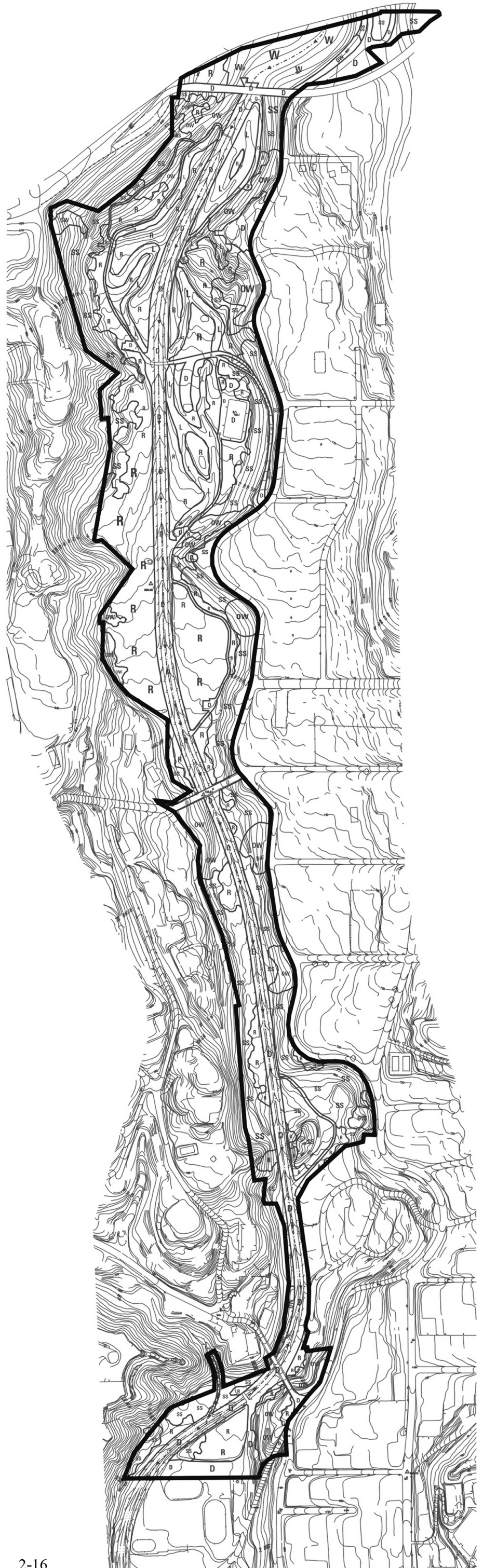
Terrestrial Natural Plant Communities

| EXISTING PLANT COMMUNITIES |
|------------------------------|
| OW - Coast Live Oak Woodland |
| W - Southern Willow Scrub |
| SS - Sage Scrub |
| R - Ruderal |
| L - Landscaped |
| D - Developed Areas |

— - Intermittent Stream
Alignment

— — Park Boundary

0 100 200 300 600
GRAPHIC SCALE IN FEET



Several of these introduced species are from outside of California, and some of the plants are native to other regions and habitats of California. Many of the introduced plant species are from places other than North America and generally are used in landscaped settings.

Descriptions of the terrestrial natural plant communities and/or the related vegetation series are given below.

Coast Live Oak Woodland

Coast live oak woodland is typically located on north-facing slopes and shaded ravines in southern California. Generally, coast live oak woodlands inhabit upland areas on slopes that are often very steep, or on raised stream banks and terraces. Soils are well drained and are often sandstone or shale-derived but may also be granitic in composition. Coast live oak (*Quercus agrifolia* var. *agrifolia*) may be the sole or dominant tree in the canopy. These oaks reach heights as great as 100 feet (30 meters), and the canopy may be continuous, intermittent, or open. Shrubs are usually occasional or common in the understory and the terrestrial surface layer is grassy or absent. Commonly associated shrub understory species in this plant community include black sage (*Salvia mellifera*), California blackberry (*Rubus ursinus*), California bay or laurel (*Umbellularia californica*), California redberry (*Rhamnus californica*), California sagebrush (*Artemisia californica*), chamise (*Adenostoma fasciculatum*), laurel sumac (*Malosma laurina*), western poison oak (*Toxicodendron diversilobum*), scrub oak (*Quercus berberidifolia*), toyon, Mexican elderberry (*Sambucus mexicana*), bigleaf maple (*Acer macrophyllum*), box elder (*A. negundo*), hairy ceanothus (*Ceanothus oliganthus*), Engelmann oak (*Quercus engelmannii*), bush monkeyflower (*Mimulus aurantiacus*), and various current or gooseberry species. The herbaceous layer component is often continuous and dominated by ripgut (*Bromus diandrus*) and other introduced taxa such as common chickweed (*Stellaria media*).

In the Lower Arroyo Seco, coast live oak woodland occurs in discontinuous areas on side slopes along the west and east boundaries of the area. There, it intergrades with sage scrub and ruderal vegetation. There are still certain areas in the Lower Arroyo where relatively small locales of this community represent a remnant example of the sort of coast live oak woodland that used to cover much of the southern half of the state in the Coast, Transverse and Peninsular ranges. In many southern California foothill woodland areas, coast live oak is often codominant with toyon or Christmas berry (*Heteromeles arbutifolia*) and/or with southern California black walnut (*Juglans californica*).

Southern Willow Scrub

Southern willow scrub is typically comprised of dense, broad-leaved, winter-deciduous riparian thickets dominated by several willow species including arroyo willow (*Salix lasiolepis*), black willow (*S. gooddingii*), red willow (*S. laevigata*), shining willow (*S. lucida* ssp. *lasiandra*), and narrow-leaved willow (*S. exigua*). This riparian scrub community occupies sites with loose, sandy or fine gravelly alluvium deposited along intermittent or perennial stream channels during flood flows. Habitats within this community are usually

seasonally flooded and the soils are saturated. According to Holland (1986), southern willow scrub is an early seral or successional type that requires repeated flooding to prevent succession to southern cottonwood-sycamore riparian forest. It is composed of plants that typify riparian habitats, some of which have a wide range of preference and tolerance to fluctuating hydrologic regimes and include wetland indicator species that may also be found in wetland habitats.

Southern willow scrub typically occupies sites on floodplains, or on low-gradient deposition areas along rivers and streams. Shrubs and trees in this community may grow to 33 to 100 feet (10 to 30 meters) in height, and the canopy may be continuous. Most stands often are so dense that the understory vegetation layer of shrubs is sparse. In slightly more open willow scrub sites, the ground layer of grasses and forbs may vary from sparse to abundant. Also associated with this riparian scrub community are scattered emergent specimens of Fremont cottonwood (*Populus fremontii* ssp. *fremontii*), black cottonwood (*P. balsamifera* ssp. *trichocarpa*), and western sycamore (*Platanus racemosa*). Other commonly associated species in southern willow scrub include mule fat (*Baccharis salicifolia*), coyote brush (*B. pilularis*), mugwort (*Artemisia douglasiana*), Mexican elderberry, and bigleaf maple.

Southern willow scrub dominates the northern reaches of the area near the 134/Ventura Freeway and Colorado Street Bridge where the riparian corridor of the Arroyo Seco drainage above the Lower Arroyo retains a more natural character. This streambed, found just upstream of the concrete channel in the Lower Arroyo Seco (technically out of the Lower Arroyo Master Plan area), is only one of two remnant unchannelized reaches of the Arroyo Seco within Pasadena below the Devil's Gate Dam. Southern willow scrub merges with sage scrub, coast live oak woodland and ruderal vegetation in this area. It is also widely mixed with other introduced and naturalized tree species such as eucalyptus (*Eucalyptus* spp.), date and fan palms (*Phoenix canariensis* and *Washingtonia robusta*), and pine trees (*Pinus* spp.) among others.

In its "natural state" this plant community is limited to the remnant unchannelized reach of the Arroyo above the Colorado Street Bridge. However, the stream channels created as part of the BFI restoration project were intentionally planned to emulate a southern willow scrub "model." As such, elements of southern willow scrub (e.g., arroyo and black willow, cottonwoods, and sycamores) have been planted and become established in the created streams through the Lower Arroyo. While they are technically mapped as "landscaped" for the purposes of this assessment (see discussion below), over time they are expected to develop into a naturalized southern willow scrub riparian habitat.

Sage Scrub

The ranges of two biogeographically distinct terrestrial natural plant communities, referred to as Venturan coastal sage scrub and Riversidian coastal sage scrub, overlap or intergrade in the Lower Arroyo Seco. For the purpose of this report, these two terrestrial natural plant communities are combined simply as "sage scrub."

Sage scrub is often a mixture of drought-deciduous sage scrub species and fire-adapted, sclerophyllous (hard-leaved), woody chaparral species. This plant community can be post-fire successional that is found on dry, rocky, often steep, south-facing slopes and ridges with shallow or poorly differentiated soils. Often these soils are derived from rock detritus and soil accumulated at the foot of a slope. It may also be located on clay-rich soils that are slow to release stored water that favor the proliferation of California sagebrush over chamise.

Generally, shrubs in sage scrub reach no more than six to ten feet (two to three meters) in height, although in some areas with associated emergent shrub or tree species, the plants may attain heights up to 13 feet (four meters). The canopy is continuous or intermittent and the ground layer is sparse or absent. Understory cover of forbs and grasses is often variable depending upon the fire history of a particular site. Sage scrub communities are sometimes referred to as “soft chaparral” by various botanists and plant ecologists. Bare ground occurs frequently underneath and between shrubs. Growth season for this community generally happens following the start of winter rains with growth peaking in late winter and spring. Flowering period for most species is during spring but some species continue into summer. Distribution of dominant shrubs often forms a patchy mosaic pattern where areas may be populated by a single species or where sites may be covered by a composition of different species.

Dominant species in this terrestrial natural community include California sagebrush, California buckwheat (*Eriogonum fasciculatum* var. *foliolosum*), chamise, black sage, white sage (*Salvia apiana*), laurel sumac, lemonadeberry (*Rhus integrifolia*), sugar bush (*R. ovata*), Mexican elderberry, toyon, southern California black walnut, scrub oak, birch-leaf mountain-mahogany (*Cercocarpus betuloides* var. *betuloides*), holly-leaf cherry (*Prunus ilicifolia* ssp. *ilicifolia*), hoaryleaf ceanothus (*Ceanothus crassifolius*), other ceanothus or California-lilac species (*Ceanothus* spp.), chaparral mallow (*Malacothamnus fasciculatus*), chaparral yucca (*Yucca whipplei*), bush monkeyflower, deerweed (*Lotus scoparius*), golden yarrow (*Eriophyllum confertiflorum*), poison oak, hairy yerba santa (*Eriodictyon crassifolium*), rockrose (*Helianthemum scoparium*), prickly pears (*Opuntia* spp.), bladderpod (*Isomeris arborea*), California encelia (*Encelia californica*), four-wing saltbush (*Atriplex canescens*), brome grasses (*Bromus* spp.), Brazilian pepper (*Schinus terebinthifolius*), and Peruvian pepper (*S. molle*).

Sage scrub is mainly found on east- and west-facing slopes and sidewalls of the Lower Arroyo Seco drainage. This terrestrial natural community forms patchy mosaics that extend to the bases of the side slopes but are separated from the main terrace areas of the Lower Arroyo that are mostly characterized by landscaped and ruderal vegetation, and developed areas. It also blends as indistinct borders with coast live oak woodland and southern willow scrub. Sage scrub probably was more widely distributed in the Lower Arroyo before extensive landscaping and other developed areas changed the makeup of the area. A sage scrub “model” was used to develop the plant palette for the landscape treatment in the restoration area on the west side of the flood control channel to the south of the Roving Archers’ building (Area D of the low-flow stream restoration project, see Exhibit 1-4 and below).

Within the sage scrub plant community are small pockets of western sycamore (*Plantanus ramosa*) growing with other species associated with a southern sycamore riparian woodland. These pockets occur mostly on the eastern slopes of the Lower Arroyo.

Ruderal Vegetation

Ruderal (or weedy) vegetation is typically associated with site disturbance conditions such as grading, clearing, burning, and even flooding, that may exclude more desired native plants. Ruderal vegetation (and/or nonnative grassland) may occur on fine-textured, usually clay soils that are moist or waterlogged during the winter rainy season and become very dry during the summer and fall. Sites favored by this plant community are found on gentle slopes or on more level terrain where finer soil particles have a chance to collect favoring the growth of annual species of grasses and showy-flowered forbs or wildflowers. Sites that are occupied by ruderal vegetation and/or nonnative grassland are often related to the fire history and/or mechanical disturbance from grading or clearing of a particular area. Areas with frequent, repeat occurrences of fire or other disturbances tend to lose the dominant shrub community and allow ruderal vegetation that includes very aggressive nonnative species to become established. Once established, this plant community is sustained by repeated fire or other disturbance to the exclusion of shrubby species. Ruderal vegetation may occur on virtually any direction or aspect of level or sloping terrain where fire or conditions such as mechanical grading are present. This nonnative, terrestrial natural community offers comparatively little value to most native wildlife species.

Nonnative, introduced, annual grass and forb species tend to dominate the understory or ground layer in this terrestrial natural community. These grasses and some forbs may reach heights as great as three feet (one meter) depending on the amount of rainfall received. They germinate with late fall and winter rains; and grow, flower, and set seed during the winter through spring months. Holland (1986) notes that, with a few exceptions, these weedy plant species are dead but persist as seeds through the summer and fall dry seasons. Shrub and tree species are usually absent or are very sparse, and the ground layer of vegetation is continuous or open.

Commonly observed species in ruderal vegetation and/or nonnative grassland community include slender wild oats, common wild oats, ripgut, red brome (*Bromus madritensis* ssp. *rubens*), soft chess (*B. hordeaceus*), black mustard (*Brassica nigra*), turnip or field mustard (*B. rapa*), shortpod mustard (*Hirschfeldia incana*), red-stem filaree (*Erodium cicutarium*), filaree (*E. botrys*), California poppy (*Eschscholzia californica*), gilies (*Gilia* spp.), tarweed (*Hemizonia fasciculata*), Italian ryegrass (*Lolium multiflorum*), lupines (*Lupinus* spp.), peppergrass (*Lepidium nitidum*), burclover (*Medicago polymorpha*), phacelias (*Phacelia* spp.), Mediterranean grass (*Schismus barbatus*), star-thistles (*Centaurea* spp.), and vulpias or annual fescues (*Vulpia* spp.).

Ruderal vegetation is found in the terrace areas of the Lower Arroyo and along the boundaries on side slopes and near bases of the side slopes. Ruderal vegetation also occurs within developed and landscaped areas. Ruderal or weedy mustard and sunflower family

members rather than grasses appear to dominate this community in areas of the Lower Arroyo where it is found. Areas characterized by coast live oak woodland and sage scrub also have smaller, patchy mosaics of actual nonnative grassland and/or other ruderal vegetation scattered within their community boundaries.

Ruderal plants associated with the Lower Arroyo are not only terrestrial but are also aquatic and can be found immediately along the natural stream channel above the Colorado Street Bridge as well as in the created stream zone areas. Many of these aquatic ruderal species may be seen only when water is present, and then wither and die back to surviving root systems if perennial, and/or may persist as seeds if they are annuals or perennials.

Landscaped Vegetation

Landscaped vegetation is largely composed of cultivated ornamental, horticultural plants that may be native or nonnative tree, shrub, forb, and grass species. Landscaped plant species are usually aesthetically appealing and are moderately to extremely dependent on man for water, minerals and nutrients (from fertilizers and soil amendments), pruning and maintenance, pest and pathogen control, and for their establishment in an environmental setting. That setting often is in urban infrastructure surroundings, such as near buildings, roads, parking areas, walls, developed parkland, man-made lakes and ponds. Often, landscaped species that are native to the part of California in which the Arroyo Seco is located may have existed prior to the development of the land for residential or other uses or were planted expressly for their aesthetic value and/or ease of growing.

Many of the plant species that comprise landscaped vegetation are often drought-tolerant xerophytes that require little or no long-term irrigation by man for their survival. Occasionally, invasive plants escape from their intended setting and become established in the wild. Landscaped plants can become naturalized by virtue of adaptive dispersal mechanisms and strategies of their fruits, seeds, root systems, vegetative reproduction from plant parts, and animal transport. Ruderal, weedy plants are often annuals or biennials and, therefore, reproduce very rapidly and successfully in places and conditions where other native or even introduced perennial plants cannot.

This introduced terrestrial vegetation type dominates much of the acreage of the entire Lower Arroyo Seco. The soil types and textures in the landscaped areas are characterized as urban land that historically consisted of native alluvial soils comprised of dry, dense, silty, and occasionally gravelly sand, rocks and boulders. Several feet of unconsolidated fill material of varying composition resulting from excavation of the flood-control channel covers most of the area currently occupied by landscaped/ruderal vegetation.

Landscaped vegetation was mapped but not surveyed to the extent and depth as other native, natural terrestrial plant communities during the inventory surveys of biological resources. The numbers and types of landscaped plants are too numerous and diverse to include for the purposes of this report. Representative landscape plants observed in the Lower Arroyo included species of eucalyptus, pine, oak, acacia, fig, olive, pittosporum, cherry, pepper tree,

maple, liquidambar, ash, juniper, cypress, pyracantha, walnut, hibiscus, oleander, privet, redwood, elm, palm, coral tree, periwinkle, lantana, ivy, plumbago, poplar, tree of heaven, agave, and many others.

It is interesting to note that vegetation elements common to such terrestrial natural communities as southern willow scrub, mule fat scrub and sage scrub have been intentionally planted as part of the restoration activities in the northern half of Lower Arroyo. Species found in southern willow scrub, mule fat scrub and sage scrub communities have been landscaped into the terrain to simulate these plant communities that were once more widespread in the Lower Arroyo prior to extensive development. Willow and mule fat scrub species have been placed in meandering channel-like settings similar to natural stream channels. Sage scrub elements have also been introduced into the landscaped areas, notably in the first phase (Area D) of the low-flow stream restoration project.

Southern willow scrub and sage scrub are described above. Mule fat scrub as a naturally occurring plant community is largely absent in the Lower Arroyo Seco compared with Hahamongna Watershed Park and to a lesser degree with the Central Arroyo. The mule fat scrub community is described below only for public information since it occurs as a purposely transplanted species in the habitat enhancement in the Lower Arroyo.

Mule fat scrub is typically characterized by depauperate, tall, herbaceous riparian scrub species dominated by *Baccharis salicifolia*. Mule fat is usually the sole or dominant shrub in the canopy, along with narrow-leaved willow, and the plants may attain heights of 13 feet (four meters). The canopy often is continuous and the ground layer of vegetation is sparse. This terrestrial natural community is located along intermittent stream channels with fairly coarse substrate and moderate depth to the water table. Habitats within this community are also seasonally flooded and the ground is saturated. Other commonly associated species in mule fat scrub include arroyo willow, narrow-leaved willow, hoary nettle (*Urtica dioica* ssp. *holosericea*), Mexican elderberry, and sedges (*Carex* spp.). Holland (1986) notes that mule fat scrub is an early seral community that is maintained by frequent flooding. When such flooding conditions are absent, Holland believes that mule fat scrub stands would succeed to cottonwood- or sycamore-dominated riparian woodlands or forests.

Developed Areas

As noted above, developed areas include infrastructure features such as roads, bridges, buildings, parking lots, etc., but are not terrestrial natural communities or even ruderal and landscaped plant communities *per se*. However, there are numerous developed areas within the Lower Arroyo that contain elements of terrestrial natural communities and/or elements of ruderal and landscaped vegetation. Developed areas were included in the mapping of plant communities in the Lower Arroyo and are depicted in Exhibit 2-8. Developed areas in the Lower Arroyo are mapped and included here along with the existing terrestrial natural communities, and ruderal and landscaped vegetation for clarification purposes only.

2.6 RECREATION

Recreational activities occurring in the Lower Arroyo have changed through time. In the past, the Arroyo has been used for activities as diverse as fox hunting, camping and ostrich farming. Present activities include, but are not limited to, walking, hiking, jogging, horseback riding, fly casting, archery, nature watching, and picnicking. Recreational use of the Lower Arroyo has notably increased in the past several years, largely as a result of the low-flow stream restoration project. Following are brief descriptions of the current situation relative to some of the recreational activities in the Lower Arroyo.

Walking, Hiking, Jogging

Hikers, joggers and walkers of all description regularly use the pathways and trails in the Lower Arroyo. Many pedestrians in the area access the Lower Arroyo by way of the central parking area, usually driving to the Arroyo as a destination for such activity. However, others enter the area on the connecting trails to the north and south or from the Rim Trail on the eastern edge (see previous description). The success of the stream restoration project has increased visitor usage in the Lower Arroyo, with an observable increase in the number of pedestrian users. Cross-country running teams from local area high schools practice and even hold meets in the Lower Arroyo, using the extensive trail network around the created streamzones. Dog-walking has always been popular in the Lower Arroyo and with the added riparian vegetation and spatial interest resulting from the restoration project, use by dog owners appears to have increased. Although the low-flow stream restoration project has increased biological diversity, this increased native animal presence is jeopardized by off-leash dogs. However, as with any other public place within the City of Pasadena, except for designated off-leash areas, dogs are required to be on-leash in the Lower Arroyo.

Equestrian Uses

Most equestrians enter the Lower Arroyo from the south entrance at the private San Pascual Stables or from the Central Arroyo to the north, originating from the Hahamongna Watershed Park area where long distance trail riding, extending into the Angeles National Forest, is concentrated. Public horse rentals are not available at the San Pascual Stables or anywhere in the Arroyo Seco. Equestrians currently use Lower Arroyo trails on both the west and east sides of the flood control channel. Trail connections from the south are adequate for horses on both sides of the channel, but wider and more accessible on the east side. Proceeding north, trails on both sides widen, but the archery trails (see below) occupy much of the area on the west side of the channel, creating potential conflicts. The transition from the Lower Arroyo to the Central Arroyo at the northern end is best for horses on the east side under the Colorado Street Bridge. Existing conditions on the west side near the Colorado Street Bridge provide limited connection to the Central Arroyo and are generally not favorable for equestrians. It is difficult for horses to pass on the steep and narrow pathway leading up to the Parker-Mayberry Bridge from the south. In addition, the private property lines to the north follow the stream, forcing riders to cross the stream, which maybe unsafe during winter conditions.

Compared to equestrian rest areas in the Central Arroyo which are heavily used (e.g., the tie-up and watering facilities near the Brookside Golf Course clubhouse), equestrian rest areas in the Lower Arroyo are limited, poorly maintained and marginally used. Hitching posts are located amidst overgrown vegetation outside the abandoned restroom. Another hitching post



Picnickers at the Casters Clubhouse overlooking the casting pond

Casting Pond

The Pasadena Casting Club is a private club that leases land in the Lower Arroyo Seco from the City of Pasadena. The Casting Club has been in its present location for more than fifty years. The Casting Club lease includes the use of a small building with a meeting room, a large ($\pm 20,000$ square ft.) rectangular casting pond and adjacent landscaped areas. Attached to the building are the public restrooms designated one female, one male. These two restrooms service the entire Lower Arroyo Seco natural park area and are accessible from the main entrance and parking area. The Casting Club's main purpose is to teach the principles of fly fishing. Public programs, oversight of the facilities and shared maintenance of the grounds are also provided by the club.

Archery Range

The Pasadena Roving Archers Club is another long-time authorized special use in the Lower Arroyo. The agreement between the City and the Roving Archers is currently under revision. The City Manager shall execute an annual contract that the City will use to govern the use of the approximately 18-acre area on the west side of the flood control channel from just south of the Colorado Street Bridge, south to the La Loma Street Bridge. Facilities included a small

building with rooms for meetings and storage west of the central maintenance bridge and also two ranges, but a fire in the spring of 2002 destroyed this facility, and the City has since demolished the structure. Targets are made of bales of hay against a wooden frame. Many of the targets are in disrepair and in need of replacement. Formerly, the abandoned restroom in the Memorial Grove area was used for storage of hay bales and targets since the clubhouse was too small to accommodate them, but this structure has also now been removed.



The Archer's Clubhouse before it was damaged by fire

Established in 1935, the Pasadena Roving Archers Club is the oldest National Field Archery Club and Range in the United States. Events are held regularly and club members use the range during nonscheduled event hours. The club frequently offers public instruction sessions.

Nature Study

The Lower Arroyo is currently used by many schools and other groups for formal and informal study of and instruction about the natural environmental conditions of the area. No formal sites, docent programs, or tours currently exist in association with these various programs. Graduate and undergraduate students from local colleges are also beginning to use the area for research into various topics such as urban ecology and restoration ecology.

La Casita del Arroyo

The City Manager executes a 10-year agreement that governs the use and maintenance of the landscaped grounds surrounding the City-owned La Casita building by the La Casita Foundation, a local, nonprofit corporation. The La Casita building, although a replacement structure built after fire destroyed the original building, is a distinctive element of the Lower

Arroyo property on Arroyo Boulevard. The area is characterized by historic and newer walls and paths typically using native construction materials including arroyo stones. The well-cared-for gardens surrounding La Casita distinguish the area from the surrounding more natural vegetation. The Pasadena Garden Club takes an active role in maintaining the grounds around La Casita. The building itself is regularly used for a variety of public and private functions.

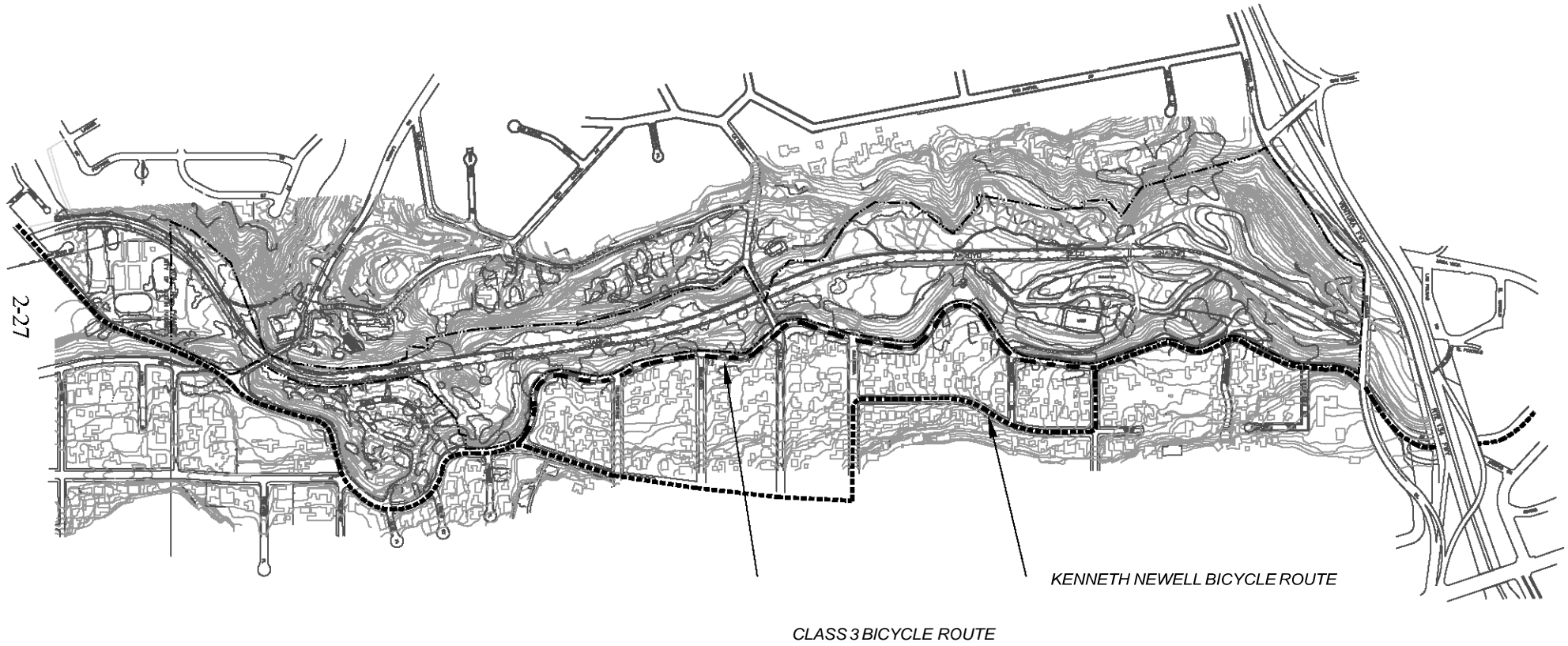


La Casita del Arroyo

Bicycles

Currently, bicycle use is not allowed within the Lower Arroyo, pursuant to the restrictions of the Arroyo Seco Public Lands Ordinance. Unauthorized recreational bicycle use occurs in the Lower Arroyo; walkers, hikers, dog walkers, equestrians, archers, and casters have all reported sightings of unauthorized bicyclists in the area. Arroyo Boulevard is a heavily used, signed Class III bicycle route and part of the Kenneth Newell Bikeway that runs from Los Angeles through South Pasadena and Pasadena to Altadena. This bikeway is the only bicycle route in the Lower Arroyo area officially designated by the City of Pasadena Bicycle Master Plan adopted in November 2000 (See Exhibit 2-9, Bicycle Routes).

Exhibit 2-9
BICYCLE ROUTES



2.7 SECURITY

Security in the Lower Arroyo is the responsibility of the Pasadena Police Department. The Police Department provides the available staff, ranging from regular sworn and support staff to occasional mounted sworn officers, when available, that can be deployed to the Lower Arroyo. While not assigned to the area on a regular basis or schedule, the officers can target enforcement when needed. For example, periodic mounted patrol activity in the Lower Arroyo is concentrated on enforcement of the City's leash law. A volunteer citizens' mounted patrol also regularly patrols the area. Those volunteers are authorized to issue warnings when infractions of regulations are observed. The mounted volunteers have been issued communication devices to stay in contact with the Police Department when out on patrol.

Improvements requiring lighting for security reasons are limited in the Lower Arroyo. The City upgraded lighting in response to safety concerns at the main parking area at La Casita and recently at the Bird Sanctuary. Neighborhood Watch programs augment traditional methods of police surveillance of the area.

2.8 MANAGEMENT AND MAINTENANCE

The public facilities in the Lower Arroyo are maintained by the City Parks and Natural Resources Division of the Department of Public Works. The Roving Archers, Casting Club and Garden Club/La Casita Foundation coordinate with the City and provide volunteer and in-kind support for the maintenance of their respective uses and areas. The Los Angeles County Public Works Department is responsible for the maintenance of the flood control channel.

Regular maintenance activities include brush removal, weed and pest control, path and trail maintenance, tree maintenance and removal, litter control, and other activities typically associated with park management. Especially in the areas of weed and pest control, the Lower Arroyo presents a substantial maintenance and management responsibility. Because it is a natural area in an urban context, competition from nonnative invasive weeds needs constant attention to remain in check. Without regular control of nonnative plants, natural regeneration and establishment of desirable native species is compromised. Similarly, because their natural predators are scarce, large populations of burrowing rodents (gophers, ground squirrels) can also cause significant harm to natural restoration efforts. The City currently has a contract with the Los Angeles County Agricultural Commissioner for a systematic rodent control program in the Lower Arroyo. As part of its restoration program, BFI also has a five-year commitment to weed abatement and maintenance in the stream restoration area. This five-year period ends December 2003.

From a management and maintenance standpoint, the Lower Arroyo is unique because of its restoration component, especially the created stream channels. The diversion structures beneath the Colorado Street Bridge need regular attention to insure that they are functioning

properly and that all possible flows are being captured. During the winter storm season, the inlets clog with sediment, debris and trash and must be checked and cleaned regularly. The gate valves must also be manually opened and shut in tandem with stormy weather and anticipated sediment movement through Devil's Gate Dam upstream. In spring and summer, flow above the weir needs to be directed so that it reaches the inlet structures instead of flowing over the spillway and into the flood control channel. All of this is maintained by BFI in coordination with the City; but in 2003, the full maintenance responsibility will fall upon the City.



The casting pond and low-flow stream

Section 3. Issues & Recommendations

**ARROYO SECO
MASTER PLANS**



SECTION 3: ISSUES & RECOMMENDATIONS

3.1 LOWER ARROYO ISSUES IDENTIFIED BY PREVIOUS PLANS

The 1988 Cal Poly *Master Plan for the Lower Arroyo Seco* identified issues and established themes for planning in the Lower Arroyo that continued to be a part of the conceptually approved 1996 *Draft Master Plan for the Lower Arroyo* and have also been incorporated into this updated Master Plan. The following twelve key issues were discussed in the previous plans and used to develop goals that have also been included in this updated plan (see Section 1, Introduction).

- Visual Quality
- Historical Value
- Water Availability
- Value to Wildlife
- Revegetation
- Effects From and On Surrounding Areas
- Fire, Erosion, and Flooding
- Safety
- Circulation and Parking
- Recreational Activity
- Cost Effectiveness
- Management

As a result of the community participation program and Commission review initiated for the 1996 Draft Master Plan, several key areas of controversy were identified. These key areas were:

Bicycle Trail

The 1988 Cal Poly Study proposed the incorporation of a bicycle trail corridor along the easterly rim of the Lower Arroyo along Arroyo Boulevard. This proposal was planned to accommodate both pedestrians and bicyclists on separate trails. A report of the Mayor's Bicycle Task Force entitled *The Plan to Make Pasadena Bicycle-Friendly*, completed in May of 1991, concluded this proposal was not feasible for a Class I or Class II bicycle lane, given the current traffic pattern and street width along Arroyo Boulevard. Arroyo Boulevard is currently designated as a Class III bikeway. The *Final Bicycle Master Plan for the City of Pasadena*, adopted in November 2000, suggested that "Arroyo Boulevard could be converted to a bicycle boulevard by constructing a moveable semi-diverter at the intersection with Arroyo Drive" (just south of the Highway 134 overpass).

Presently, bicycles are not allowed on the floor of the Lower Arroyo. The Task Force report, referenced above, recommended a mountain bike path linking the mountain reaches of the Arroyo Seco and San Gabriel mountain trails above Pasadena to the proposed Arroyo Seco Bikeway (also known as the Horace Dobbins Cycleway), south of the Lower Arroyo Seco, but did not specify a route or means of implementing such a connection. The implementation of the Arroyo Seco Bikeway was also considered a high priority of the five-member city Arroyo Verdugo Non-Motorized Transportation Plan. The City of South Pasadena is

proposing a Class I bikeway that will terminate at the Lower Arroyo Seco. The *Bicycle Master Plan for the City of Pasadena* references an improvement program for a Pasadena-to-Los Angeles bikeway but includes no specific recommendations for bicycle use of the Lower Arroyo Seco. While it may have been considered, a specific bicycle route using the Lower Arroyo was not included in any of these regional or local bicycle plans. However, in its conceptual approval of the 1996 *Draft Master Plan for Lower Arroyo Seco*, the Pasadena City Council directed that a bicycle path on the west side of the flood control channel be included as a key element of the final Master Plan (see Appendix A). Rather than considering the Lower Arroyo a convenient link in a regional bicycle route, the Council recognized a need for increased opportunities for children and families to ride leisurely through a relatively natural setting away from traffic and without the challenges of steep terrain or difficult trails. Consequently, in spite of a history of local opposition to providing a bicycle path through the Lower Arroyo Seco, it remained a component of the draft Master Plan but is not part of the final adopted plan presented here.

Dog Run Areas

With the exception of designated dog run areas, dogs are required to be on-leash in all public areas in the City of Pasadena, including the Lower Arroyo. Historically, dogs off-leash have contributed to the loss of wildlife including key predators such as gopher snakes, which are needed to keep the population of rodents under control in the area, ground-nesting birds such as killdeer and other riparian and woodland species. The 1996 *Draft Master Plan for Lower Arroyo Seco* did not allow for dogs off-leash in the Lower Arroyo Seco nor does this Master Plan.

Flood Control Channel

The 1988 Cal Poly Study recommended the removal of the flood control channel. To date, the Los Angeles County Department of Public Works has not consented to the removal of any of its flood control channel systems within the Arroyo Seco. However, with the initiation of the *Arroyo Seco Watershed Feasibility Study*, the Army Corps of Engineers Feasibility Study, and growing public interest in restoration of the Los Angeles River system, the County has reevaluated its position and is also very interested in considering the possibility of channel removal.

The Lower Arroyo Stream Restoration Project has created a system of meandering low-flow streams on both sides of the existing flood control channel from the Colorado Street Bridge to the La Loma Road Bridge. Removal of the existing flood control channel was not part of the stream restoration project, but the project did not preclude the possibility of eliminating the flood control channel. Other existing facilities in the Lower Arroyo such as the casting pond, parking area, archery range, and the lower Arroyo stream restoration project could be affected by channel removal.

In its review of the 1996 *Draft Master Plan for the Lower Arroyo Seco*, the Recreation and Parks Commission, with the unanimous endorsement of various other commissions in the City of Pasadena, recommended that the elimination of the concrete channel between the Colorado Street Bridge and the La Loma Road Bridge remain the highest of priorities.

Any alternatives to the existing concrete channel will require further detailed analysis to assess all impacts and will also require final approval from Los Angeles County and others. While removal or design modifications to the flood control channel are not incompatible with the goals of this Master Plan, consideration of design alternatives to the existing channel is beyond the scope of this plan.

3.2 LOWER ARROYO ISSUES IDENTIFIED BY UPDATE PROCESS

Against the background established by the 1988 Cal Poly study, the 1996 Draft Master Plan and the 2001 LAMP update process established categories for further consideration to provide the framework for the final Lower Arroyo Master Plan. These categories incorporated and consolidated the issues and key areas identified previously and were used as the basis for presentation at two community meetings and Recreation and Parks Commission review. Public meetings, focused on an updated Lower Arroyo Master Plan, were held on February 14 and March 17, 2001. Recommendations for the updated plan were presented to the Recreation and Parks Commission on March 21, 2001. The Commission endorsed the updated plan, but voted to have only a “no bicycle alternative” included as part of the plan. However, because of the City Council’s prior action in its conceptual approval, staff had been directed by City Council to retain the bicycle path in the plan and to also consider the “no bike path” alternative under Environmental Impact Report.

The categories considered for the update process and the issues and recommendations for each are presented below.

3.2.1 FLOOD MANAGEMENT AND WATER RESOURCES

City Council action on the 1996 *Draft Lower Arroyo Master Plan* endorsed removal of the flood control channel. Flood control channel removal was also a high-priority topic in the public meetings conducted as part of the 2001 Master Plan update process. Coordinated planning in cooperation with the Los Angeles County Department of Public Works and an evaluation of the potential effects of channel modification on the various City and private improvements in the Lower Arroyo is necessary prior to any modification of the existing channel. Studies are currently underway as part of a larger and ongoing Los Angeles County Department of Public Works and U.S. Army Corps of Engineers Feasibility Study of the Los Angeles and San Gabriel River watersheds and of the *Arroyo Seco Watershed Feasibility Study*. The City of Pasadena is a major stakeholder and participant in the *Arroyo Seco Watershed Feasibility Study* as well as in the various studies by the Corps.

With improvements to the Devil's Gate Dam, there is the ability to manage flow releases into the Arroyo Seco and to regulate sediment delivery downstream. The constructed stream channels in the Lower Arroyo depend on upstream flow and the inlet structures beneath the Colorado Street Bridge are susceptible to blockage from sediment and debris. Modifications to channel flow above the Colorado Street Bridge and increased sediment loading in the catch basin above the Lower Arroyo could compromise the proper functioning of the low-flow stream system. Any program for managing water and reducing sediment behind Devil's Gate Dam must consider the need to maintain the low-flow system in the Lower Arroyo.

In addition to flows passing through Devil's Gate Dam, runoff from the recreational facilities in the Central Arroyo, streets, surrounding residential areas, and other urban sources also enters the Lower Arroyo via the unlined reach of channel upstream of the Colorado Street Bridge. Low flows are diverted at the inlet structures to the created streams and the remaining flows pass over the weir and into the concrete channel. In the high storm season, trash and other debris, typically associated with urban stormwater runoff, collect at the inlet structures. In the low-flow season, water in the created streams can become sluggish or even stagnant, creating a potential nuisance (e.g., breeding areas for mosquitoes and odors from decomposing algae and other vegetation). Maintenance of adequate water quality in the Lower Arroyo's created stream system will benefit from directed public education measures and implementation and enforcement of best management practices consistent with accepted standards.

A relatively shallow (± 30 feet deep) groundwater well was installed near the parking area in the Lower Arroyo to provide temporary establishment irrigation for the low-flow stream restoration project. The well has been functioning for its designated purpose since the restoration project was completed. Use of the well on an interim basis was anticipated through the establishment period of the plants installed as part of the low-flow restoration project. However, since sources of irrigation water for restoration and landscaping activities are limited and/or costly, a functioning well reduces the need for a new supply to support the additional restoration efforts recommended by this plan and is a valuable resource.

Recommendations

- Work aggressively with the Los Angeles County Department of Public Works to investigate the feasibility of, and advocate for, the modification/removal of the concrete channel.
- Coordinate the operational objectives of the Devil's Gate Dam with the flow requirements and sediment management objectives of the low-flow stream system in the Lower Arroyo.
- Implement best management practices on City property in the watershed of the Lower Arroyo.
- Enforce clean water and litter regulations throughout the Arroyo watershed.
- Maintain public awareness program relative to water quality and trash in the watershed.
- Coordinate with Pasadena Health Department on low-flow streams and casting pond.

- Maintain the existing groundwater well for irrigation needs in the Lower Arroyo.

3.2.2 RESTORATION OF PLANT AND WILDLIFE HABITATS

The Lower Arroyo supports a mosaic of remnant vegetation communities, developed and degraded areas, and restored environments each with its own set of issues and opportunities. Channelization of the stream removed most of the native riparian elements of the Lower Arroyo, resulted in unconsolidated soil materials in the adjacent terraces, and substantially reduced surface and groundwater available for the reestablishment of native plants and wildlife habitat. Invasive, nonnative weedy species favor disturbed and eroded areas, often outcompeting natives for space. Relatively intensive human use of the area has further exacerbated the situation. In addition to the concrete channel and its maintenance road along both sides, developed facilities and uses such as the casting pond and associated facilities, archery range and parking area limit the opportunities for complete restoration of the Lower Arroyo's former riparian habitat.

Without some surface water flow, there is limited potential for recolonization of native riparian vegetation. The low-flow stream restoration project provides an example of how restoration can be accomplished under one method of providing seasonal flow through the area. This Master Plan acknowledges that restoration of the Arroyo Seco stream course is an important guideline and eventual channel modification is also a possibility. The studies, planning and timeframe necessary to allow any channel modifications are beyond the scope of this plan. Nevertheless, expansion of riparian elements in the Lower Arroyo warrants consideration, especially given the successes and opportunities provided by the prior restoration efforts. Also, the feasibility of modifying the concrete channel will be pursued aggressively with the County, U.S. Army Corps of Engineers, and other involved stakeholders.

The slopes surrounding the Lower Arroyo have suffered less physical modification than the channel bed and still support good examples of coast live oak woodland and sage scrub vegetation. Some developments, such as La Casita del Arroyo, the access road from Arroyo Boulevard into the parking area, and the numerous rock walls and walkways into the Arroyo have encroached into woodland and scrub areas but many of those native elements persist on the slopes. Some of the Arroyo slopes, mostly on the west side, are privately owned and irregularly managed and maintained. Accelerated erosion occurs where slopes are steep, paths have not been repaired, drainage infrastructure is in need of repair or terminates mid-slope, and heavy human use occurs beyond surfaced or treated trails. In areas with sufficient dry- season moisture and shade, native and exotic vegetation can accumulate to levels that create a higher than normal fire hazard.

Preservation and restoration of native plant communities and wildlife habitat in the Lower Arroyo need to be considered in the context of maintaining and managing what is essentially

a heavily used urban natural park. Appropriate¹ native plant materials should be introduced and natural habitat restored in some areas, but other areas may require different treatments. Active and ongoing management (e.g., weed control, erosion control, fire protection, irrigation and landscape plantings) to maintain standards suitable for public park use, will be necessary throughout the Lower Arroyo. Both restoration and landscaped areas will need ongoing maintenance. Replacement planting and weed abatement programs will be required on an annual basis. Irrigation systems must be maintained, particularly to benefit the plantings in unseasonably dry years. Informal trails that can damage natural vegetation areas, especially on slopes, should be discouraged with appropriate placement of barriers such as rocks, logs, split-rail fencing and other natural appearing materials.

Continued monitoring in the Lower Arroyo, especially in the low-flow streams and other restoration areas, will provide a consistent and ongoing measure of the successes and challenges of the restoration program. It will also provide the basis for development of annual maintenance and management programs. Basic monitoring data on plant materials installed, planting dates and locations, growth rates and size classes, mortality and other parameters can be supplemented with more detailed monitoring to address specific objectives. For example, the restoration areas may lend themselves well to directed scientific studies of urban ecology or created wetland and aquatic habitats. Monitoring parameters focused on maintenance planning could include extent and location of nonnative invasive weeds, buildup of brush and general fuel-loading in fire prone or critical areas, location and extent of eroded areas, sediment buildup at inlet structures and in stream zones, irrigation system functioning, replacement plant locations, and other parameters that could provide information useful to the overall management program for the Lower Arroyo.

Recommendations:

- Restore and maintain native plants in selected areas;
- Modify the Arroyo Seco Public Lands Ordinance to limit restoration plantings to species indigenous to the Arroyo Seco watershed;
- Maintain irrigation system capability for establishment plantings;
- Mitigate fire hazards and erosion in critical areas;
- Control the establishment and spread of nonnative invasive plants;
- Continue monitoring low-flow stream system and other restoration areas;
- Consider acquiring title or easement control of poorly maintained areas to improve vegetation cover, reduce erosion and control the spread of nonnative plants.

¹ The Arroyo Seco Public Lands Ordinance currently allows only “native plants” except at La Casita del Arroyo. The Ordinance defines native plants as “plants historically known to be indigenous to the Arroyo Seco of Pasadena and nearby arroyos of similar ecology and also those indigenous plants of Southern California which could naturally exist and flourish in the lower Arroyo Seco in its present ecology.” This is an expansive definition, as some Southern California indigenous plants would never have occurred in the Lower Arroyo but could survive there now. Appropriate native plants for restoration purposes are those plants indigenous to the Arroyo Seco watershed.

3.2.3 RECREATION

Trails

The lack of well-defined trail entrances at the northern and southern ends of the Lower Arroyo Seco diminishes the quality of the user's experience. There is no sense of entry into a designated natural preservation area or connection to the regional trails to the north and south. The common access into the Lower Arroyo from the south (on the east side of the flood control channel) involves crossing the private San Pascual Stables in South Pasadena. The common northerly entrance from the Central Arroyo is via an unimproved and unsightly slope beneath the Colorado Street Bridge. An unimproved trail also provides pedestrian access to the west side of the northern end of the Lower Arroyo from the Parker-Mayberry Bridge.



Access to the Lower Arroyo under the Colorado Bridge

Limited west-side pedestrian access points exist, with Arroyo Boulevard's many historic walkway entrances on the east side providing most local pedestrian access to the Lower Arroyo. Those access points mostly connect to old trails with walls and arroyo stone improvements in serious disrepair. Many of the Lower Arroyo's original pathways and associated walls can no longer be used due to deterioration that reduces the extent of the historic pedestrian trail network. The Rim Trail does not obviously exist as a continuous historic trail along Arroyo Boulevard due to its lack of standardized surfaces, signs, and related improvements.

The flood control channel bisects the terrace of the Lower Arroyo, creating issues of functional trail and emergency access from one side to the other throughout the area. Only three channel crossings exist to facilitate visitor use of and circulation within the Lower

Arroyo. Existing signage does not clearly identify trails, uses and destinations/distances. Way-finding for persons not familiar with the area is not easy. Most existing trail signs are old or damaged and emphasize rules and regulations rather than interpretive or directional information.

Improvements to the internal trail system through the area, in addition to better trail access at the entrances and across the flood control channel, could greatly enhance the user experience in the Lower Arroyo. The southerly portion of the west-side trail follows the fenced flood control channel with no landscaping or other improvements. The area around the Camel's Hump is another section of the Lower Arroyo in need of trail improvements. Both areas provide opportunity for meandering trails, rest spots and other improvements, and landscape enhancements through native plantings.

Volunteer trails have been blazed through the vegetation along the low-flow stream next to the casting pond for easy access between the central parking area and the Casting Club area. Those unplanned trails have resulted in damage to the stream and surrounding vegetation. Better separation and definition between general trail users and the Roving Archers is greatly needed through the archery range for improved safety. Clear signage and main trail delineation do not currently exist throughout the area.

Trail cross-sections, surfaces and signage are not standardized throughout the Lower Arroyo Seco. Trails in the area are composed of various surface materials, ranging from native gravel to local bare soil and decomposed granite or similar material in recently improved areas around the low-flow streams. The Arroyo Seco Ordinance requires that trails and roads not be paved.

Recommendations

- Maintain and enhance regional trail connections;
- Enhance the northern entrance to the Lower Arroyo;
- Improve access via the Parker-Mayberry Bridge beneath the Colorado Street Bridge;
- Restore and enhance the neighborhood entrances to the Lower Arroyo;
- Restore Arroyo Boulevard Rim Trail;
- Enhance western trail along flood control channel;
- Expand trail system behind Camel's Hump;
- Enhance trails in casting pond area;
- Define archery range trails and boundaries and designate edges with appropriate materials;
- Create a safe, separate trail for other users on the edge of archery range;
- Develop standardized trail surfaces and cross-sections throughout the Lower Arroyo;
- Develop signage plus natural trail edge treatments;
- Include official City designation for the trails of the Arroyo Seco in the City General Plan.

Bicycles Routes and Rest Areas

While this plan does not recommend any new bicycle routes or trails in the Lower Arroyo Seco, the following are recommendations of the plan:

Recommendations

- Stencil existing Class III bicycle route along Arroyo Boulevard
- Provide curb cut at Bird Sanctuary to encourage use as rest area
- Maintain public education and awareness programs

Equestrian Uses

There has been moderate equestrian use in the Lower Arroyo over a long period of time although the equestrian population appears somewhat reduced from the historic levels. The Lower Arroyo accommodates this use in spite of limited equestrian amenities such as public stables, loading and staging areas, and designated tie-up areas. Equestrians can traverse trails on both sides of the flood control channel but the east side of the channel, especially in the section south of the central parking area, seems to be more heavily used by the riders. The west side of the channel, north of the central maintenance/archery bridge crossing also appears to be well used, particularly since the installation of the low-flow stream restoration project. However, the relative narrowness of west-side trails south of the archery bridge and the potential for conflict between archery range and equestrian use may influence more riders to use the east side. There also have been reports of conflicts between equestrians and unauthorized bicyclists in the area. Equestrian/bicyclist conflicts have the potential for real danger to all parties involved, human and equine.

Recommendations

- Provide limited equestrian amenities in south entrance area
- Improve tie-up areas in the Lower Arroyo

Casting Pond

The casting pond is configured and maintained as an instructional and practice facility by the Pasadena Casting Club. The City Manager executes an annual contract with the Pasadena Casting Club to govern the use of this area. The aesthetics of the area are defined by the pond's "hardscape." Incorporating the casting pond into the low-flow stream system and enhancing the area with riparian plantings were considered during the design of the low-flow restoration project, but rejected as incompatible with the goals and objectives of the Casting Club. Intermittent flow, sediment loads, dense vegetation and other features of the low-flow project would limit the utility of the casting pond as a practice area, especially for beginners, and also create a maintenance problem.

Under current conditions, the casting pond requires ongoing maintenance, including regular drainage and cleanout. The pond is a closed system without aeration and requires relatively frequent (four times per year) draining; maintenance staff complains of the difficulty in cleaning the pond. The pond lining is in need of resurfacing and possibly replacement; the existing cracked asphalt surface is questionable as a suitable material for this purpose. Better surfacing, circulation, and drainage could improve water conservation, maintenance and the aesthetics of the facility. Similarly, the paving around the pond perimeter is cracked, unsightly and does not fit the natural character of the area. Most of the area around the pond is sparsely landscaped, although the western edge is now nicely buffered from the parking area as a result of the low-flow restoration project. However, since the pond and the adjacent public restrooms are destinations for many visitors to the Lower Arroyo, unofficial trails through the riparian area between the parking area and the pond have been created. The streamzone and associated riparian vegetation have been damaged by such unauthorized off-trail pedestrian use.

The casting pond is also an attraction for dogs and a destination for dog owners. Off-leash dogs often can be found using the pond, particularly when casters are not present. Such use is in violation of the Pasadena Municipal Code and increases the pond's maintenance requirements. Off-leash dogs in the vicinity of the casting pond also tend to find their way into the adjacent low-flow stream, further contributing to its disturbance and compromising the value of the area as restored habitat.

Recommendations

- Maintain casting pond water source separate from low flow stream system;
- Repair casting pond surface for improved water conservation;
- Repair pond's drainage system and water quality of pond;
- Improve casting pond area aesthetics and amenities, including accessible perimeter walkway at ponds edge;
- Upgrade and improve Casting Club building and adjacent restroom facilities for public use as appropriate and in conformance with the Arroyo Seco Design Guidelines, but without substantial change to the structure;
- Target enforcement of off-leash dog ordinance in casting pond and vicinity;
- Provide information kiosk.

Archery Range

While the Pasadena Roving Archers have an excellent safety record, there is now increased use of this central portion of the Lower Arroyo due to the attraction of the restoration area. Consequently, there is a need to develop a designated trail along the eastern edge of the archery range area for general visitors to the Lower Arroyo to enhance public safety. This trail, and the archery range itself, could also be improved to meet Accessibility Disability Act (ADA) standards to allow better opportunities for the disabled. There is also a need for a distinctive, uniform signage system in the archery use area to inform the general public of the potentially dangerous nature of the range when in use and to prescribe separation of archers from pedestrians and equestrians.

The archery targets are typically set on the western slopes of the Lower Arroyo and many of these targets are in need of maintenance. In addition, the areas surrounding the targets are subject to regular disturbance which impacts hillside vegetation and accelerates erosion. Hillside revegetation, using native plant materials, and clear demarcation of archery lanes and target areas could improve these conditions.

Club members regularly access their facilities on the west side of the channel by driving vehicles across the central maintenance bridge and parking around the clubhouse structure. The frequency of use of the facilities, equipment requirements for the course improvements, and distance from the central parking area necessitate the formal establishment of a few authorized parking spaces west of the bridge for the group's use. Parking for the disabled could also be provided. As the gate is often left unlocked at the bridge, other drivers occasionally cross the bridge into an area where public vehicular traffic is otherwise prohibited.

The small Roving Archers building, recently destroyed by fire, was too small for the group's ongoing meeting and storage needs. In addition, there is a general need for a public restroom on the west side. Minor expansion of the building would be necessary to provide better storage as well a public restroom. Currently, the Arroyo Seco Public Lands Ordinance prohibits the construction of any new or expanded structures in the Lower Arroyo.

Recommendations

- Define archery range trails and boundaries and designate edges with appropriate materials;
- Create a safe, separate trail for other users on the edge of the archery range;
- Establish sign program including signage for "Range in Use";
- Rebuild targets and hay bale barriers in the southern range;
- Eliminate targets and hay bale barriers in the northern range, except during tournaments;
- Provide new vehicle gate at bridge across flood control channel to control vehicular access to archery area;

- Provide information kiosk;
- Make as much of the range ADA-accessible as possible;
- Improve Pasadena Roving Archers building (provide storage area, requiring change to Public Lands Ordinance to allow existing facilities to expand for health, safety and maintenance reasons, to no more than 10% of existing footprint).

Nature Study

The Lower Arroyo’s educational potential is under-utilized, especially with the outdoor and ecological learning opportunities provided by the restoration project. With public ownership and management, the area is suited for more formal and extensive nature study and education activities. Coordination between the City and other public and private organizations interested or expert in such uses could be increased.

Recommendations

- Encourage use of Lower Arroyo as living laboratory;
- Create and fund a nature program under the Human Services, Recreation and Neighborhoods Department of the City that will fully develop such a program for the Arroyo Seco;
- Develop volunteer/docent program;
- Maintain public awareness/education program;
- Coordinate with local school districts and other educational organizations;
- Provide interpretive signage/information at appropriate locations.

La Casita del Arroyo

The boundaries of the La Casita area are unclear from Arroyo Boulevard or the adjacent Rim Trail. The parking area is closed to the public when La Casita is not in use, but pedestrian access to the area is possible from the Rim Trail along Arroyo Boulevard. The surrounding down-slope walls and paths are not well maintained, with many in a serious state of disrepair. Otherwise, the La Casita site would provide an excellent trail access point to the central portion of the Lower Arroyo.

The Arroyo Seco Public Lands Ordinance currently allows only “native plants” in the Lower Arroyo except at La Casita del Arroyo. The Ordinance defines native plants as “plants historically known to be indigenous to the Arroyo Seco of Pasadena and nearby arroyos of similar ecology and also those indigenous plants of Southern California which could naturally exist and flourish in the lower Arroyo Seco in its present ecology.” This is an expansive definition, as some Southern California indigenous plants would not have ever naturally occurred in the Lower Arroyo but could survive there now. The Ordinance’s exception to “native plants” allowed for La Casita, on the other hand, is too restrictive, being limited to “nonnative annual flowers.” Indigenous perennial or nonflowering plants should not be restricted from the area.

Recommendations

- Define La Casita del Arroyo area;
- Restore arroyo stone walls and stairs;
- Enhance trail connections to low-flow stream area;
- Provide information kiosk, signage and interpretive materials;
- Modify Arroyo Seco Ordinance to better define range of plantings on grounds within La Casita del Arroyo use area.

3.2.4 LANDSCAPE AND AESTHETIC IMPROVEMENTS

The Lower Arroyo is a mixture of natural environment and man-made features that have been added to the area through the years. Hillsides that more or less retain their natural character and vegetation patterns define the edges of the Lower Arroyo and buffer the adjacent residential neighborhoods. The main entrance to the Lower Arroyo is understated, with low-profile signage and no distinctive landscaping. La Casita establishes an aesthetic note along Arroyo Boulevard and suggests an entrance, but the grounds and trails leading into the Arroyo do not invite the visitor beyond the structure itself.

A network of historic walls and trails built during the Depression lead into the Arroyo across the hillsides. Many of these walls and paths were constructed of native arroyo stone but are in advanced stages of disrepair or failure. Another relic of this era, known as the Bird Sanctuary, is located on a promontory along the Rim Trail overlooking the Lower Arroyo and also provides a meandering pathway down into the Arroyo. The features of the Bird Sanctuary, including a fountain and viewing area, arroyo stone seats, walls, and pathways, have been poorly maintained and damaged by vandalism. Parts of the area are secluded and not at all visible from Arroyo Boulevard, creating an ongoing neighborhood and police surveillance problem.

A small, irregularly maintained grove of planted trees, initiated to commemorate Pasadena AIDS victims, is located on the east side of the channel north of the La Loma Road Bridge. Other memorial tree plantings have occurred in the area during the last several years. The Memorial Grove area has been underutilized as a destination spot and area suited to native plantings and passive public use.

The Camel's Hump, a man-modified feature from the excavation of the flood control channel, is a distinctive landmark in the southern portion of the Lower Arroyo. What is now the "hump" had been a spur ridge from the west, deflecting the Arroyo Seco's natural flow pattern to the east and creating the broad terrace at and north of Busch Gardens. Steep slopes and erosional scars now characterize parts of the remnant hill. Previous attempts to clean up and revegetate the Camel's Hump area have not fared well; the area appears degraded and in need of restoration.

Chain-link fencing along the channel is unattractive and not consistent with the Natural Preservation Area designation of the Lower Arroyo. Signage throughout the Lower Arroyo is utilitarian and poorly maintained.

Recommendations

- Enhance main entrance to Lower Arroyo;
- Improve grounds and entrance opportunities of La Casita Del Arroyo;
- Restore the historic stone walls and paths in the Lower Arroyo in keeping with their historic character and native construction materials;
- Enhance the Bird Sanctuary as a rest stop and entrance;
- Improve aesthetics and amenities of Memorial Grove;
- Restore and enhance trails and amenities in the Camel's Hump area;
- Improve aesthetics of chain-link fencing along the channel;
- Improve and upgrade directional and regulatory signage throughout the Lower Arroyo.

3.2.5 CIRCULATION AND PARKING

Increased visitor use of the Lower Arroyo has increased the use of the main parking area. The area can easily be filled to capacity; especially on weekends and when concurrent special activities are scheduled at the archery and casting areas. Overflow parking occurs along the entrance roadway and at the Archers' clubhouse. The lot at La Casita is generally available and accessible only for events there.

There is convenient pedestrian access to the Lower Arroyo for persons parking in the Central Arroyo and using trail connections. There is no similar parking availability at the southern end of the Lower Arroyo at the Pasadena/South Pasadena City limits. South Pasadena public parking lots are not proximate to the Pasadena section of the Lower Arroyo and are heavily used in conjunction with the park and recreation activities in that area. The parking lot at San Pascual Stables is private property. A new southern entrance and parking area off San Pascual Avenue was considered. The proposal would provide limited parking with no more than 20 spaces which would help relieve some of the demands on the existing central parking area and introduce Lower Arroyo visitors to the southern section of the area. The proposed parking area could accommodate minimal equestrian use with two or three large parking spaces for vehicles with trailers and tie rails, but is not likely to serve as an equestrian staging facility.

Public transit service provides limited service to direct access points for the Lower Arroyo. Parking demand could be reduced and public accessibility to the Lower Arroyo improved with transit service to the central and southern portions of the Lower Arroyo. Modifying existing bus routes to accommodate a stop or stops along Arroyo Boulevard should be considered.

Recommendations

- Do not expand existing entrance or main parking area;
- Improve public transportation access to the Lower Arroyo.

3.2.6 SECURITY AND ACCESSIBILITY

Although located in the City of Pasadena and surrounded by urban development, the Lower Arroyo is a remote natural area because of its depressed topography with steep, generally wooded side slopes below the adjacent neighborhoods. Consequently, the Lower Arroyo presents more of a security challenge than the other more developed urban parks in the City. Because visibility of most areas of the Lower Arroyo from adjacent public streets is obscured, the area is more difficult to patrol than some other parks. Patrolling on foot, by bicycle and on horseback is required on a regular basis so users know that City regulations will be enforced. Enforcement focuses on graffiti control, off-leash dogs, and unauthorized use of, or illegal activities in meeting areas such as the central parking area and the Bird Sanctuary.

Minimal disabled-accessible facilities exist in the Lower Arroyo. As individual programs and projects consistent with the Master Plan are implemented, compliance with the federal Accessibility Disability Act (ADA) will be required. ADA provides accessibility standards for buildings, facilities, parking, signage, pathways, drinking fountains and other amenities. The City of Pasadena reviews ADA issues through the Accessibility & Disability Commission, Planning & Permitting Department and Building Department. All new construction will meet current ADA-accessibility standard. Developed state and national standards for natural park areas will be used where applicable.

Recommendations

- Encourage an active Neighborhood Watch Program with regular meeting/reporting protocol;
- Expand vehicular, pedestrian and equestrian patrols by City police department, security personnel and volunteers;
- Provide security lighting and/or cameras at key locations;
- Provide ADA-compliant accessible facilities throughout the Lower Arroyo, where feasible:
 - trails off main parking area and along Arroyo Boulevard Rim Trail
 - southern entrance
 - casting area
 - bridge from parking lot to casting area
 - Rim Trail
 - Bird Sanctuary
 - trail surfaces
 - information kiosks
 - archery clubhouse and storage area

- signage and interpretive exhibits (including Braille)
- public transit

3.2.7 LAND AND CONSERVATION ACQUISITION

The Lower Arroyo is designated as Open Space by the City of Pasadena General Plan and is zoned Open Space. The Pasadena General Plan defines “Open Space” as follows:

“This category is for a variety of active and passive public recreational facilities and for City-owned open space facilities. This includes natural open spaces and areas that have been designated as environmentally and ecologically significant. This category also applies to land which is publicly owned, though in some instances public access may be restricted. Most importantly, this designation only applies to lands owned by the City.”

The Arroyo Seco Public Lands Ordinance establishes regulations for the preservation, enhancement, and enjoyment of the Arroyo Seco as a unique environmental, recreational and cultural resource of the city, surrounded by residential neighborhoods. The ordinance further states, “Such resources and the neighborhoods must be preserved, protected and properly maintained.” While the entire Lower Arroyo is within the “natural preservation area” established by the Ordinance, the adjacent residential neighborhoods are not. However, many of the measures necessary to preserve, protect, and properly maintain the Lower Arroyo could involve activities (e.g., erosion control, fire protection, nonnative species eradication, and access improvements) on adjacent, privately held lands, especially slopes.

Private properties contiguous to the Lower Arroyo provide opportunities for City acquisitions of fee title or easements to expand and increase public control of and access to the Lower Arroyo.

Recommendations

- Consider fee title acquisitions or easements to expand and increase City control/access in the Lower Arroyo.

3.2.8 MANAGEMENT AND MAINTENANCE

The management and maintenance requirements of the Lower Arroyo have increased, and are expected to continue to increase, with the active restoration of the area. Implementation of the BFI restoration project not only created new management and maintenance responsibilities directly, but also indirectly because of the increased visitation that it generated. Whereas historic maintenance needs of the Lower Arroyo were determined by more or less standard open space maintenance requirements (e.g., brush and grass clearing, weed spraying, trash removal, public facilities maintenance), the active restoration component has added new responsibilities such as directed rodent control, manual exotic plant removal, irrigation system maintenance, sediment monitoring and cleanout, restoration

plantings, and natural history interpretation. With more people using the Lower Arroyo, comes more need for attention and enforcement of leash, parking, litter and other regulations, and an increase in public facilities and their maintenance. Parks and Natural Resources Division staffing and budget authorizations will need careful review to make sure they are adequate to provide the relatively higher level of ongoing management and maintenance in the Lower Arroyo that will come with implementation of this Master Plan.

Recommendations

- Maintain program to control rodents in restoration areas in cooperation with Los Angeles County;
- Maintain program to control invasive nonnative weedy species;
- Maintain regular program of building and facilities repair and maintenance;
- Develop program for regular monitoring, trash removal, and sediment cleanout at inlets for low-flow stream system;
- Maintain existing groundwater well and irrigation system capability;
- Develop annual program for native tree and shrub plantings and replacement based on monitoring;
- Aggressively enforce existing leash laws;
- Provide dog clean-up bag dispensers and additional trash cans at key locations;
- Provide public awareness/education program relative to damage to habitats by hiring a full-time naturalist.

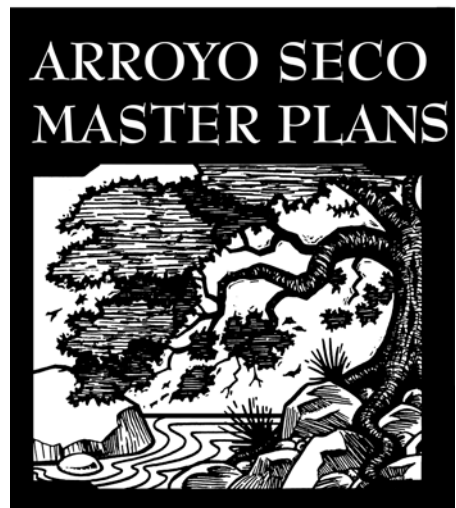
3.2.9 IMPLEMENTATION

As noted above, the City of Pasadena Department of Public Works has primary responsibility for the implementation of this Master Plan. The programs and projects recommended by this Master Plan will require budget and capital improvement authorizations by the City Council through the Capital Improvement Program Budget based on annual implementation priorities.

Recommendations

- The Director of Public Works will be responsible for implementation of the Lower Arroyo Master Plan;
- Prepare an annual implementation work plan through the Capital Improvement Program for approval by the City Council with advisory review by the Recreation and Parks Commission;
- Identify and develop sources of public, private, and grant funding for implementation programs and projects;
- Implement the annual work plan and provide an annual report in July of each year to City Council together with annual work plan.

Section 4. Lower Arroyo Master Plan

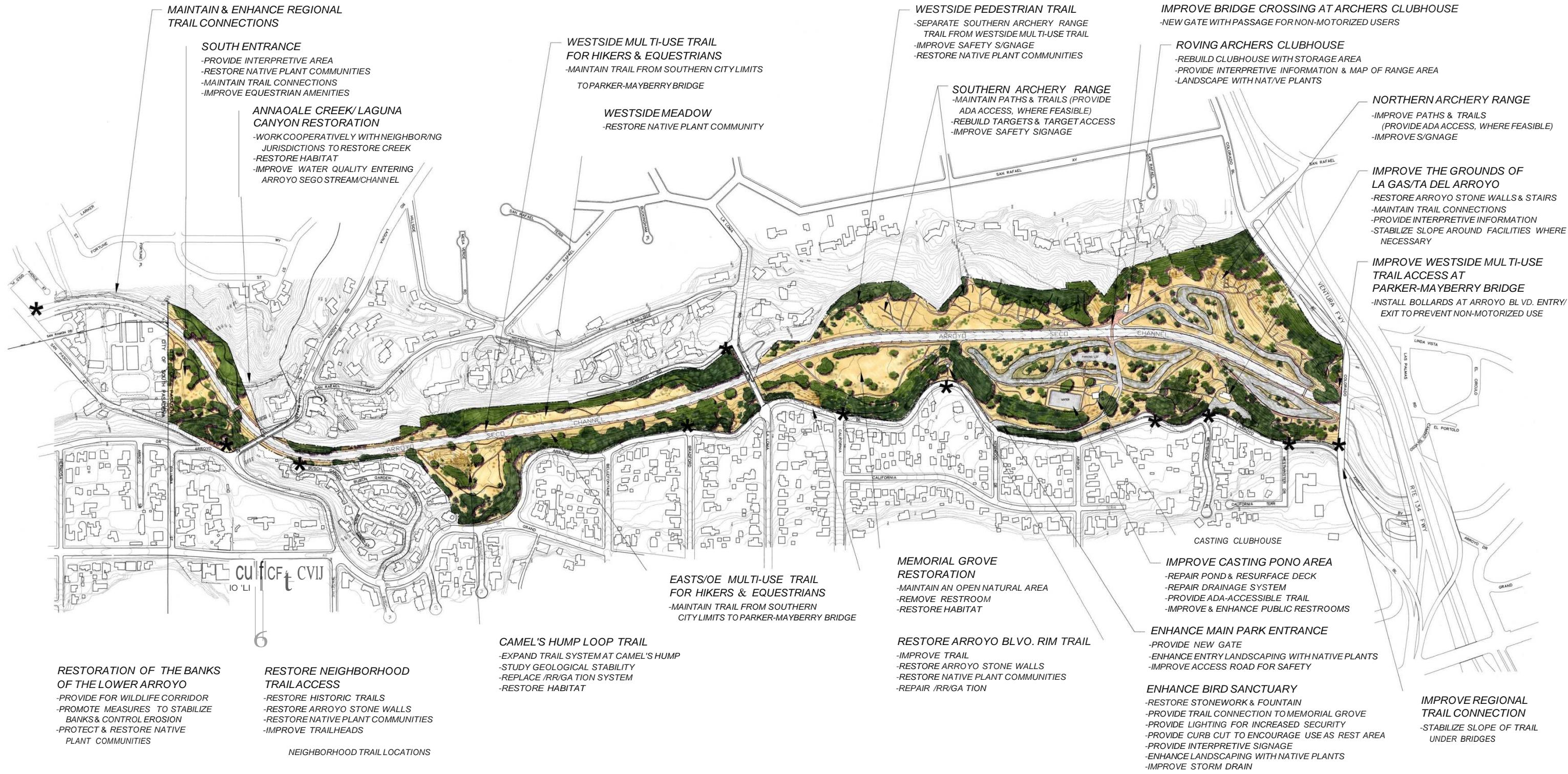


SECTION 4:

LOWER ARROYO SECO MASTER PLAN

Against the background of previous plans and recommendations as discussed herein, in response to public comments and directives from the Pasadena City Council, and with the intent of meeting the goals and objectives itemized in Section 1.4 of this report, an updated Master Plan for the Lower Arroyo Seco has been prepared as illustrated in Exhibit 4-1 along with a Trails System Map illustrated in Exhibit 4-2. The updated Master Plan consists of a set of project elements following planning assumptions and principles that have remained consistent throughout the planning history of the Lower Arroyo. The assumptions and principles around which the updated Master Plan is built include:

- An assumption that while restoration of the Arroyo Seco stream course is an overarching guideline for the Arroyo Seco, there are no plans to remove any section of the concrete flood control channel at this time. However, the City of Pasadena with the Los Angeles County Department of Public Works and U.S. Army Corp of Engineers will work collaboratively on alternatives to the channel. A specific project may be considered for implementation when the impact to existing conditions is better understood and there is an assurance that the safety of Pasadena residents and property are not threatened.
- Consideration of existing uses and facilities and inclusion of new project elements only as they are compatible with those uses. The archers, casters, equestrians, hikers, joggers, walkers, and others who use the Lower Arroyo are vested in the area. Historic structures such as La Casita del Arroyo, stone-lined walkways and walls, the Bird Sanctuary and other features of the Lower Arroyo are enduring reminders of the past and will continue to play an integral role in defining the character and ambience of the Lower Arroyo. In 1979, the Lower Arroyo Seco was added to the City of Pasadena's Designated Landmarks and Treasures as a Cultural Heritage Landmark (although not listed on the State or Federal Historic Register). The City has declared that Cultural Heritage Landmarks shall conform to the U.S. Secretary of the Interior's Standards for the Treatment of Historic Properties. In addition, all restoration and improvements to the Lower Arroyo Seco shall conform to the Arroyo Seco Design Guidelines Improvements to buildings, structures, and facilities have been included as elements of the updated Master Plan in this context. Finally, the Arroyo Seco Ordinance sets certain standards and requirements for the Lower Arroyo and, while its overall intent will not be compromised, the Ordinance will need to be amended to accommodate some of the project elements of this Master Plan.



MAINTAIN & ENHANCE REGIONAL TRAIL CONNECTIONS

SOUTH ENTRANCE
 -PROVIDE INTERPRETIVE AREA
 -RESTORE NATIVE PLANT COMMUNITIES
 -MAINTAIN TRAIL CONNECTIONS
 -IMPROVE EQUESTRIAN AMENITIES

ANNAOALE CREEK/LAGUNA CANYON RESTORATION
 -WORK COOPERATIVELY WITH NEIGHBORING JURISDICTIONS TO RESTORE CREEK
 -RESTORE HABITAT
 -IMPROVE WATER QUALITY ENTERING ARROYO SEGO STREAM/CHANNEL

WESTSIDE MULTI-USE TRAIL FOR HIKERS & EQUESTRIANS
 -MAINTAIN TRAIL FROM SOUTHERN CITY LIMITS TO PARKER-MAYBERRY BRIDGE

WESTSIDE MEADOW
 -RESTORE NATIVE PLANT COMMUNITY

WESTSIDE PEDESTRIAN TRAIL
 -SEPARATE SOUTHERN ARCHERY RANGE TRAIL FROM WESTSIDE MULTI-USE TRAIL
 -IMPROVE SAFETY SIGNAGE
 -RESTORE NATIVE PLANT COMMUNITIES

SOUTHERN ARCHERY RANGE
 -MAINTAIN PATHS & TRAILS (PROVIDE ADA ACCESS, WHERE FEASIBLE)
 -REBUILD TARGETS & TARGET ACCESS
 -IMPROVE SAFETY SIGNAGE

IMPROVE BRIDGE CROSSING AT ARCHERS CLUBHOUSE
 -NEW GATE WITH PASSAGE FOR NON-MOTORIZED USERS

ROVING ARCHERS CLUBHOUSE
 -REBUILD CLUBHOUSE WITH STORAGE AREA
 -PROVIDE INTERPRETIVE INFORMATION & MAP OF RANGE AREA
 -LANDSCAPE WITH NATIVE PLANTS

NORTHERN ARCHERY RANGE
 -IMPROVE PATHS & TRAILS (PROVIDE ADA ACCESS, WHERE FEASIBLE)
 -IMPROVE SIGNAGE

IMPROVE THE GROUNDS OF LA GAS/TA DEL ARROYO
 -RESTORE ARROYO STONE WALLS & STAIRS
 -MAINTAIN TRAIL CONNECTIONS
 -PROVIDE INTERPRETIVE INFORMATION
 -STABILIZE SLOPE AROUND FACILITIES WHERE NECESSARY

IMPROVE WESTSIDE MULTI-USE TRAIL ACCESS AT PARKER-MAYBERRY BRIDGE
 -INSTALL BOLLARDS AT ARROYO BLVD. ENTRY/EXIT TO PREVENT NON-MOTORIZED USE

EASTSIDE MULTI-USE TRAIL FOR HIKERS & EQUESTRIANS
 -MAINTAIN TRAIL FROM SOUTHERN CITY LIMITS TO PARKER-MAYBERRY BRIDGE

MEMORIAL GROVE RESTORATION
 -MAINTAIN AN OPEN NATURAL AREA
 -REMOVE RESTROOM
 -RESTORE HABITAT

IMPROVE CASTING POND AREA
 -REPAIR POND & RESURFACE DECK
 -REPAIR DRAINAGE SYSTEM
 -PROVIDE ADA-ACCESSIBLE TRAIL
 -IMPROVE & ENHANCE PUBLIC RESTROOMS

ENHANCE MAIN PARK ENTRANCE
 -PROVIDE NEW GATE
 -ENHANCE ENTRY LANDSCAPING WITH NATIVE PLANTS
 -IMPROVE ACCESS ROAD FOR SAFETY

ENHANCE BIRD SANCTUARY
 -RESTORE STONWORK & FOUNTAIN
 -PROVIDE TRAIL CONNECTION TO MEMORIAL GROVE
 -PROVIDE LIGHTING FOR INCREASED SECURITY
 -PROVIDE CURB CUT TO ENCOURAGE USE AS REST AREA
 -PROVIDE INTERPRETIVE SIGNAGE
 -ENHANCE LANDSCAPING WITH NATIVE PLANTS
 -IMPROVE STORM DRAIN

IMPROVE REGIONAL TRAIL CONNECTION
 -STABILIZE SLOPE OF TRAIL UNDER BRIDGES

RESTORATION OF THE BANKS OF THE LOWER ARROYO
 -PROVIDE FOR WILDLIFE CORRIDOR
 -PROMOTE MEASURES TO STABILIZE BANKS & CONTROL EROSION
 -PROTECT & RESTORE NATIVE PLANT COMMUNITIES

RESTORE NEIGHBORHOOD TRAIL ACCESS
 -RESTORE HISTORIC TRAILS
 -RESTORE ARROYO STONE WALLS
 -RESTORE NATIVE PLANT COMMUNITIES
 -IMPROVE TRAILHEADS

NEIGHBORHOOD TRAIL LOCATIONS

CAMEL'S HUMP LOOP TRAIL
 -EXPAND TRAIL SYSTEM AT CAMEL'S HUMP
 -STUDY GEOLOGICAL STABILITY
 -REPLACE /RR/GA TION SYSTEM
 -RESTORE HABITAT

RESTORE ARROYO BLVD. RIM TRAIL
 -IMPROVE TRAIL
 -RESTORE ARROYO STONE WALLS
 -RESTORE NATIVE PLANT COMMUNITIES
 -REPAIR /RR/GA TION

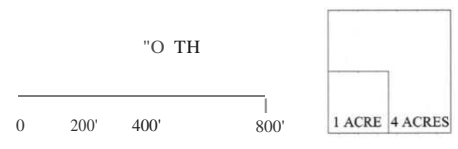
 **CITY OF PASADENA**

LOWER ARROYO MASTER PLAN

One of the Arroyo Seco Master Plans

Adopted 9/29/03

Exhibit 4-1



- Acknowledgement of the importance of access into and through the Lower Arroyo and its connectivity with adjacent areas. Entrances, parking, trail connections, and circulation through the area are very important to the appropriate use of the Lower Arroyo. Vehicular access and parking will continue to be limited to the main entrance and parking area on the east side of the Arroyo. Improved trail connections will further provide a sense of entry into the Lower Arroyo from both the north and the south. Internal trails will be better defined with clear separators for equestrians and the archery range. Neighborhood entrances and the Rim Trail will also be improved.
- Emphasis on habitat enhancement, restoration, and landscaping using appropriate native plant materials. Unlike most other parks in the City of Pasadena (with the obvious exception of the Hahamongna area), the Lower Arroyo represents a remnant of a once extensive natural ecological system that has all but vanished from the Southern California landscape. Thus, planning for the Lower Arroyo presents an opportunity to preserve and enhance this valuable resource. Several remnant habitat types have been identified for the area (see Section 2 of this report), each with its own plant associations. In addition, previous restoration efforts (i.e., the BFI restoration project) have been completed with the intent of reestablishing certain indigenous habitat types. Finally, the Arroyo Seco Ordinance specifically requires landscaping in the Lower Arroyo with only native plant materials. In this context, all landscape planting specified in this Master Plan, with the exception of planting associated with La Casita del Arroyo, will be limited to those species of plants native to the Arroyo Seco watershed. (The Arroyo Seco Ordinance will need to be amended accordingly). Habitat types existing in any area identified for landscaping or native plant community enhancement will dictate the selection of plant materials from a palette associated with that habitat type (see Appendix C). In certain specific project areas (e.g., in the Memorial Grove and Camel's Hump areas), this Master Plan specifies habitat restoration. In these cases, a more ambitious effort to reestablish native vegetation in degraded areas is intended which will require site-specific planning prior to implementation.

The following project elements comprise the updated project description for the Master Plan for the Lower Arroyo Seco and provide a template for the future management and use of the area.

4.1 PRIMARY ENTRANCES

4.1.1 MAIN PARK ENTRANCE

The existing entrance located near the intersection of Arroyo Boulevard and Norwood will be improved as the primary vehicular access point to the Lower Arroyo. A new entry gate will be designed and installed at the top of the driveway. Entry gate design will be consistent with the design of similar features already in the Lower Arroyo. Gate design may emulate the model established by the existing gates at La Casita, but will require conformance with the Arroyo Seco Design Guidelines.



The gates at La Casita del Arroyo will serve as a model for other gateways in the Arroyo.

New landscaping with woodland and coastal scrub native plantings will be included to further enhance the sense of entry into the Lower Arroyo at this primary access point. Arroyo stone boulders will be introduced as part of the entry landscaping.

The existing drive/access road into the main parking area will be repaired and improved to a maximum width of feet to accommodate the safe passage of vehicles. It is anticipated that only the narrowest portion of the road will be impacted on the downhill side. Existing barrier rails will also be replaced with a combination of Arroyo stone boulders and a low Arroyo stone barrier wall. All aspects of the design will comply with the Arroyo Seco Design Guidelines. The downhill slope will be terraced and native plant communities restored to stabilize the slope in areas affected by the road modifications.

4.1.2 SOUTH ENTRANCE

Amenities planned in this area include a natural seating area, equestrian amenities, and an interpretive area. The seating area will consist of a natural seating area with boulders in shady areas under trees for hikers and equestrians as they arrive in the area from the southern or northern reaches of the Arroyo Seco. A designated equestrian path/use area with hitching posts for horses as well as watering troughs will be provided for riders visiting the area.

The area will serve as a southern gateway to Pasadena's Arroyo Seco, a destination in its own right and a staging area for users, especially hikers and equestrians. A trail definition program and the Arroyo Seco Design Guidelines will define the nature and extent of signage necessary to clearly direct people to the local Pasadena trail system and also direct special category users such as cyclists to the appropriate connecting trail systems. All signage will be in conformance with the Arroyo Seco Design Guidelines.

The southern entrance will be enhanced by the restoration of native plant communities including woodland and coastal scrub native plantings in the area currently used by the stables. A trail loop will be established to protect new plant restoration areas and connect the eastside multi-use trail with the Lower Arroyo trails. Ongoing coordination with South Pasadena and the stables will need to occur in this area.

4.1.3 NORTHERN ENTRANCE

Improve Westside Multi-Use Trail Access at Parker-Mayberry Bridge

Access to the northern end of the Lower Arroyo will be improved to allow equestrians and pedestrians to enter or exit the area from Arroyo Boulevard via the existing Parker-Mayberry Bridge (located beneath the Colorado Street Bridge). Directed use of the maintenance bridge will allow users to cross the flood control channel and enter the Lower Arroyo by way of an



Parker-Mayberry Bridge below the Colorado St. Bridge

improved connection with the existing Westside trail at its northern end. The existing iron gate on the east side of the bridge entry will be modified so that there is always an opening. However, a system of bollards or a modified swing gate will be installed to prevent vehicles from entering while allowing nonmotorized (except cyclists) recreational users to pass through this entry with ease; the bollards could be removed or the swing gate opened when maintenance or other official vehicles need to enter. No grading will be required.

Eastside Multi-Use Trail for Hikers and Equestrians

The relatively steep and unimproved area on the east side of the flood control channel beneath the Parker-Mayberry Bridge and the Colorado Street Bridge serves as a transition for pedestrians and equestrians between the Lower Arroyo and the pathway along the unchannelized reach of the Arroyo upstream of the Colorado Street Bridge. The stabilization of the slope of the trail under the bridge is a critical safety issue. The conditions in the area under the bridges will be modified with grade breaks of large timbers, stone, or other suitable material and surfaced with pathway treatment to create a stepped pathway. A new trail will be created in conformance with standards recommended by the Arroyo Seco Design Guidelines. The trail will be a multi-use trail exclusive of cyclists.

4.2 EAST SIDE RIM IMPROVEMENTS

4.2.1 LA CASITA DEL ARROYO

The grounds around this very visible and important historic structure along the eastern and most accessible rim of the Lower Arroyo will be restored and maintained in keeping with the character of the Lower Arroyo and with the Arroyo Seco Design Guidelines. The Arroyo-stone walls that surround La Casita and the garden steps at the southern rear corner of the building will be restored using Arroyo stone, and embankment erosion on the north and west side will be addressed in a slope stabilization assessment.

The landscape plantings around La Casita will be allowed to include ornamental varieties of plants beyond the palette established for the rest of the Lower Arroyo through amendment to the Arroyo Seco Ordinance. A clear perimeter will be defined through landscape elements to separate the grounds of La Casita from the more native elements of the Arroyo environment. Native plantings and brush removal will occur in the sloped areas south of La Casita and along the trails and slopes leading to the Arroyo floor. Trail connections between La Casita and the adjacent areas will be enhanced through surfacing and edge treatment, consistent with the Arroyo Seco Design Guidelines.

4.2.2 BIRD SANCTUARY

The existing Bird Sanctuary site will be restored and enhanced to provide an inviting, safer, and more easily accessible rest stop, overlook, and neighborhood access point from the rim of the Arroyo along Arroyo Boulevard. A curb cut will be created along Arroyo Boulevard to allow cyclists using Arroyo Boulevard easy access to the area as a rest stop and also allow

for a maintenance scooter to access the site. Stonework in the seating area and the fountain will be restored in accordance with the Arroyo Seco Design Guidelines. The drinking fountain will be rebuilt to allow separate access for people and dogs as well as a system to fill water bottles. A new trail connection will be created from the Bird Sanctuary to the Lower Arroyo at the Memorial Grove. The existing stone stairs to the lower terrace will be restored (to ADA standards if possible) and will define the entrance to this new trail. The existing storm drain along this slope, which is exposed and has caused major erosion, will be repaired. This project will also require slope repair and stabilization. Better lighting will be installed, especially in the area of the stairs and lower terrace to increase usage and to minimize problems with vandals, graffiti, and gang activity. Interpretive signage will be placed at this site in conformance with the Arroyo Seco Design guidelines as part of the overall signage system in the Arroyo Seco. Landscaping with native woodland plant materials will further enhance the area.

4.2.3 ARROYO BOULEVARD RIM TRAIL

The existing trail that runs along Arroyo Boulevard from the Parker-Mayberry Bridge to Restover Place is heavily used by area residents and will be repaired so that access is safe and barrier-free. The trail will be made ADA-accessible with the addition of ten curb cuts made at various points along the trail. No substantial grading will be required, but slope stabilization will be needed south of the La Loma Road Bridge. Areas where sections of Arroyo stonewall are damaged along the trail will be repaired in accordance with the Arroyo Seco Design Guidelines. Brush clearing and poison oak removal will occur to make the area passable, pleasing to view, and safe for humans and animals. Exposed irrigation systems along the trail create hazardous situations and will therefore be repaired. Exotic vegetation will also be removed. Areas where washouts have occurred will be repaired. Restoration of native plant communities in this area will take place.

4.3 CENTRAL USE AREA

4.3.1 CASTING POND AREA

The casting pond lining and the deck area surrounding the pond will be repaired and improved as part of this project element. The lining of the casting pond itself is cracked and leaking and will be resurfaced with a suitable material, and the drainage system for the pond will be repaired and modified. The asphalt deck surrounding the pond will be replaced with a suitable material that is in keeping with the character of the Arroyo and will hold up to weather conditions. Benches adjacent to the pond will be repaired or replaced and the drinking fountain will be modified to allow for a dog trough. Dogs would be discouraged from using the pond through active enforcement.

The restroom facilities at the Casting Clubhouse can be improved and enhanced for public use as appropriate and in conformance with the Arroyo Seco Design Guidelines. The area will be landscaped with woodland and coastal scrub native plantings as appropriate.

The area around the pond will be made ADA-accessible and two ADA-accessible casting stations will be established. This project element will modify part of an existing trail to provide an ADA-accessible trail section of the Eastside Multi-use Loop Trail north of the Casting Club facilities and south of La Casita del Arroyo. Three rest stops will be created along this stretch of trail in accordance with ADA standards.

4.3.2 ROVING ARCHERS' CLUBHOUSE

The clubhouse was recently burned in a fire and is recommended for replacement. This plan proposes to replace the clubhouse with 1,000 square feet for club activities and 600 square feet for archery-related storage. The clubhouse building will also provide directional and interpretive information and a map of the area as part of the interpretive trail system for the Arroyo Seco.

The area immediately surrounding the building will be landscaped with an emphasis on woodland and coastal scrub native plantings. Up to eight picnic tables are also allowed in the vicinity of the Clubhouse.

4.3.3 BRIDGE CROSSING AT ARCHERS' CLUBHOUSE

A new swinging gate will be installed on the existing 15-foot wide maintenance bridge that crosses the flood control channel from the main parking area to the Archers' clubhouse. The gap between the gate and the bridge railing will allow for hikers and walkers to cross the bridge, but it would prohibit the passage of unauthorized vehicles and equestrians. The gate will be locked with vehicle access limited to archery or other events, maintenance or other authorized personnel. The bridge railing will be designed to the appropriate height to accommodate these multiple uses.

4.3.4 NORTHERN ARCHERY RANGE

The layout of the northern archery range will be modified by removing the targets in the northern range. The number of archery shooting lanes would be reduced and the public trails and paths restored. The remaining archery lanes associated with this section of the archery range would be kept clear and their width reduced. This reduction in usage would result in a modification to the use agreement between the City and the Pasadena Roving Archers, which would also specify that the archers' usage of the northern range would be limited to 13 times per year, with the understanding that 13 times per year is an outer limit. Remaining archery lanes will be defined with improved signage and clear separators between other users and archers (see Trails section below). A safety program will be implemented to identify archery shooting lanes and to alert other archers when range is in use. Range paths and lanes will be ADA-accessible (where feasible); the range will be inspected with regularity so as to not create any blind spots for archers or other recreational users on the trails through the range area when it is in use. The same safety program described for the northern range will be implemented in the southern range, but with greater frequency.

4.3.5 SOUTHERN ARCHERY RANGE

The layout of southern section of the archery range (south of the clubhouse) will remain the same, but the trails, paths and archery shooting lanes associated with this section of the range would be improved. A design standard for target construction as well as access to the targets will be developed and implemented in conformance with the Arroyo Seco Design Guidelines. Existing archery paths and lanes will be improved for ADA accessibility, where feasible. Archery lanes will be defined with improved signage and clear separators between other users and archers (see Trails section below). Two drinking fountains in the area will be upgraded and relocated for better accessibility to a greater number of users and to meet ADA standards.

4.4 TRAILS AND RELATED IMPROVEMENTS

4.4.1 WESTSIDE MULTI-USE TRAIL

The current trail along the west side of the flood control channel from the Parker-Mayberry Bridge to the southern entrance at San Pascual Road (see Exhibit 4-2, Trail System Map) will continue to be the primary west-side trail for hikers and equestrians. Any improvements to this trail will need to comply with the Arroyo Seco Design Guidelines. Any improvements to this trail system will be resurfaced with a permeable all-weather material such as DG or compacted native soil. The existing surface material will remain in its present state, separated from other uses where needed through the placement of appropriate barriers using boulders and vegetation, and clearly identified by signage. This separation will be especially important in certain areas of the archery range area where archers and pedestrians will all be in close proximity.

4.4.2 WESTSIDE TRAILS FOR HIKERS AND OTHER USERS

Existing trails on the west side of the flood control channel will be improved and upgraded. Trail design standards, ADA-accessibility considerations, surfacing of decomposed granite (DG), and other improvements will be incorporated in conformance with the Arroyo Seco Design Guidelines. Safety and aesthetic features such as natural separators, and native landscape plantings will be included in the improvements, especially to accommodate the multi-use nature of the area. Finally, minor grading and brush clearing in select areas to improve access and increase fire safety will be required, but all such activities will be completed in balance with the character and ecological values of the area.

Trail from Parker-Mayberry Bridge to the Archers' Clubhouse

Existing trails on the west side of the Arroyo channel between the Parker-Mayberry Bridge and the Archers' clubhouse will remain and will be repaired and improved. Erosion problems will be repaired in steep areas; trails will be resurfaced with compacted soil or decomposed granite (DG).

Exhibit 4-2

TRAIL SYSTEM MAP

LEGEND

— EQUESTRIAN/BIKING/MAINTENANCE/SECURITY TRAIL/ROAD (12 FT.)

— EQUESTRIAN-HIKING TRAIL/PAJHWAY (4 FT.)

— PEDESTRIAN TRAIL/PAJHWAY (4 FT.)

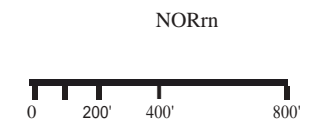
— KENNEDY NEWELL CLASS III BIKEWAY

NEIGHBORHOOD TRAIL LOCATIONS



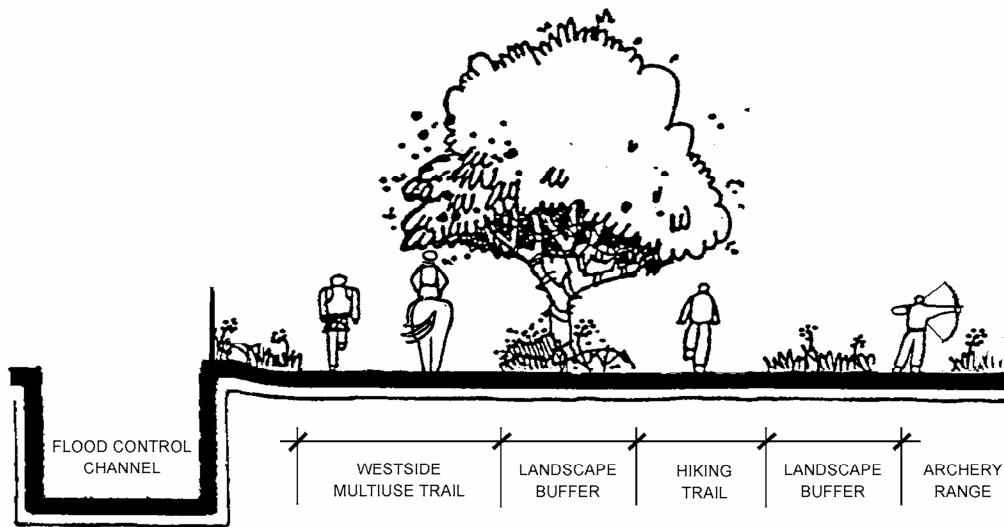
CITY OF PASADENA
PARKS & NATURAL RESOURCES DIVISION
LOWER ARROYO MASTER PLAN

One of the Arroyo Seco Master Plans



Southern Archery Range Trail

The existing trail on the edge of the southern archery range area will be separated from the Westside Multi-Use Trail and the archery range through the use of natural barriers including Arroyo stones and/or boulders and native materials, such as plantings/vegetation—clearly identified by signage to enhance safety. Signage will be in conformance with the Arroyo Seco Design Guidelines. This trail will keep the archery activity separated from the other park uses and provide improved safety. Archers will be required to adhere to the designated archery range safety program, and develop a notification system for the public that clearly



identifies when the range is in use. Archers will be prohibited from using the Westside Multi-Use Trail. The trail will be repaired with compacted soil or decomposed granite, and its edges defined and landscaped to blend with the surrounding habitat restoration project.

Trail from La Loma Road Bridge to the San Rafael Bridge at Laguna

Existing trails will be improved to enhance the aesthetic character of the area. This area traverses some wide expanses and openings of up to 1½ acres with great potential for native landscape plantings and habitat restoration. Trails will be improved as needed per the Design Guidelines for the Arroyo Seco. Brush removal for fire safety as well as removal of exotic species will be necessary on adjacent slopes.

Trail for San Rafael Bridge at Laguna Road to the South City Limits

This section of trail will be improved in much the same way as those described above. The trail will be repaired as needed. Areas adjacent to the trail will require brush clearing

4.4.3 EASTSIDE MULTI-USE TRAIL FOR HIKERS AND EQUESTRIANS

The section of trail on the eastside of the flood control channel between the La Loma Road Bridge and the existing southerly pedestrian bridge near the South Pasadena city limits will be improved and resurfaced with decomposed granite (DG) as needed. Erosion problems in steep areas will be repaired and it will be made ADA-accessible where feasible. The trail will accommodate maintenance vehicles and still allow the passage of recreational users. Minimal material will be needed to fill ruts in the trail.

An existing above-ground irrigation system will be salvaged or replaced and placed underground with individual bubblers to trees along the trail. Brush clearing will be necessary on the slopes that edge the trail and the area will be landscaped with woodland and coastal scrub native plantings.

4.4.4 CAMEL'S HUMP AREA

The existing loop trail around the Camel's Hump will continue to provide circulation for trail users. A habitat enhancement program will also be implemented and the general appearance of the area will be improved. A new trail will be added behind (to the east of) the Camel's Hump extending access for recreational users and also providing maintenance access to areas that are currently difficult to reach. A brush-clearing program will provide for improved landscaping in the area bordering the Busch Gardens to create a more appealing screening of the wooden fence in Busch Garden's neighborhood.

An earlier planting project in the Camel's Hump area will require clean-up and renovation. Remnants of the existing irrigation system that covers approximately 1½ acres will be salvaged, replaced, and made flush with the ground to provide a system of individual bubblers to trees in the area. An additional 1½ acres are available for further habitat restoration. The combined area provides an opportunity to both enhance and expand on the remnant coastal scrub habitat that is established on the slopes of the Camel's Hump and to introduce an Arroyo riparian woodland element along the loop trails. Plants such as sycamore, coast live oak, and possibly cottonwood, would be introduced along with typical Arroyo scrub plantings such as coffee berry, laurel sumac, and lemonade berry. A specific planting plan, following the plant palettes attached in the Appendix, should be prepared for this area.

This project element will also involve a study of the stability of the Camel's Hump, in particular the western face. Extensive erosion and rockslides have occurred over time at this location. As a key passage route in the Arroyo Seco, a geologic investigation will be needed to determine the safety of continuing to allow a trail under the western face of this formation. The study will make recommendations to address any further deterioration of the slope and assess the existing trail along the western face.



Oak canopy over the eastside trails

4.4.6 RESTORE NEIGHBORHOOD TRAIL ACCESS

The major access points leading into the Lower Arroyo Seco from the various surrounding neighborhoods will be restored through a combination of trail restoration work, Arroyo stone wall restoration work, signage definition and planting restoration. All restoration will be undertaken in accordance with the Arroyo Seco Design Guidelines. Eleven access points that will be restored are illustrated in Exhibit 4-1.

The trail restoration work will include repair of washed-out trails, repair of ruts, and removal of sediment that has washed down over the trails. Grading will be balanced on-site and will include drainage features to control erosion. Trails will be cleared of all exotic weeds and grasses and any overgrown or dead brush. New native plantings will occur as needed for slope stabilization, to replace dead trees or for general habitat enhancement or aesthetic purposes. Each access will provide a map of where the trail leads in connection to the larger Arroyo Seco trail system.

4.5 MEMORIAL GROVE RESTORATION

This project element proposes to restore native vegetation and to officially name the area “The Memorial Grove.” (For years, the area has been unofficially known as the AIDS Grove.) The area has become the location for trees to be planted in memory of someone, but the plantings and the area in general have not been well maintained over time (A planting project in the area that was implemented previously is in need of modification). Improvements will enhance the area, restore habitat, allow for reduced maintenance and

maintain the special (i.e., memorial) nature of the area. The Parks and Natural Resources Division of the City of Pasadena will specify tree species that can be planted. It will supply interested parties with standards for planting, a list of vendors where trees can be purchased, and information about tree care responsibilities. The bench at the “Rainbow Tree” will be restored and access to it improved.

The City has removed the existing restroom and storage area that was closed for many years due to poor safety, vandalism and illegal activities. This location was formerly used by the Roving Archers who needed the space to store their bales of hay and their equipment. Storage space is planned for the replaced Archers’ clubhouse.

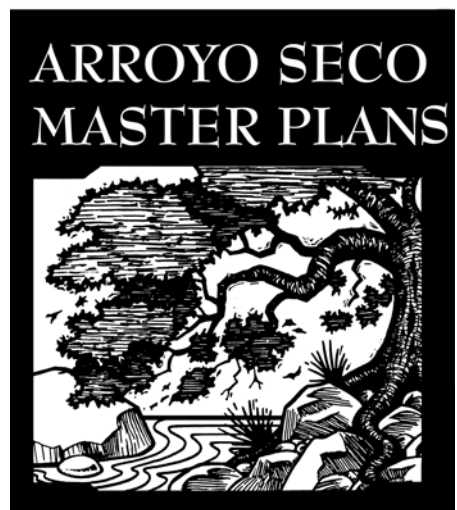
4.6 RESTORE BANKS OF THE LOWER ARROYO SECO

This project element proposes to restore the banks of the Lower Arroyo Seco through the following methods: Providing for a wildlife corridor, stabilizing the banks and controlling erosion, and actively restoring and conserving the native plant communities. These measures are necessary to address safety concerns in the Lower Arroyo Seco.

4.7 RESTORATION OF ANNANDALE CREEK/LAGUNA CANYON

The restoration of the Annandale Creek/Laguna Canyon is proposed through achieving the following objectives: Restoring habitat and native plant communities, restoring the natural stream course in this canyon where feasible, and enhancing water quality entering the Arroyo Seco channel/stream course. This project will require further coordination with the Los Angeles County Department of Public Works.

Appendix A



APPENDIX A: BACKGROUND DOCUMENTATION FOR PROJECT HISTORY

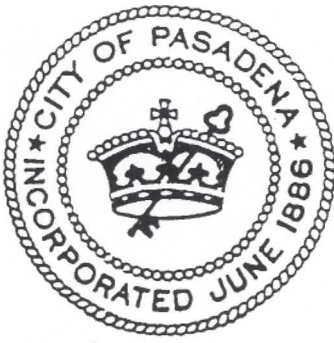
Included in this appendix are the following documents:

1. Goals from the Draft Master Plan for the Lower Arroyo Seco, April 15, 1996.
2. Agenda Report, dated February 3, 1997, for Pasadena City Council Meeting of February 10, 1997, with the staff recommendations for the conceptual approval of the Lower Arroyo Draft Master Plan.
3. An excerpt from the Minutes of the February 10, 1997, Council meeting where the Draft Lower Arroyo Master Plan is conceptually approved.

The following goals are from the 1996 *Draft Master Plan for the Lower Arroyo*, which is an update of the original master plan developed by the Graduate Landscape Architecture Program at California State Polytechnic University at Pomona. The Draft Master Plan was accepted by the Pasadena City Council in February 1997.

Goals from the Draft Master Plan for the Lower Arroyo Seco, April 15, 1996:

- To restore, preserve, and enhance the natural character of the Arroyo in its urban setting as a self-sustaining, healthy system of people, plants, and animals interacting with the land. The natural character will continue to inspire people, as it has throughout time, and provide a setting for human activities now and in the future.
- To limit new uses in the Arroyo.
- To maximize the effective use of available water for the benefit of people, plants, and animals.
- To maintain the Arroyo's function as a corridor for wildlife and people.
- To increase plant and habitat diversity for the benefit of wildlife and to enhance recreational experience.
- To give preference to those recreational activities that are ecologically appropriate and benefit most from the natural character of the Arroyo.
- To resolve conflicts among activities and eliminate negative environmental impacts made by park users.
- To restore and preserve historical remnants.
- To create a safe environment for recreational activities and to increase perceived safety for users.
- To reduce the fire hazard, control and manage erosion, and retain the flood control function of the canyon.
- To produce cost effective solutions that effectively balance initial costs, long-term costs, public benefits, and fundability.
- To provide a framework for future management.



Agenda Report

TO: CITY COUNCIL..

FROM: CITY MANAGER

DATE: FEBRUARY 3, 1997

SUBJECT: CONCEPT APPROVAL - LOWER ARROYO MASTER PLAN

RECOMMENDATION :

STAFF RECOMMENDATIONS

It is recommended that the City Council approve in concept the Draft Master Plan for the Lower Arroyo Seco including the following changes, and direct staff to prepare final plan with the appropriate amendments to existing ordinances, and proceed with environmental reviews. This Draft Master Plan was approved by the Business Enterprise Committee on January 15, 1997.

- (1) Re-affirm that the Lower Arroyo be restored and preserved as a NATURAL AREA PARK;
- (2) Upon review and analysis of land use, and after completion of Devil's Gate Dam renovation, continue to explore additional funding opportunities that could allow flood control channel removal in the future, which could be addressed under a joint effort and coordination with agencies such as Los Angeles County, Army Corps of Engineers, etc.;
- (3) Direct staff to continue to develop area as "wetland" area based upon available resources;
- (4) Re-affirm the current guidelines of the Arroyo Seco Ordinance which indicates in part, "New structures shall be limited to those required for utility operations, park maintenance and protection of plant and animal communities. Such structures are to be adequately screened to conceal their visual presence". Replace only existing structures prior to enactment of Arroyo Seco Ordinance.
- (5) Parking capacity be retained at current level based upon regulations under the Accessibility Disability Act guidelines. Potential expansion of parking areas will be considered based upon utilization, including land used in conjunction with low stream restoration and non-impacting existing plant and wildlife;
- (6) Develop a "public land trust" funding alternative for the purpose of acquiring sections of the Lower Arroyo for preservation;
- (7a) Retain current City Ordinance for dogs on leash. Staff will continue to explore alternative areas including sites other than in Arroyo that could accommodate dogs off leash. Study would also address potential liability concerns raised by City Attorney's Office;

- (7b) Develop a path on the west side of the flood control channel for bicycles which would require amending current City Ordinance. The path constructed would be comprised of natural materials that would accommodate recreation/family use. Appropriate signage would be posted. Equestrians would be required to use path on eastern side of flood control channel as designated. Bike path to be incorporated with bike systems throughout Arroyo.
- (8) With those exceptions/points of emphasis listed in items 1-7, accept in principle the proposed Master Plan for the Lower Arroyo as developed in June, 1988, by the Department of Landscape Architecture, California State Polytechnic University, Pomona, and as amended by the Recreation and Parks Department and Recreation and Parks Commission in March, 1996:
- (9) Authorize staff to proceed with the environmental reviews required under the California Environmental Quality Act (CEQA), including the Environmental Assessment Form (EAF) and the Initial Study (IS), and submit plan for final approval and adoption by City Council;

RECREATION AND PARKS COMMISSION RECOMMENDATIONS

The Recreation and Parks Commission have extensively reviewed *this* concept plan AND ARE IN AGREEMENT with Staff's recommendations. The Commission would like to work towards the eventual elimination of the flood control channel upon completion of the dam renovation and low flow stream restoration project. This potential removal would be in close coordination with all applicable governmental entities. In addition the Commission would like to review the parking capacity once the low flow project is completed.

IT IS IMPORTANT TO NOTE THAT BOTH STAFF AND THE RECREATION AND PARKS COMMISSION FULLY RECOGNIZE THE NEED TO INCORPORATE THE DEVELOPMENT OF THE LOWER ARROYO MASTER PLAN WITH THE FUTURE MASTER PLANS OF THE CENTRAL ARROYO AND HAHAMONGNA WATERSHED PARK TO CREATE A COMPREHENSIVE RECREATIONAL USAGE PLAN FOR THE ENTIRE ARROYO.

BACKGROUND:

In January of 1988, the City of Pasadena commissioned a design team from the Graduate Landscape Architecture Program at California State Polytechnic University at Pomona to develop a Master Plan for the Lower Arroyo Seco. The Plan developed by the graduate design team has provided with a preliminary study that staff and the community have now developed into a comprehensive updated plan which more accurately reflects the desire, needs, and vision of the community. The proposed Master Plan takes into account the natural state of the Arroyo, available funding sources for restoration, and the previously compiled document from Cal Poly that was presented to City Council in 1988 without any further action being taken. This Plan has been developed based upon the City's overall proposed utilization of the Arroyo including Hahamongna, Improvements to the Rose Bowl and adopted Capital Improvement projects.

In the Fall of 1991, general interest in the implementation of the recommendations of the proposed

Master Plan increased when the Lower Arroyo was selected for the BFI Low Flow Restoration Project. Additionally, a new funding source of \$1.47 million for restoration projects in the Lower Arroyo was identified with the passage of Proposition A, the Los Angeles County Safe Park Act in November of 1992.

The goal of the Lower Arroyo Seco Restoration Project, also known as the Low Flow Stream Restoration Project, is compatible with the major components of the Master Plan. The City of Pasadena and Browning Ferris Industries (BFI) mutually agreed that both the goals of the Lower Arroyo Master Plan and BFI's project could be accomplished at the Lower Arroyo Seco. In 1991, the City of Pasadena entered into a joint agreement with BFI for the Lower Arroyo Seco Restoration Project. The costs associated with the \$4,000,000 project are being covered by BFI. The Low Flow Stream Restoration Project broke ground in November 1995 with an anticipated completion date in Fall 1996.

In the Spring of 1994, the City Council requested that the Recreation and Parks Commission bring a recommended Lower Arroyo Master Plan to Council for adoption, with emphasis to be placed on the environmental and physical uses of the area. In the Fall of 1994, the Arroyo Committee of the Recreation and Parks Commission met to plan two community meetings to address the issues of the Lower Arroyo. The first meeting, held on October 15, 1994, and co-sponsored by City Council District 6, Recreation and Parks Department, and the Recreation and Parks Commission, included 230 participants. On December 10, 1994, the second and final community workshop, involving approximately 110 individuals, was held to summarize issues, recommendations and proposals. Participants included representatives from the Pasadena Chamber of Commerce, Pasadena Unified School District, Pasadena Humane Society, Pasadena Casting Club, The Mayor's Bicycle Task Force and the Pasanita Dog Obedience Club, and various City Council District Representatives as well as interested neighbors and community members.

Both meetings which were conducted by a professional facilitator, and were designed to thoroughly evaluate suggestions on how existing uses and potential new uses could be accommodated and integrated in the Lower Arroyo. The meetings also focused on the community's vision of a more natural park.

A dialogue was initiated to determine if there were possible plan alternatives which could accommodate new uses, including separate bike and pedestrian trails and alternative days or times for dogs off-leash. Staff is directed by City Council to pursue a bike path. A recommendation will be formulated based on current utilization and the completed Low Flow Stream Restoration Project to mitigate potential conflicts.

Responses from the workshop participants demonstrated a divided reaction, with the majority of meeting participants being extremely cautious or opposed to accommodating new uses. These potential new uses would require an amendment to current municipal code provisions, which presently prohibit the use of bicycles on paths and trails and dogs off-leash.

With regard to new uses in general, there was concern that there would be an increase in the number of visitors to the park and that would interfere with the goal of a more natural habitat. Many

participants suggested having a study to determine the number of additional users from any new or altered use.

In early 1995, the Recreation and Parks Department and the Recreation and Parks Commission addressed the comments and information gathered at both community meetings and developed recommendations for further review by the Commission. Over 200 letters requesting written input were sent to individuals and organizations who had participated in either of the two community meetings. These final comments were reviewed before the Commission developed a formal recommendation for the City Council.

July 11, 1995, the Recreation and Parks Commission conceptually approved a Master Plan and developed a time line for review by all affected Commissions such as Cultural Heritage, Design and Planning. Following are the highlights of key approved recommendations by the Recreation and Parks Commission:

- A. The primary objectives of all efforts in the Lower Arroyo be the preservation and restoration of this area as a NATURAL PARK.
- B. Eliminating the concrete channel between the Colorado and the La Loma bridges remain the highest priority in coordination with the dam renovation at Hahamongna Watershed Park.
- C. The Low Flow Stream Project being funded by BFI be viewed as the initial step toward the return of the Lower Arroyo to its more "natural" state, emphasizing the increased development of wetland.
- D. No new structures be built or placed in the Lower Arroyo. Existing structures that may be destroyed as a result of fire, flood, etc. may be re-built based on conformity and approvals per City ordinances. The current adopted Arroyo Seco Ordinance should remain in force concerning structures. Any unused facility such as restrooms should be eliminated.
- E. Parking capacity be left at its current level, or reduced, and if the meandering streams necessitate a parking lot relocation, the new site should be as unobtrusive as possible.
- F. The City explore a "public land trust" alternative for the purpose of acquiring sections of the Lower Arroyo for preservation and do everything possible to avoid further encroachment of the west bank in conjunction with the current Arroyo Seco Ordinance.
- G.
 - 1.) Amend the Arroyo Seco Ordinance and all other applicable ordinances to allow bicycles on designated paths or trails.
 - 2.) Amend the Arroyo Seco Ordinance and any other applicable ordinances to allow dogs off-leash in designated areas at designated days and times. It is also recommended that the outstanding issues concerning actual assigned use areas, trails or times be determined by a committee made up of the Director of Recreation and Parks Department, Director of Public Works and Transportation, Recreation and Parks Commission members, and the Executive Director of the Hillman Society. After further review of this proposal and receiving additional information from the City Attorney's office the Commission voted not to continue with this recommendation for the Lower Arroyo.

- H. With those exceptions/points of emphasis listed in items A thru G, accept in principle the proposed Master Plan for the Lower Arroyo as developed in June, 1988, by the Department of Landscape Architecture, California State Polytechnic University, Pomona and as modified by community input.

On August 28, 1995, the proposed recommendations of the Recreation and Parks Commission were endorsed by the Design Review Commission with the exception of item G (noted above) because these items were considered to be outside the purview of the Design Review Commission. On September 5, 1995, the Draft Master Plan was also endorsed by the Cultural Heritage Commission with the exception of item G, and from the Planning Commission on September 27, 1995 with the exception of item G. On November 8, 1995, the Planning Commission rescinded their earlier decision to oppose dogs off-leash and voted to take no action on the issue of dogs in the Arroyo. The Planning Commission has gone on record in opposition to the Recreation and Parks Commission's recommendation of allowing bicycles in the Lower Arroyo.

MASTER PLAN KEY AREAS:

Bicycle Trail: The 1988 Cal Poly Study proposed the incorporation of a bicycle trail corridor along the easterly rim of the Lower Arroyo, along Arroyo Boulevard. This proposal was planned to accommodate both pedestrians and bicyclists on separate trails. A study conducted in 1992 by the Mayor's Bicycle Task Force, included representatives from the Recreation and Parks Commission, the Transportation Advisory Commission to community members at large and was staffed by members of the Recreation and Parks Department and Public Works and Transportation Department. A Report of the Mayor's Bicycle Task Force entitled "The Plan to Make Pasadena Bicycle-Friendly", completed in May of 1991 concluded this proposal was not feasible for a Class I or Class II bicycle lane, given the current traffic pattern and street width along Arroyo Boulevard. A Class III bicycle lane is currently in existence along Arroyo Boulevard.

Although bicycles are presently not allowed on paths and trails pursuant to the Municipal Code, the Mayor's Bicycle Task Force Report recommended a mountain bike path linking the mountain reaches of the Arroyo Seco and San Gabriel mountain trails to the Los Angeles River bike trail. (also known as the Horrace Dobbins Cycle Way) through the Lower Arroyo Seco. The exact layout and design of any future trails in the Lower Arroyo will require further study and are not included in the report.

Dog Run Areas: Presently, dogs are required to be on leash in all public areas pursuant to provisions to the municipal code, including the Lower Arroyo. Dogs off-leash have contributed to the loss of key predators such as gopher snakes, which are needed to keep the population of rodents under control in the area. City staff have observed on occasion that dogs off-leash chase wild life, which is a serious interruption in a natural habitat area. The City Attorney's Office has advised staff that the City would have some potential exposure to liability for injuries to individuals in an off-leash area in the Lower Arroyo or a city park. If a person was injured by an unleashed dog in an area that the City has set aside for unleashed dogs, that person could sue the City, claiming that the City had created a dangerous condition on public property. The City does not have immunity from such a lawsuit under the California Government Code.

If City Council authorizes staff to proceed with an off-leash area, this project would be totally paid for by non-city funds. The staffing of the area would be the responsibility of volunteers including the maintenance and upkeep.

Flood Control Channel: The 1988 Cal Poly Study recommends the removal of the flood control channel. To date, the Los Angeles Flood Control District has not consented to the removal of any of its flood control channel system within the Arroyo Seco. The Lower Arroyo Stream Restoration Project, currently under construction, will create a system of meandering low-flow streams on both sides of the existing flood control channel from the Colorado Street Bridge to the La Loma Street Bridge. The existing flood control will not be removed as a part of the Stream Restoration Project, but the project was specifically designed to not prevent the future elimination of the channel. It is the recommendation of the Recreation and Parks Commission that the elimination of the concrete channel between the Colorado and the La Loma Bridges remain the highest priority in coordination with the dam renovation at Hahnemann Watershed Park and the completion of the Lower Arroyo Stream Restoration Project.

If the Flood Control channel were to be removed, the City would be FULLY RESPONSIBLE for all costs associated with its removal. The removal would also require final approval from Los Angeles County, as well as a detailed hydrological analysis. Based upon the potential removal of the Flood Control, the land could be developed to include a natural stream area where water could return to the flood control channel beyond the La Loma Street Bridge. The channel could also remain as it presently exists with the possibility of "covering" the top with turf, dirt, etc. That could allow for some additional open space use. Costs to cover the channel have not been explored based upon Council direction. If the channel were to be removed a thorough environmental impact review would be required based upon potential flooding to areas.

ENVIRONMENTAL IMPACTS:

Under CEQA, the proposed Lower Arroyo Master Plan is subject to environmental review resulting in a recommended environmental determination regarding the Master Plan's possible impact on the physical environment of the Lower Arroyo. This environmental review and determination must occur prior to implementation of approved projects. The environmental review process requires that the following steps be taken;

- 1) Completion of an Environmental Assessment Form (EAF)
- 2) Preparation of an Initial Study (IS) which concludes with one of the following determinations: a) no impacts, b) Impacts which can be mitigated or c) Impacts which need further study through an EIR.


EMPLOYMENT OPPORTUNITY IMPACT:

Approval of this Plan will provide employment opportunities for local residents in the renovation of areas in Lower Arroyo. Approximately 5200,000 of the total allocation will be set aside to employ local youth.

FISCAL IMPACT:

The City currently has \$1.47 million appropriated under the County of Los Angeles Regional Park and Open Space District funds for implementation of an approved Master Plan. Funds for this project have been budgeted in Account 700120, Lower Arroyo Master Plan.

Respectfully submitted,


PHILIP A. HAWKEY
City Manager

Prepared by:

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LISA H. FOWLER, Management Analyst IV
Recreation and Parks Department

Approved by:

ROBERT C. BADERIAN, Director
Recreation and Parks Department

Concurrence:

W71.6df)

YNTHIA LKURTZ, Asst. City Manager/Director
Public Works and Transportation Department

Reviewed by: .-

(Ju iiy;. "J. ttJ/.,Lt, lww/?

TRACY WEBB
Acting City Attorney

the use and with the covenants and conditions and development costs authorized by the sale; and
(6) Approving the terms and provisions of the ODA between the Commission and the Developer for the development of an office business center project on the Property, and authorizing the Chief Executive Officer to execute, and the Secretary to attest, the ODA on behalf of the Commission. (Contract Nos. CDC-261 and CDC-262. Resolution No. COR-168)

Mayor Paparian opened the public hearing

The City Clerk reported that the notice of public hearing was published on January 27 and February 3, 1997 in the Pasadena Star News, and no posting or mailing was required.

Ms. Katherine Luna, developer, briefly reviewed the proposed project.

Councilmembers Thomson and Villicana expressed concerns regarding the reuse value of the property; the fiscal realities the City is facing; and that no future analysis beyond development was prepared.

The City Manager briefly reviewed the goals of the redevelopment area, the reasons for the discounted value, and that this project is consistent with the redevelopment plan for this area.

No one spoke in favor or in opposition to the proposed project.

Motion by Councilmember Villicana, seconded by Vice Mayor Holden, to close the public hearing. (Motion unanimously carried)

(Absent: None)

Motion by Vice Mayor Holden, seconded by Councilmember Streater, to approve City Manager/Chief Executive Officer's recommendation. (Motion carried with Councilmembers Thomson, Villicana objecting) (Absent: None)

RECESS

On order of the Mayor, the joint meeting of the City Council and the Community Development Commission recessed at 9:55 p.m. to the regular meeting of the City Council. (Absent: None)

RECOMMENDATIONS
FROM OFFICERS AND
DEPARTMENTS

CONCEPT APPROVAL FOR
THE DRAFT MASTER PLAN
FOR THE LOWER ARROYO
SECO

CONCEPT APPROVAL FOR THE DRAFT MASTER PLAN FOR
THE LOWER ARROYO SECO
Recommendation of City Manager and Business
Enterprise Committee: Approve in concept the Draft Master
Plan for the Lower Arroyo Seco including the following changes,
and direct staff to prepare final plan with the appropriate
amendments to existing ordinances, and proceed with
environmental reviews. This Draft Master Plan was approved by
the Business Enterprise Committee on January 15, 1997.

02/10/97

Councilmember Villicana was excused at 9:55 p.m.

Mayor Paparian was excused at 9:56 p.m. and Vice Mayor Holden assumed the Chair.

- (1) Reaffirm that the Lower Arroyo be restored and preserved as a NATURAL AREA PARK;
- (2) Upon review and analysis of land use, and after completion of Devil's Gate Dam renovation, continue to explore additional funding opportunities that could allow flood control channel removal in the future, which could be addressed under a joint effort and coordination with agencies such as Los Angeles County, Army Corps of Engineers, etc.;
- (3) Direct staff to continue to develop area as a "wet land area based upon available resources;
- (4) Reaffirm the current guidelines of the Arroyo Seco Ordinance which indicates in part, "New structures shall be limited to those required for utility operations, park maintenance and protection of plant and animal communities. Such structures are to be adequately screened to conceal their visual presence". Replace only existing structures prior to enactment of Arroyo Seco Ordinance;
- (5) Parking capacity be retained at current level based upon regulations under the Accessibility Disability Act guidelines. Potential expansion of parking areas will be considered based upon utilization, including land used in conjunction with low stream restoration and non-impacting existing plant and wildlife;
- (6) Develop a "public land trust funding alternative for the purpose of acquiring sections of the Lower Arroyo for preservation;
- (7a) Retain current City Ordinance for dogs on leash. Staff will continue to explore alternative areas including sites other than in Arroyo that could accommodate dogs off leash. Study would also address potential liability concerns raised by City Attorney's Office;
- (7b) Develop a path on the west side of the flood control channel for bicycles which would require amending current City Ordinance. The path constructed would be comprised of natural materials that would accommodate recreation/family use. Appropriate signage would be posted. Equestrians would be required to use path on eastern side of flood control channel as designated. Bike path to be incorporated with bike systems throughout Arroyo;
- (8) With those exceptions/points of emphasis listed in Items 1-7, accept in principle the proposed Master Plan for the Lower Arroyo as developed in June, 1988, by the Department of Landscape Architecture, California State Polytechnic University, Pomona, and as amended by the Recreation and Parks Department and Recreation and Parks Commission in March, 1996; and
- (9) Authorize staff to proceed with the environmental reviews required under the California Environmental Quality Act (CEQA), including the Environmental Assessment Form (EAF) and the Initial Study (IS), and submit plan for final approval and adoption by City Council.

Recommendation of the Recreation & Parks Commission: The Recreation and Parks Commission has extensively reviewed this concept plan AND ARE IN AGREEMENT with staff's recommendations. The Commission would like to work towards the eventual elimination of the flood control channel upon completion of the dam renovation and low flow stream restoration project. This

02/10/97

potential removal would be in close coordination with all applicable governmental entities. In addition the Commission would like to reevaluate the parking capacity once the low flow project is completed. It is important to note that both staff and the Recreation and Parks Commission fully recognize the need to incorporate the development of the Lower Arroyo Master Plan with the future master plans of the Central Arroyo and Hahamongna Watershed Park to create a comprehensive recreational usage plan for the entire Arroyo.

Mr. Robert Baderian, Director of Recreation and Parks, noted the proposal before Council is the same as the proposal presented to Council on April 15, 1996, with the exception that since that time, the Recreation and Parks Commission has met with the community, and is recommending not to have an off leash dog area in the Lower Arroyo. He further noted the Business Enterprise Committee is in support of these recommendations.

Vice Chair Holden opened the floor for public comment.

Mr. Greg Jones, Recreation and Parks Commission Chair, briefed Council on public hearings held by the Commission and community input, that a major concern expressed by the community was the proposed bike path, and reviewed the Commission's recommendation on this proposed bike path.

The following people spoke in opposition to the proposed bike path, and expressed concerns with the lack of notification to the residents of the area:

Mr. Greg Higeons, resident of Arroyo area
Ms. Kristin Roche, resident of Arroyo area
Dr. Diane Philbossian, President of Arroyo Seco Foundation
Mr. Richard Davis, resident of Arroyo area
Ms. Sally Bamgrove, resident of Arroyo area
Ms. Elizabeth Bour, Pasadena resident
Mr. Gertmenian, resident of Arroyo area
Ms. Christine Hagan, Pasadena resident

Mr. Baderian clarified that staff's recommendations were not subject to public hearings, that this item gives conceptual approval for a master plan and, if approved, a more formal review would be forthcoming that would allow for community input prior to coming back to City Council for final approval.

Motion by Councilmember Streator, to approve the Draft Master Plan for the Lower Arroyo Seco after deleting item (7b) which is: Develop a path on the west side of the flood control channel for bicycles which would require amending current City Ordinance. The path constructed would be comprised of natural materials that would accommodate recreation/family use. Appropriate signage

02/10/97

would be posted. Equestrians would be required to use path on eastern side of flood control channel as designated. Bike path to be incorporated with bike systems throughout Arroyo. Motion died for lack of second.

Motion by Councilmember Crowfoot, seconded by Councilmember Little, to approve City Manager's recommendation. (Motion carried with Councilmember Streater objecting) (Absent: Councilmember Villicana, Mayor Papanian)

RECESS

On order of the Vice Mayor, the regular meeting of the City Council recessed at 10:45 to a joint meeting with the Community Development Commission

JOINT ACTION:
AMENDMENT TO CITY'S
FY 1996 - 97
BUDGET/AMENDMENT TO
COMMUNITY
DEVELOPMENT
COMMISSION'S FY 1996-97
BUDGET

JOINT ACTION: . AMENDMENT TO CITY'S FISCAL YEAR 1996-97 BUDGET APPROPRIATING \$3,914,933 FROM THE INSURANCE AND BENEFITS FUND AND ADVANCING SAID SUM TO THE PASADENA COMMUNITY DEVELOPMENT COMMISSION; AMENDMENT TO THE PASADENA COMMUNITY DEVELOPMENT COMMISSION'S FISCAL YEAR 1996-97 BUDGET TO REFLECT SAID ADVANCE

Recommendation of Chief Executive Officer/City Manager:

(1) Appropriate \$3,914,933 from the Insurance and Benefits Fund and advance that amount to the Pasadena Community Development Commission ("Commissionn) in exchange for the Commission's execution of a reimbursement agreement/promissory note therefor; and

(2) Accept the advance of \$3,914,933 from the City of Pasadena, execute and deliver to the City a reimbursement and promissory note therefor, and amend the Commission's Fiscal Year 1996-97 Budget to reflect the use of said appropriation for the acquisition cost, legal fees, and payment of judgements associated with the Fair Grove redevelopment project. (Journal Voucher No. 97-50)

MOTION

Motion by Councilmember Little, seconded by Councilmember Crowfoot. to appmve City Manager's recommendation .

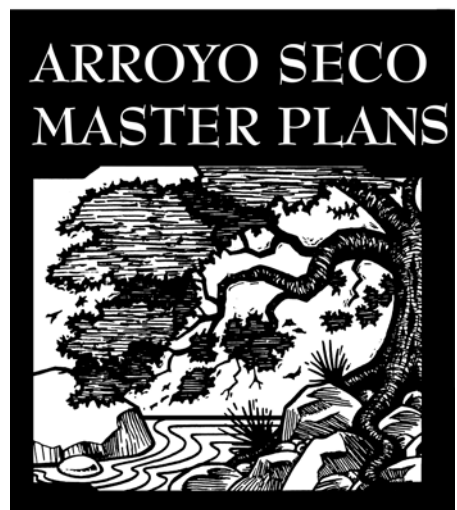
Mr. Thomas D. Scott, representing Fair Oaks Redevelopment Project Area Committee, spoke in opposition to staff's recommendation .

Mr. Jim Hall, representing Fair Oaks Redevelopment Project Area Committee, expressed concerns regarding the repayment structure, and the impact of the payback on redevelopment in Northwest Pasadena over the next seven years. He asked that

the Project Area Committee's be given an opportunity to look at alternatives for repayment of this loan.

02/10/97

Appendix B



APPENDIX B-1:
VASCULAR PLANT SPECIES OBSERVED AT LOWER ARROYO SECO PARK
from Inventory Surveys of Biological Resources at Lower Arroyo Seco Park, March 2002

| Scientific Name¹ | Common Name² |
|------------------------------------|--|
| DIVISION LYCOPHYTA | |
| SELAGINELLACEAE | SPIKE-MOSS FAMILY |
| <i>Selaginella bigelovii</i> | spike-moss |
| DIVISION PTEROPHYTA | |
| PTERIDACEAE | BRAKE FAMILY |
| <i>Pentagramma triangularis</i> | goldback or silverback fern |
| POLYPODIACEAE | POLYPODY FAMILY |
| <i>Polypodium californicum</i> | California polypody |
| DIVISION CONIFEROPHYTA | CONE-BEARING PLANTS |
| CUPRESSACEAE | CYPRESS FAMILY |
| <i>Calocedrus decurrens*</i> | incense cedar |
| <i>Juniperus sp.*</i> | ornamental juniper |
| PINACEAE | PINE FAMILY |
| <i>Cedrus deodara*</i> | deodar cedar |
| <i>Pinus canariensis*</i> | Canary Island pine |
| <i>Pinus halepensis*</i> | Aleppo pine |
| <i>Pinus radiata*</i> | Monterey pine |
| <i>Pinus spp.*</i> | multiple pine species |
| TAXODIACEAE | BALD CYPRESS FAMILY |
| <i>Sequoia sempervirens*</i> | redwood |
| DIVISION ANTHOPHYTA | FLOWERING PLANTS |
| CLASS DICOTYLEDONES | DICOTS |
| ACERACEAE | MAPLE FAMILY |
| <i>Acer negundo</i> | box elder |
| AMARANTHACEAE | AMARANTH FAMILY |
| <i>Amaranthus albus*</i> | tumbleweed |
| <i>Amaranthus blitoides</i> | pigweed , amaranth |
| ANACARDIACEAE | SUMAC FAMILY |
| <i>Malosma laurina</i> | laurel sumac |
| <i>Rhus integrifolia</i> | lemonadeberry |
| <i>Rhus ovata</i> | sugar bush |
| <i>Schinus molle*</i> | Peruvian pepper tree, California pepper tree |
| <i>Schinus terebinthifolius*</i> | Brazilian pepper tree |
| <i>Toxicodendron diversilobum</i> | western poison oak |
| APIACEAE | CARROT FAMILY |
| <i>Conium maculatum*</i> | poison hemlock |
| <i>Foeniculum vulgare*</i> | fennel |
| APOCYNACEAE | DOGBANE FAMILY |
| <i>Nerium oleander*</i> | oleander |
| <i>Vinca major*</i> | periwinkle |

| Scientific Name ¹ | Common Name ² |
|---|--|
| ARALIACEAE | GINSENG FAMILY |
| <i>Hedera canariensis</i> * | Algerian ivy |
| ASTERACEAE | SUNFLOWER FAMILY |
| <i>Acourtia microcephala</i> | acourtia |
| <i>Ageratina adenophora</i> * | sticky eupatorium |
| <i>Ambrosia acanthicarpa</i> | annual bur-sage |
| <i>Ambrosia psilostachya</i> | western ragweed |
| <i>Artemisia californica</i> | California sagebrush |
| <i>Artemisia douglasiana</i> | mugwort |
| <i>Baccharis pilularis</i> | chaparral broom, coyote broom |
| <i>Baccharis salicifolius</i> | mule fat, seep-willow, water-wally |
| <i>Bidens frondosa</i> | sticktight |
| <i>Bidens pilosa</i> * | common beggar's tick, Spanish-needles |
| <i>Brickellia californica</i> | California brickellbush |
| <i>Centaurea melitensis</i> * | tochalote |
| <i>Chamomilla suaveolens</i> * | pineapple weed |
| <i>Cirsium occidentale</i> var. <i>californicum</i> | California thistle |
| <i>Conyza bonariensis</i> * | horseweed |
| <i>Conyza canadensis</i> | horseweed |
| <i>Encelia californica</i> | California bush sunflower |
| <i>Eriophyllum confertiflorum</i> | golden-yarrow |
| <i>Filago californica</i> | herba impia, California filago |
| <i>Gnaphalium bicolor</i> | cudweed, everlasting |
| <i>Gnaphalium californicum</i> | cudweed, everlasting |
| <i>Gnaphalium canescens</i> ssp. <i>microcephalum</i> | cudweed, everlasting |
| <i>Hazardia squarrosa</i> | saw-toothed goldenbush |
| <i>Helianthus annuus</i> | annual sunflower, common sunflower |
| <i>Hemizonia fasciculata</i> | tarplant, tarweed |
| <i>Heterotheca grandiflora</i> | telegraph weed |
| <i>Hypochaeris glabra</i> * | smooth cat's-ear |
| <i>Lactuca serriola</i> * | prickly lettuce |
| <i>Lessingia filaginifolia</i> | California-aster |
| <i>Picris echioides</i> * | bristly ox-tongue |
| <i>Rafinesquia californica</i> | California chicory |
| <i>Senecio flaccidus</i> var. <i>douglasii</i> | groundsel, ragwort, butterweed, bush senecio |
| <i>Sonchus asper</i> * | prickly sow thistle |
| <i>Sonchus oleraceus</i> * | common sow thistle |
| <i>Taraxacum officinale</i> * | dandelion |
| <i>Xanthium spinosum</i> * | spiny cocklebur |
| BETULACEAE | BIRCH FAMILY |
| <i>Alnus rhombifolia</i> | white alder |
| BORAGINACEAE | BORAGE FAMILY |
| <i>Cryptantha intermedia</i> | cryptantha |
| <i>Pectocarya penicillata</i> | comb-bur |
| BRASSICACEAE | MUSTARD FAMILY |
| <i>Arabis</i> sp. | rock cress |
| <i>Brassica nigra</i> * | black mustard |
| <i>Brassica rapa</i> * | turnip, field mustard |
| <i>Capsella bursa-pastoris</i> * | shepherd's purse |

| Scientific Name ¹ | Common Name ² |
|--|---|
| <i>Descurainia pinnata</i> | tansy mustard |
| <i>Hirschfeldia incana</i> * | short-pod mustard |
| <i>Lepidium lasiocarpum</i> | peppergrass, pepperwort |
| <i>Lobularia maritima</i> * | sweet alyssum |
| <i>Raphanus sativus</i> * | radish |
| <i>Rorippa nasturtium-aquaticum</i> | water cress |
| <i>Sisymbrium altissimum</i> * | tumble mustard, Jim Hill mustard |
| <i>Sisymbrium irio</i> * | London rocket |
| BUXACEAE | BOXWOOD FAMILY |
| <i>Buxus sempervirens</i> * | common boxwood, English boxwood |
| CACTACEAE | CACTUS FAMILY |
| <i>Opuntia ficus-indica</i> * | Indian-fig |
| <i>Opuntia littoralis</i> | coast prickly pear |
| CAPRIFOLIACEAE | HONEYSUCKLE FAMILY |
| <i>Lonicera subspicata</i> | chaparral honeysuckle, wild honeysuckle |
| <i>Sambucus mexicana</i> | blue elderberry, Mexican elderberry |
| CARYOPHYLLACEAE | PINK FAMILY |
| <i>Silene gallica</i> * | common catchfly, campion |
| <i>Stellaria media</i> * | common chickweed |
| CHENOPODIACEAE | GOOSEFOOT FAMILY |
| <i>Chenopodium album</i> * | pigweed, lamb's quarters, goosefoot |
| <i>Chenopodium murale</i> * | goosefoot, nettle-leaved goosefoot |
| <i>Salsola tragus</i> * | Russian thistle, tumbleweed |
| CONVOLVULACEAE | MORNING-GLORY FAMILY |
| <i>Calystegia macrostegia</i> | wild morning-glory |
| CRASSULACEAE | STONECROP FAMILY |
| <i>Crassula argentea</i> * | jade plant |
| <i>Dudleya lanceolata</i> | lance-leaved liveforever |
| CUCURBITACEAE | GOURD FAMILY |
| <i>Marah macrocarpus</i> | wild cucumber, man-root |
| CUSCUTACEAE | DODDER FAMILY |
| <i>Cuscuta californica</i> | dodder, witch's hair |
| <i>Cuscuta</i> sp. | dodder, witch's hair |
| EUPHORBIACEAE | SPURGE FAMILY |
| <i>Chamaesyce albomarginata</i> | rattlesnake weed |
| <i>Chamaesyce serpyllifolia</i> | thyme-leaved spurge |
| <i>Ricinus communis</i> * | castor bean |
| FABACEAE | LEGUME or PEA FAMILY |
| <i>Acacia baileyana</i> * | Cootamundra wattle, acacia |
| <i>Acacia decurrens</i> | green wattle, acacia |
| <i>Acacia longifolia</i> * | Sydney golden wattle, acacia |
| <i>Ceratonia siliqua</i> * | carob, St. John's bread |
| <i>Lathyrus vestitus</i> var. <i>alefeldii</i> | wild pea, wild sweet pea |
| <i>Lotus scoparius</i> | deerweed |
| <i>Lupinus bicolor</i> | miniature lupine, dove lupine |
| <i>Medicago polymorpha</i> * | California burclover |
| <i>Melilotus indica</i> * | sourclover |
| <i>Spartium junceum</i> * | Spanish broom |
| <i>Trifolium</i> sp.* | clover |

| Scientific Name ¹ | Common Name ² |
|--|-----------------------------------|
| FAGACEAE | OAK FAMILY |
| <i>Quercus agrifolia</i> var. <i>agrifolia</i> | coast live oak, encina |
| <i>Quercus berberidifolia</i> | scrub oak |
| <i>Quercus chrysolepis</i> * | canyon oak |
| <i>Quercus engelmannii</i> | Engelmann oak, mesa oak |
| GERANIACEAE | GERANIUM FAMILY |
| <i>Erodium cicutarium</i> * | red stem filaree, storksbill |
| <i>Erodium moschatum</i> * | white stem filaree, storksbill |
| GROSSULARIACEAE | GOOSEBERRY FAMILY |
| <i>Ribes malvaceum</i> | chaparral currant |
| HAMAMELIDACEAE | WITCH-HAZEL FAMILY |
| <i>Liquidambar styraciflua</i> * | American sweet gum |
| HYDROPHYLLACEAE | WATERLEAF FAMILY |
| <i>Eriodictyon crassifolium</i> | yerba santa |
| <i>Eucrypta chrysanthemifolia</i> | eucrypta |
| <i>Phacelia ramosissima</i> | branching phacelia |
| JUGLANDACEAE | WALNUT FAMILY |
| <i>Juglans californica</i> var. <i>californica</i> | southern California black walnut |
| LAMIACEAE | MINT FAMILY |
| <i>Marrubium vulgare</i> * | horehound |
| <i>Salvia apiana</i> | white sage |
| <i>Salvia columbariae</i> | chia |
| <i>Salvia mellifera</i> | black sage |
| LAURACEAE | LAUREL FAMILY |
| <i>Umbellularia californica</i> | California bay, California laurel |
| LOASACEAE | LOASA FAMILY |
| <i>Mentzelia micrantha</i> | blazing star |
| MALVACEAE | MALLOW FAMILY |
| <i>Malacothamnus fasciculatus</i> | chaparral mallow |
| <i>Malva neglecta</i> * | common mallow, cheeses |
| <i>Malva parviflora</i> * | cheeseweed, little mallow |
| MORACEAE | MULBERRY FAMILY |
| <i>Ficus carica</i> * | edible fig |
| MYOPORACEAE | MYOPORUM FAMILY |
| <i>Myoporum laetum</i> * | myoporum |
| MYRTACEAE | MYRTLE FAMILY |
| <i>Eucalyptus camaldulensis</i> * | red gum, river red gum |
| <i>Eucalyptus globulus</i> * | blue gum, Tasmanian blue gum |
| <i>Eucalyptus leucoxyton</i> * | white ironbark |
| <i>Eucalyptus sideroxyton</i> * | red ironbark |
| <i>Eucalyptus</i> spp. * | multiple eucalyptus species |
| NYCTAGINACEAE | FOUR O'CLOCK FAMILY |
| <i>Bougainvillea spectabilis</i> * | bougainvillea |
| <i>Mirabilis californica</i> | wishbone plant, wishbone bush |
| OLEACEAE | OLIVE FAMILY |
| <i>Fraxinus</i> sp. * | ash |
| <i>Ligustrum japonicum</i> * | Japanese privet |
| <i>Olea europaea</i> * | olive, European olive |

| Scientific Name¹ | Common Name² |
|--|---|
| ONAGRACEAE | EVENING PRIMROSE FAMILY |
| <i>Camissonia californica</i> | sun cup, camissonia |
| <i>Camissonia micrantha</i> | small-flowered evening primrose, camissonia |
| <i>Clarkia unguiculata</i> | clarkia |
| <i>Epilobium canum</i> ssp. <i>canum</i> | California fuschia, zauschneria |
| <i>Epilobium ciliatum</i> ssp. <i>ciliatum</i> | willow herb |
| <i>Oenothera elata</i> ssp. <i>hookeri</i> | Hooker's evening primrose |
| OXALIDACEAE | OXALIS FAMILY |
| <i>Oxalis corniculata</i> * | oxalis |
| <i>Oxalis pes-caprae</i> * | Bermuda buttercup |
| PAPAVERACEAE | POPPY FAMILY |
| <i>Eschscholzia californica</i> | California poppy |
| PASSIFLORACEAE | PASSION FLOWER FAMILY |
| <i>Passiflora caerulea</i> * | blue crown passion flower |
| PITTOSPORACEAE | PITTOSPORUM FAMILY |
| <i>Pittosporum undulatum</i> * | Victorian box |
| PLANTAGINACEAE | PLANTAIN FAMILY |
| <i>Plantago lanceolata</i> * | English plantain |
| <i>Plantago major</i> * | common plantain |
| PLANTANACEAE | SYCAMORE FAMILY |
| <i>Platanus racemosa</i> | western sycamore |
| PLUMBAGINACEAE | PLUMBAGO or LEADWORT FAMILY |
| <i>Plumbago auriculata</i> * | cape plumbago |
| PODOCARPACEAE | PODOCARPUS FAMILY |
| <i>Podocarpus macrophyllus</i> * | yew pine |
| POLEMONIACEAE | PHLOX FAMILY |
| <i>Gilia</i> sp. | gilia |
| POLYGONACEAE | BUCKWHEAT FAMILY |
| <i>Eriogonum fasciculatum</i> var. <i>foliolosum</i> | California buckwheat |
| <i>Polygonum arenastrum</i> * | common knotweed, doorweed |
| <i>Polygonum lapathifolium</i> | willow weed |
| <i>Rumex crispus</i> * | curly dock |
| PORTULACACEAE | PURSLANE FAMILY |
| <i>Portulaca oleracea</i> * | common purslane |
| RANUNCULACEAE | BUTTERCUP FAMILY |
| <i>Delphinium cardinale</i> | scarlet larkspur, cardinal larkspur |
| RHAMNACEAE | BUCKTHORN FAMILY |
| <i>Ceanothus crassifolius</i> | hoaryleaf ceanothus |
| <i>Ceanothus megacarpus</i> | bigpod ceanothus |
| <i>Rhamnus californica</i> | California coffeeberry |
| <i>Rhamnus ilicifolia</i> | holly-leaf redberry |
| ROSACEAE | ROSE FAMILY |
| <i>Adenostoma fasciculatum</i> | chamise |
| <i>Cercocarpus betuloides</i> var. <i>betuloides</i> | birch-leaf mountain-mahogany |
| <i>Heteromeles arbutifolia</i> | toyon, Christmas berry |
| <i>Prunus cerasifera</i> var. <i>atropurpurea</i> * | purple-leaf plum |
| <i>Prunus ilicifolia</i> ssp. <i>ilicifolia</i> | holly-leaf cherry, islay |
| <i>Prunus ilicifolia</i> ssp. <i>lyonii</i> * | Catalina cherry |
| <i>Pyracantha angustifolia</i> * | firethorn, pyracantha |

| Scientific Name¹ | Common Name² |
|--|---|
| <i>Rosa californica</i> | California rose, wild rose |
| <i>Rosa</i> spp.* | cultivated roses |
| <i>Rubus discolor</i> * | Himalayan blackberry |
| <i>Rubus ursinus</i> | California blackberry |
| RUBIACEAE | MADDER FAMILY |
| <i>Galium angustifolium</i> | narrow-leaved bedstraw, shrubby bedstraw |
| <i>Galium aparine</i> | goose grass, bedstraw, cleavers |
| SALICACEAE | WILLOW FAMILY |
| <i>Populus balsamifera</i> ssp. <i>trichocarpa</i> | black cottonwood |
| <i>Populus fremontii</i> ssp. <i>fremontii</i> | Fremont cottonwood, alamo |
| <i>Salix exigua</i> | narrow-leaved willow, sandbar willow |
| <i>Salix gooddingii</i> | Goodding's black willow, black willow |
| <i>Salix laevigata</i> | red willow |
| <i>Salix lasiolepis</i> | arroyo willow |
| <i>Salix lucida</i> ssp. <i>lasiandra</i> | shining willow |
| SCROPHULARIACEAE | FIGWORT FAMILY |
| <i>Keckiella cordifolia</i> | heart-leaf penstemon |
| <i>Mimulus aurantiacus</i> | sticky monkeyflower, orange bush-monkeyflower |
| <i>Scrophularia californica</i> | California figwort |
| <i>Veronica anagallis-aquatica</i> * | water speedwell |
| SIMAROUBACEAE | QUASSIA or SIMAROUBA FAMILY |
| <i>Ailanthus altissima</i> * | tree of heaven |
| SOLANACEAE | NIGHTSHADE FAMILY |
| <i>Datura wrightii</i> | jimson weed |
| <i>Nicotiana glauca</i> * | tree tobacco |
| <i>Solanum douglasii</i> | white nightshade |
| <i>Solanum xanti</i> | purple nightshade |
| ULMACEAE | ELM FAMILY |
| <i>Ulmus parvifolia</i> * | Chinese elm, evergreen elm |
| <i>Ulmus pumila</i> * | Siberian elm |
| URTICACEAE | NETTLE FAMILY |
| <i>Urtica dioica</i> ssp. <i>holosericea</i> | hoary nettle |
| VERBENACEAE | VERVAIN FAMILY |
| <i>Lantana montevidensis</i> * | lantana |
| <i>Verbena lasiostachys</i> | vervain |
| ZYGOPHYLLACEAE | CALTROP FAMILY |
| <i>Tribulus terrestris</i> * | puncture vine, caltrop |
| CLASS MONOCOTYLEDONES | MONOCOTS |
| ARECACEAE | PALM FAMILY |
| <i>Phoenix canariensis</i> | Canary Island date palm |
| <i>Washingtonia robusta</i> * | Mexican fan palm |
| CYPERACEAE | SEDGE FAMILY |
| <i>Carex</i> sp. | sedge |
| <i>Cyperus esculentus</i> | nutsedge, galingale |
| <i>Cyperus</i> sp. | nutsedge, galingale |
| JUNCACEAE | RUSH FAMILY |
| <i>Juncus</i> sp. | rush |

| Scientific Name ¹ | Common Name ² |
|--|---|
| LEMNACEAE | DUCKWEED FAMILY |
| <i>Lemna</i> sp. | duckweed |
| LILIACEAE | LILY FAMILY |
| <i>Agave americana</i> * | agave, century plant |
| <i>Aloe</i> sp.* | aloe |
| <i>Calochortus</i> sp. | mariposa lily |
| <i>Yucca gloriosa</i> * | soft-tipped yucca |
| <i>Yucca whipplei</i> | chaparral yucca, our Lord's candle, Spanish bayonet |
| POACEAE | GRASS FAMILY |
| <i>Avena barbata</i> * | slender wild oat |
| <i>Avena fatua</i> * | wild oat |
| <i>Bromus diandrus</i> * | ripgut |
| <i>Bromus hordeaceus</i> * | soft chess |
| <i>Bromus madritensis</i> ssp. <i>rubens</i> * | red brome, foxtail chess |
| <i>Bromus tectorum</i> * | cheatgrass, downy brome |
| <i>Cynodon dactylon</i> * | Bermuda grass |
| <i>Digitaria sanguinalis</i> * | crab grass |
| <i>Echinochloa crus-galli</i> * | barnyard grass |
| <i>Hordeum murinum</i> ssp. <i>leporinum</i> * | foxtail barley |
| <i>Leymus condensatus</i> | giant wild rye |
| <i>Lolium multiflorum</i> * | Italian ryegrass |
| <i>Lolium perenne</i> * | perennial ryegrass |
| <i>Melica imperfecta</i> | melic, oniongrass |
| <i>Nassella cernua</i> | nodding needlegrass |
| <i>Paspalum dilatatum</i> * | dallis grass |
| <i>Pennisetum setaceum</i> * | fountain grass |
| <i>Piptatherum miliaceum</i> * | smilo grass |
| <i>Poa annua</i> * | annual bluegrass |
| <i>Poa secunda</i> ssp. <i>secunda</i> | one-sided bluegrass |
| <i>Polypogon monspeliensis</i> * | annual beard grass, rabbit's foot |
| <i>Schismus barbatus</i> * | Mediterranean grass |
| <i>Setaria gracilis</i> | bristle grass |
| <i>Sorghum halapense</i> * | Johnson grass |
| <i>Vulpia microstachys</i> | vulpia, fescue |
| TYPHACEAE | CATTAIL FAMILY |
| <i>Typha latifolia</i> | broad-leaved cattail |

*Indicates species that are **Introduced or Not Native** to California and/or the area of California in which Lower Arroyo Seco Park is located.

¹ Scientific nomenclature follows that of Hickman (1993), Munz (1959, 1968, and 1974), Bailey (1949) Sunset (1995), and Muns (1986).

² Common names may vary by author and/or regionally in their usage.

This is not intended as an exhaustive listing of the vegetation occurring on the site or surrounding area; some species, particularly annual herbs or very uncommon species may not have been detected during the field surveys.

APPENDIX B-2:
TERRESTRIAL VERTEBRATE ANIMALS OF LOWER ARROYO SECO PARK AND NEARBY AREAS
WITH SIMILAR HABITATS, RECENT OBSERVATIONS AND HISTORICAL RECORDS
from Inventory Surveys of Biological Resources at Lower Arroyo Seco Park, March 2002

B-8

| Scientific Name ¹ | Common Name ² | Recent Observation | Historical Record |
|---|---|--------------------|-------------------|
| CLASS OSTEICHTHYES | BONY FISHES | | |
| FAMILY CATOSTOIDAE | SUCKERS | | |
| <i>Catostomus santaanae</i> | Santa Ana sucker | | X |
| FAMILY CYPRINIDAE | DACES | | |
| <i>Rhinichthys osculus</i> ssp. 3 | Santa Ana speckled dace | | X |
| CLASS AMPHIBIA | AMPHIBIANS | | |
| FAMILY PLETHODONTIDAE | LUNGLESS SALAMANDERS | | |
| <i>Batrachoseps nigriventris</i> | black-bellied (California) slender salamander | | X |
| <i>Batrachoseps pacificus major</i> | garden slender salamander | | X |
| <i>Aneides lugubris</i> | arboreal salamander | | X |
| FAMILY BUFONIDAE | TRUE TOADS | | |
| <i>Bufo boreas halophilus</i> | California toad | X | X |
| <i>Bufo microscaphus californicus</i> | arroyo southwestern toad | | X |
| FAMILY HYLIDAE | TREE FROGS | | |
| <i>Pseudacris regilla</i> | Pacific tree frog or chorus frog | | X |
| FAMILY RANIDAE | TRUE FROGS | | |
| <i>Rana aurora draytonii</i> | California red-legged frog | | |
| <i>Rana muscosa</i> | mountain yellow-legged frog | | X |
| CLASS REPTILIA | REPTILES | | |
| FAMILY TESTUDINIDAE | WATER and BOX TURTLES, and TORTOISES | | |
| <i>Clemmys marmorata pallida</i> | southwestern pond turtle | | X |
| FAMILY IGUANIDAE | IGUANIDS | | |
| <i>Sceloporus occidentalis biseriatus</i> | western or Great Basin fence lizard | X | X |
| <i>Uta stansburiana</i> | side-blotched lizard | X | X |
| <i>Phrynosoma coronatum blainvillei</i> | San Diego horned lizard | | X |
| FAMILY SCINCIDAE | SKINKS | | |
| <i>Eumeces skiltonianus skiltonianus</i> | western skink | | X |

CITY OF PASADENA / ARROYO SECO MASTER PLANS
 Lower Arroyo Master Plan

B-9

| Scientific Name ¹ | Common Name ² | Recent Observation | Historical Record |
|---|---|--------------------|-------------------|
| FAMILY TEIIDAE | WHIPTAILS | | |
| <i>Cnemidophorus hyperythrus</i> | orange-throated whiptail | | X |
| <i>Cnemidophorus tigris multiscutatus</i> | coastal western whiptail | X | X |
| FAMILY ANGUIDAE | ALLIGATOR LIZARDS | | |
| <i>Elgaria multicarinatus webbi</i> | San Diego alligator lizard | X | X |
| FAMILY ANNIELLIDAE | CALIFORNIA LEGLESS LIZARDS | | |
| <i>Anniella pulchra pulchra</i> | silvery legless lizard | | X |
| FAMILY LEPTOTYPHLOPIDAE | SLENDER BLIND SNAKES | | |
| <i>Leptotyphlops humilis humilis</i> | western blind snake | | X |
| FAMILY BOIDAE | BOAS | | |
| <i>Charina (=Lichanura) trivirgata</i> | rosy boa | | X |
| FAMILY COLUBRIDAE | COLUBRIDS | | |
| <i>Diadophis punctatus modestus</i> | San Bernardino ringneck snake | | X |
| <i>Masticophis flagellum piceus</i> | coast coachwhip, red racer | | X |
| <i>Masticophis lateralis lateralis</i> | chaparral whipsnake, California striped racer | X | X |
| <i>Salvadora hexalepis virgulata</i> | coast patch-nosed snake | | X |
| <i>Pituophis melanoleucus annectens</i> | San Diego gopher snake | X | X |
| <i>Lampropeltis getulus californiae</i> | California kingsnake | | X |
| <i>Lampropeltis zonata</i> | California mountain kingsnake | | X |
| <i>Hypsiglena torquata</i> | night snake | | X |
| <i>Thamnophis hammondi hammondi</i> | two-striped garter snake | | X |
| <i>Tantilla planiceps</i> | western black-headed snake | | X |
| FAMILY VIPERIDAE | PIT VIPERS, RATTLESNAKES | | |
| <i>Crotalus viridis helleri</i> | southern pacific rattlesnake | | X |
| CLASS AVES | BIRDS | | |
| FAMILY PHALACROCORACIDAE | CORMORANTS | | |
| <i>Phalacrocorax auritis</i> | double-crested cormorant | | X |
| FAMILY ARDEIDAE | BITTERNs, HERONS, and EGRETS | | |
| <i>Ardea herodias</i> | great blue heron | | X |
| <i>Ardea alba</i> | great egret | | X |
| <i>Egretta thula</i> | snowy egret | | X |
| <i>Butorides virescens</i> | green heron | | X |

CITY OF PASADENA / ARROYO SECO MASTER PLANS
 Lower Arroyo Master Plan

B-10

| Scientific Name ¹ | Common Name ² | Recent Observation | Historical Record |
|------------------------------|---|--------------------|-------------------|
| <i>Nycticorax nycticorax</i> | black-crowned night heron | | X |
| FAMILY ANATIDAE | DUCKS, GEESE, and SWANS | | |
| <i>Branta canadensis</i> | Canada goose | | X |
| <i>Anas crecca</i> | green-winged teal | | X |
| <i>Anas platyrhynchos</i> | mallard | X | X |
| <i>Anas acuta</i> | northern pintail | | X |
| <i>Anas cyanoptera</i> | cinnamon teal | | X |
| <i>Anas strepera</i> | gadwall | | X |
| <i>Anas americana</i> | American wigeon | X | X |
| <i>Aythya valisineria</i> | canvasback | | X |
| <i>Aythya americana</i> | redhead | | X |
| <i>Aythya collaris</i> | ring-necked duck | | X |
| <i>Aythya affinis</i> | lesser scaup | | X |
| <i>Bucephala albeola</i> | bufflehead | | X |
| <i>Oxyura jamaicensis</i> | ruddy duck | | X |
| FAMILY CATHARTIDAE | VULTURES and CONDORS | | |
| <i>Cathartes aura</i> | turkey vulture | X | X |
| FAMILY ACCIPITRIDAE | KITES, HARRIERS, HAWKS, and EAGLES | | |
| <i>Pandion haliaetus</i> | osprey | | X |
| <i>Elanus leucurus</i> | white-tailed kite | | X |
| <i>Circus cyaneus</i> | northern harrier | | X |
| <i>Accipiter striatus</i> | sharp-shinned hawk | X | X |
| <i>Accipiter cooperii</i> | Cooper's hawk | X | X |
| <i>Buteo lineatus</i> | red-shouldered hawk | | X |
| <i>Buteo jamaicensis</i> | red-tailed hawk | X | X |
| <i>Aquila chrysaetos</i> | golden eagle | | X |
| FAMILY FALCONIDAE | FALCONS | | |
| <i>Falco sparverius</i> | American kestrel | X | X |
| <i>Falco columbarius</i> | merlin | | X |
| <i>Falco mexicanus</i> | prairie falcon | | X |

CITY OF PASADENA / ARROYO SECO MASTER PLANS
 Lower Arroyo Master Plan

| Scientific Name ¹ | Common Name ² | Recent Observation | Historical Record |
|---|--|--------------------|-------------------|
| FAMILY PHASIANIDAE | TURKEYS, PHEASANTS, GROUSE, and QUAIL | | |
| <i>Callipepla californica</i> | California quail | X | X |
| <i>Oreortyx pictus</i> | mountain quail | | X |
| FAMILY RALLIDAE | RAILS, SORAS, and COOTS | | |
| <i>Porzana carolina</i> | sora | | X |
| <i>Fulica americana</i> | American coot | X | X |
| FAMILY RECURVIROSTRIDAE | STILTS and AVOCETS | | |
| <i>Himantopus mexicanus</i> | black-necked stilt | | X |
| <i>Recurvirostra americana</i> | American avocet | | X |
| FAMILY CHARADRIIDAE | PLOVERS and SANDPIPERS | | |
| <i>Charadrius vociferus</i> | killdeer | X | X |
| <i>Tringa melanoleuca</i> | greater yellowlegs | | X |
| <i>Actitis macularia</i> | spotted sandpiper | | X |
| <i>Calidris mauri</i> | western sandpiper | | X |
| <i>Calidris minutilla</i> | least sandpiper | | X |
| <i>Gallinago gallinago</i> | common snipe | | X |
| FAMILY LARIDAE | SKUAS, GULLS, TERNS, and SKIMMERS | | |
| <i>Larus delawarensis</i> | ring-billed gull | | X |
| <i>Larus californicus</i> | California gull | X | X |
| FAMILY COLUMBIDAE | PIGEONS and DOVES | | |
| <i>Columba livia</i> | rock dove | X | X |
| <i>Columba fasciata</i> | band-tailed pigeon | | X |
| <i>Streptopelia chinensis</i> | spotted dove | X | X |
| <i>Zenaida macroura</i> | mourning dove | X | X |
| FAMILY CUCULIDAE | CUCKOOS, ROADRUNNERS, and ANIS | | |
| <i>Coccyzus americanus occidentalis</i> | western yellow-billed cuckoo | | X |
| <i>Geococcyx californianus</i> | greater roadrunner | | X |
| FAMILY TYTONIDAE | BARN OWLS | | |
| <i>Tyto alba</i> | barn owl | | X |
| FAMILY STRIGIDAE | TRUE OWLS | | |
| <i>Otus kennicottii</i> | western screech owl | | X |
| <i>Bubo virginianus</i> | great horned owl | | X |

CITY OF PASADENA / ARROYO SECO MASTER PLANS
 Lower Arroyo Master Plan

| Scientific Name ¹ | Common Name ² | Recent Observation | Historical Record |
|----------------------------------|---|--------------------|-------------------|
| <i>Glaucidium gnoma</i> | northern pygmy owl | | X |
| FAMILY CAPRIMULGIDAE | POORWILL | | |
| <i>Phalaenoptilus nuttallii</i> | common poorwill | | X |
| FAMILY APODIDAE | SWIFTS | | |
| <i>Cypseloides niger</i> | black swift | | X |
| <i>Chaetura vauxi</i> | Vaux's swift | | X |
| <i>Aeronautes saxatalis</i> | white-throated swift | | X |
| FAMILY TROCHILIDAE | HUMMINGBIRDS | | |
| <i>Archilochus alexandri</i> | black-chinned hummingbird | | X |
| <i>Calypte anna</i> | Anna's hummingbird | X | X |
| <i>Calypte costae</i> | Costa's hummingbird | | X |
| <i>Selasphorus sasin</i> | Allen's hummingbird | | X |
| FAMILY ALCEDINIDAE | KINGFISHERS | | |
| <i>Ceryle alcyon</i> | belted kingfisher | | X |
| FAMILY PICIDAE | WOODPECKERS | | |
| <i>Melanerpes lewis</i> | Lewis's woodpecker | | X |
| <i>Melanerpes formicivorus</i> | acorn woodpecker | X | X |
| <i>Sphyrapicus nuchalis</i> | red-naped sapsucker | | X |
| <i>Sphyrapicus ruber</i> | red-breasted sapsucker | | X |
| <i>Picoides nuttallii</i> | Nuttall's woodpecker | X | X |
| <i>Picoides pubescens</i> | downy woodpecker | X | X |
| <i>Picoides villosus</i> | hairy woodpecker | | X |
| <i>Picoides albolarvatus</i> | white-headed woodpecker | | X |
| <i>Colaptes auratus</i> | northern (red-shafted) flicker | X | X |
| FAMILY TYRANNIDAE | TYRANT FLYCATCHERS and KINGBIRDS | | |
| <i>Contopus borealis</i> | olive-sided flycatcher | | X |
| <i>Contopus sordidulus</i> | western wood peewee | X | X |
| <i>Empidonax trailli</i> | willow flycatcher | | X |
| <i>Empidonax trailli extimus</i> | southwestern willow flycatcher | | |
| <i>Empidonax difficilis</i> | Pacific-slope flycatcher | | X |
| <i>Empidonax wrightii</i> | gray flycatcher | | X |
| <i>Sayornis nigricans</i> | black phoebe | X | X |
| <i>Sayornis phoebe</i> | eastern phoebe | | X |

CITY OF PASADENA / ARROYO SECO MASTER PLANS
 Lower Arroyo Master Plan

| Scientific Name ¹ | Common Name ² | Recent Observation | Historical Record |
|-----------------------------------|-------------------------------|--------------------|-------------------|
| <i>Sayornis saya</i> | Say's phoebe | X | X |
| <i>Myiarchus cinerascens</i> | ash-throated flycatcher | | X |
| <i>Tyrannus vociferans</i> | Cassin's kingbird | | X |
| <i>Tyrannus verticalis</i> | western kingbird | | X |
| FAMILY ALAUDIDAE | LARKS | | |
| <i>Eremophila alpestris</i> | horned lark | | X |
| FAMILY HIRUNDINIDAE | SWALLOWS | | |
| <i>Progne subis</i> | purple martin | | X |
| <i>Tachycineta bicolor</i> | tree swallow | | X |
| <i>Tachycineta thalassina</i> | violet-green swallow | | X |
| <i>Stelgidopteryx serripennis</i> | northern rough winged swallow | | X |
| <i>Hirundo pyrrhonota</i> | cliff swallow | X | X |
| <i>Hirundo rustica</i> | barn swallow | | X |
| FAMILY CORVIDAE | CROWS and JAYS | | |
| <i>Cyanocitta stelleri</i> | Steller's jay | | X |
| <i>Amphelocoma californica</i> | western scrub jay | X | X |
| <i>Corvus brachyrhynchos</i> | American crow | X | X |
| <i>Corvus corax</i> | common raven | X | X |
| FAMILY PARIDAE | CHICKADEES and TITMICE | | |
| <i>Parus gambeli</i> | mountain chickadee | | X |
| <i>Parus inornatus</i> | plain titmouse | X | X |
| FAMILY AEGITHALIDAE | BUSHTITS | | |
| <i>Psaltriparus minimus</i> | bushtit | X | X |
| FAMILY SITTIDAE | NUTHATCHES | | |
| <i>Sitta canadensis</i> | red-breasted nuthatch | | X |
| <i>Sitta carolinensis</i> | white-breasted nuthatch | X | X |
| <i>Sitta pygmaea</i> | pygmy nuthatch | | X |
| FAMILY CERCITHIDAE | CREEPERS | | |
| <i>Certhia americana</i> | brown creeper | | X |

CITY OF PASADENA / ARROYO SECO MASTER PLANS
 Lower Arroyo Master Plan

B-14

| Scientific Name ¹ | Common Name ² | Recent Observation | Historical Record |
|---|---|--------------------|-------------------|
| FAMILY TROGLODYTIDAE | WRENS | | |
| <i>Campylorhynchus brunneicapillus</i> | cactus wren | | X |
| <i>Salpinctes obsoletus</i> | rock wren | | X |
| <i>Catherpes mexicanus</i> | canyon wren | | X |
| <i>Thryomanes bewickii</i> | Bewick's wren | X | X |
| <i>Troglodytes aedon</i> | house wren | X | X |
| <i>Cistothorus palustris</i> | marsh wren | | X |
| FAMILY CINCLIDAE | DIPPERS | | |
| <i>Cinclus mexicanus</i> | American dipper | | X |
| FAMILY MUSCICAPIDAE | KINGLETS, GNATCATCHERS, and THRUSHES | | |
| <i>Regulus satrapa</i> | golden-crowned kinglet | | X |
| <i>Regulus calendula</i> | ruby-crowned kinglet | | X |
| <i>Polioptila caerulea</i> | blue-gray gnatcatcher | | X |
| <i>Polioptila californica californica</i> | coastal California gnatcatcher | | X |
| <i>Sialia mexicana</i> | western bluebird | | X |
| <i>Myadestes townsendi</i> | Townsend's solitaire | | X |
| <i>Catharus ustulatus</i> | Swainson's thrush | | X |
| <i>Catharus guttatus</i> | hermit thrush | X | X |
| <i>Turdus migratorius</i> | American robin | | X |
| <i>Ixoreus naevius</i> | varied thrush | | X |
| <i>Chamaea fasciata</i> | wrentit | X | X |
| FAMILY MIMIDAE | MOCKINGBIRDS and THRASHER | | |
| <i>Mimus polyglottos</i> | northern mockingbird | X | X |
| <i>Toxostoma redivivum</i> | California thrasher | X | X |
| FAMILY MOTACILLIDAE | PIPITS | | |
| <i>Anthus rubescens</i> | American pipit | | X |
| FAMILY BOMBYCILLIDAE | WAXWINGS | | |
| <i>Bombycilla cedrorum</i> | cedar waxwing | | X |
| FAMILY PTILOGONATIDAE | SILKY FLYCATCHERS | | |
| <i>Phainopepla nitens</i> | phainopepla | X | X |
| FAMILY LANIIDAE | SHRIKES | | |
| <i>Lanius ludovicianus</i> | loggerhead shrike | X | X |

CITY OF PASADENA / ARROYO SECO MASTER PLANS

Lower Arroyo Master Plan

B-15

| Scientific Name ¹ | Common Name ² | Recent Observation | Historical Record |
|-------------------------------------|--|--------------------|-------------------|
| FAMILY STURNIDAE | STARLINGS | | |
| <i>Sturnus vulgaris</i> | European starling | X | X |
| FAMILY VIREONIDAE | VIREOS | | |
| <i>Vireo bellii pusillus</i> | least Bells' vireo | | X |
| <i>Vireo solitarius</i> | solitary vireo | | X |
| <i>Vireo huttoni</i> | Hutton's vireo | | X |
| <i>Vireo gilvus</i> | warbling vireo | | X |
| FAMILY EMBERIZIDAE | WARBLERS, BLACKBIRDS, and SPARROWS | | |
| Subfamily Parulinae | Warblers | | |
| <i>Vermivora celata</i> | orange-crowned warbler | X | X |
| <i>Vermivora ruficapilla</i> | Nashville warbler | | X |
| <i>Dendroica petechia</i> | yellow warbler | | X |
| <i>Dendroica coronata</i> | yellow-rumped (Audubon's) warbler | X | X |
| <i>Dendroica nigrescens</i> | black-throated gray warbler | | X |
| <i>Dendroica townsendi</i> | Townsend's warbler | | X |
| <i>Oporornis tolmiei</i> | MacGillivray's warbler | | X |
| <i>Geothlypis trichas</i> | common yellowthroat | | X |
| <i>Wilsonia pusilla</i> | Wilson's warbler | | X |
| <i>Icteria virens</i> | yellow-breasted chat | | X |
| <i>Piranga ludoviciana</i> | western tanager | | X |
| <i>Cardinalis cardinalis</i> | northern cardinal | | X |
| <i>Pheucticus melanocephalus</i> | black-headed grosbeak | | X |
| <i>Guiraca caerulea</i> | blue grosbeak | | X |
| <i>Passerina amoena</i> | Lazuli bunting | | X |
| Subfamily Emberizinae | Towhees, Sparrows, and Juncos | | |
| <i>Pipilo chlorurus</i> | green-tailed towhee | | X |
| <i>Pipilo maculatus</i> | spotted towhee | | X |
| <i>Pipilo crissalis</i> | California towhee | X | X |
| <i>Aimophila ruficeps canescens</i> | southern California rufous-crowned sparrow | | X |
| <i>Spizella passerina</i> | chipping sparrow | | X |
| <i>Spizella atrogularis</i> | black-chinned sparrow | | X |
| <i>Chondestes grammacus</i> | lark sparrow | | X |

CITY OF PASADENA / ARROYO SECO MASTER PLANS

Lower Arroyo Master Plan

B-16

| Scientific Name ¹ | Common Name ² | Recent Observation | Historical Record |
|--|---|--------------------|-------------------|
| <i>Amphispiza belli</i> | sage sparrow | | X |
| <i>Passerculus sandwichensis</i> | savannah sparrow | X | X |
| <i>Ammodramus savannarum</i> | grasshopper sparrow | | X |
| <i>Passerella iliaca</i> | fox sparrow | | X |
| <i>Melospiza melodia</i> | song sparrow | X | X |
| <i>Melospiza lincolnii</i> | Lincoln's sparrow | | X |
| <i>Zonotrichia atricapilla</i> | golden-crowned sparrow | X | X |
| <i>Zonotrichia leucophrys</i> | white-crowned sparrow | X | X |
| <i>Junco hyemalis</i> | dark-eyed (Oregon, slate-colored) junco | X | X |
| Subfamily Icterinae | Blackbirds and Orioles | | |
| <i>Agelaius phoeniceus</i> | red-winged blackbird | | X |
| <i>Sturnella neglecta</i> | western meadowlark | | X |
| <i>Xanthocephalus xanthocephalus</i> | yellow-headed blackbird | | X |
| <i>Euphagus cyanocephalus</i> | Brewer's blackbird | X | X |
| <i>Quiscalus mexicanus</i> | great-tailed grackle | | X |
| <i>Molothrus ater</i> | brown headed cowbird | X | X |
| <i>Icterus cucullatus</i> | hooded oriole | | X |
| <i>Icterus bullockii</i> | Bullock's (northern) oriole | X | X |
| FAMILY FRINGILLIDAE | FINCHES | | |
| <i>Carpodacus purpureus</i> | purple finch | | X |
| <i>Carpodacus mexicanus</i> | house finch | X | X |
| <i>Carduelis pinis</i> | pine siskin | | X |
| <i>Carduelis psaltria</i> | lesser goldfinch | X | X |
| <i>Carduelis lawrencei</i> | Lawrence's goldfinch | | X |
| <i>Carduelis tristis</i> | American goldfinch | X | X |
| FAMILY PASSERIDAE | WEAVER FINCHES | | |
| <i>Passer domesticus</i> | house sparrow | X | X |
| CLASS MAMMALIA | MAMMALS | | |
| FAMILY DIDELPHIIDAE | OPOSSUMS | | |
| <i>Didelphis virginiensis virginiensis</i> | Virginia opossum | X | X |
| FAMILY SORICIDAE | SHREWS | | |
| <i>Sorex ornatus ornatus</i> | ornate shrew | | X |

CITY OF PASADENA / ARROYO SECO MASTER PLANS
 Lower Arroyo Master Plan

B-17

| Scientific Name ¹ | Common Name ² | Recent Observation | Historical Record |
|--|---|--------------------|-------------------|
| FAMILY TALPIDAE | MOLES | | |
| <i>Scapanus latimanus occultus</i> | broad-handed mole, California mole | | X |
| FAMILY PHYLLOSTOMIDAE | LEAF-NOSED BATS | | |
| <i>Macrotus californicus</i> | California leaf-nosed bat | | X |
| FAMILY VESPERTILIONIDAE | PLAIN-NOSED BATS | | |
| <i>Myotis yumanensis sociabilis</i> | Yuma myotis | | X |
| <i>Myotis evotis evotis</i> | long-eared myotis | | X |
| <i>Myotis volans interior</i> | long-legged myotis | | X |
| <i>Myotis californicus californicus</i> | California myotis | | X |
| <i>Pipistrellus hesperus hesperus</i> | western pipistrel | | X |
| <i>Eptesicus fuscus bernardinus</i> | big brown bat | | X |
| <i>Lasiurus cinereus cinereus</i> | hoary bat | | X |
| <i>Lasiurus borealis teliotis</i> | red bat | | X |
| <i>Corynorhinus townsendi pallescens</i> | pale (western) big-eared bat | | X |
| <i>Antrozous pallidus pacificus</i> | pallid bat | | X |
| FAMILY MOLOSSIDAE | FREE-TAILED BATS | | |
| <i>Tadarida brasiliensis mexicana</i> | guano bat, Mexican free-tailed bat | | X |
| <i>Tadarida molossa</i> | big free-tailed bat | | X |
| <i>Eumops perotis californicus</i> | western mastiff bat, greater mastiff bat | | X |
| FAMILY URSIDAE | BEAR FAMILY | | |
| <i>Ursus americanus</i> | black bear, cinnamon bear | | X |
| FAMILY PROCYONIDAE | RACCOONS, RINGTAILS, and COATIS | | |
| <i>Bassariscus astutus octavus</i> | ringtail | | X |
| <i>Procyon lotor psora</i> | raccoon | X | X |
| FAMILY MUSTELIDAE | WEASELS, SKUNKS, BADGERS, OTTERS, etc. | | |
| <i>Mustela frenata latirostra</i> | long-tailed weasel | | X |
| <i>Taxidea taxus jeffersonii</i> | American badger | | X |
| <i>Spilogale gracilis</i> | spotted skunk | | X |
| <i>Mephitis mephitis holzneri</i> | striped skunk | X | X |

| Scientific Name ¹ | Common Name ² | Recent Observation | Historical Record |
|--|--|--------------------|-------------------|
| FAMILY CANIDAE | DOGS, WOLVES, and FOXES | | |
| <i>Canis latrans ochropus</i> | coyote | X | X |
| <i>Canis familiaris</i> | domestic dog | X | X |
| <i>Urocyon cinereoargenteus californicus</i> | gray fox | | X |
| FAMILY FELIDAE | CATS | | |
| <i>Felis concolor californica</i> | mountain lion, cougar, puma, catamount | | X |
| <i>Lynx rufus californicus</i> | bobcat | | X |
| <i>Felis catus</i> | feral cat | X | X |
| FAMILY SCIURIDAE | SQUIRRELS | | |
| <i>Spermophilus beecheyi beecheyi</i> | California ground squirrel | X | X |
| <i>Sciurus griseus anthonyi</i> | California gray squirrel, western gray squirrel | | X |
| <i>Sciurus niger</i> | eastern fox squirrel | X | X |
| FAMILY GEOMYIDAE | POCKET GOPHERS | | |
| <i>Thomomys bottae bottae</i> | valley pocket gopher, Botta's pocket gopher | X | X |
| FAMILY ARVICOLIDAE | VOLES | | |
| <i>Microtus californicus sanctdiegii</i> | California vole | | X |
| FAMILY HETEROMYIDAE | POCKET MICE, KANGAROO MICE, and KANGAROO RATS | | |
| <i>Chaetodipus californicus</i> | California pocket mouse | | X |
| <i>Dipodomys agilis agilis</i> | Pacific kangaroo rat | | X |
| FAMILY CRICETIDAE | MICE, RATS, LEMMINGS, and VOLES | | |
| <i>Reithrodontomys megalotis longicauda</i> | western harvest mouse | X | X |
| <i>Peromyscus californicus insignis</i> | California mouse, parasitic mouse | | X |
| <i>Peromyscus maniculatus gambelii</i> | deer mouse | X | X |
| <i>Peromyscus boylei rowleyi</i> | brush mouse | | X |
| <i>Neotoma lepida intermedia</i> | San Diego desert woodrat | | X |
| <i>Neotoma fuscipes macrotis</i> | dusky-footed woodrat | X | X |
| FAMILY MURIDAE | MOUSE | | |
| <i>Mus musculus</i> | house mouse | | X |
| FAMILY LEPORIDAE | HARES and RABBITS | | |
| <i>Sylvilagus audubonii sanctidiegi</i> | desert cottontail, Audubon's cottontail | | X |
| <i>Sylvilagus bachmani cinerascens</i> | brush rabbit | X | X |

CITY OF PASADENA / ARROYO SECO MASTER PLANS
Lower Arroyo Master Plan

| Scientific Name ¹ | Common Name ² | Recent Observation | Historical Record |
|---|--------------------------|--------------------|-------------------|
| FAMILY CERVIDAE | DEER | | |
| <i>Odocoileus hemionus californicus</i> | mule deer | X | X |

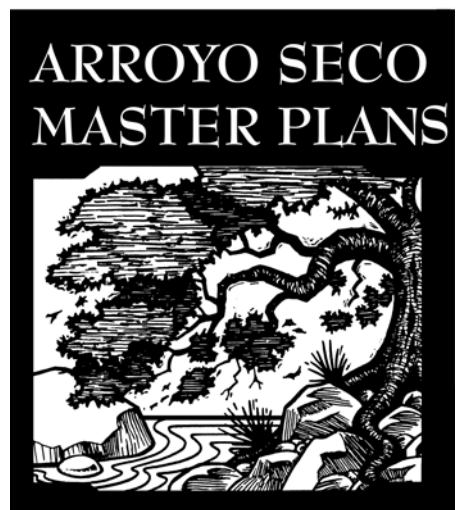
¹ Scientific nomenclature follows that of:

- Stebbins (1985), and (Behler and King, 1979) for amphibians and reptiles;
- Peterson (1990), National Geographic Society (1983), Stokes and Stokes (1996), and Udvardy (1988) for birds; and,
- Jameson and Peeters (1988), Burt and Grossenheider (1980), Whitaker (1980), and Ingles (1965) for mammals.

² Common names may vary by author and/or regionally in their usage.

This is not intended as an exhaustive listing of wildlife occurring on the site or surrounding area; some species, particularly for birds (i.e., winter migratory and/or summer visitor bird species) may not have been detected during the field surveys.

Appendix C



APPENDIX C: PLANT PALETTES FOR TERRESTRIAL NATURAL PLANT COMMUNITIES

Table C-1. Coast Live Oak Woodland Plant Palette

| Scientific Name ¹ | Common Name ¹ | Occurrence | Minimum Density | Distribution ² | Spacing ³ (feet) | Container Size (gal.) | lb./acre ⁴ |
|------------------------------------|--------------------------|-------------|-----------------|---------------------------|-----------------------------|-----------------------|-----------------------|
| Canopy Layer | | | | | | | |
| <i>Acer macrophyllum</i> | Bigleaf maple | Occasional | 25/acre | Groups: 2-3 | 20 | 5, 15 | |
| <i>Quercus agrifolia</i> | Coast live oak | Dominant | 100/acre | Groups: 3-6 | 20 | 1, 5, 15 | |
| <i>Quercus engelmannii</i> | Engelmann oak | Occasional | 15/acre | Groups: 2-3 | 20 | 5, 15 | |
| <i>Umbellularia californica</i> | California bay/laurel | Occasional | 15/acre | Groups: 2-3 | 20 | 5, 15 | |
| Shrub Understory Layer | | | | | | | |
| <i>Acer negundo</i> | Boxelder | Occasional | 20/acre | Groups: 2-4 | 4 | 5, 15 | |
| <i>Adenostoma fasciculatum</i> | Chamise | Occasional | 20/acre | Groups: 3-6 | 4 | 1, 5 | 2 |
| <i>Artemisia californica</i> | California sagebrush | Occasional | 30/acre | Groups: 3-6 | 4 | 1, 5 | 2 |
| <i>Ceanothus oliganthus</i> | Hairyleaf ceanothus | Occasional | 20/acre | Groups: 2-4 | 4 | 1, 5 | |
| <i>Heteromeles arbutifolia</i> | Toyon | Subdominant | 50/acre | Groups: 4-6 | 6 | 5, 15 | |
| <i>Malosma laurina</i> | Laurel sumac | Occasional | 20/acre | Groups: 6-8 | 6 | 5, 15 | |
| <i>Mimulus aurantiacus</i> | Bush monkeyflower | Occasional | 30/acre | Groups: 3-6 | 3 | 1 | 1 |
| <i>Quercus berberidifolia</i> | Scrub oak | Subdominant | 50/acre | Groups: 4-6 | 6 | 1, 5 | |
| <i>Rhamnus californica</i> | California coffeeberry | Subdominant | 50/acre | Groups: 4-6 | 6 | 5, 15 | |
| <i>Ribes malvaceum</i> | Chaparral gooseberry | Occasional | 25/acre | Groups: 2-4 | 4 | 1 | |
| <i>Rosa californica</i> | California rose | Occasional | 25/acre | Groups: 6-8 | 3 | 1 | |
| <i>Rubus ursinus</i> | California blackberry | Occasional | 25/acre | Groups: 4-8 | 4 | 1 | |
| <i>Salvia mellifera</i> | Black sage | Occasional | 30/acre | Groups: 4-8 | 4 | 1, 5 | 2 |
| <i>Sambucus mexicana</i> | Mexican elderberry | Occasional | 15/acre | Groups: 2-3 | 15 | 5, 15 | |
| <i>Toxicodendron diversilobum</i> | Western poison oak | Occasional | 10/acre | Groups: 2-3 | 15 | 1 | |
| Herbaceous Understory Layer | | | | | | | |
| <i>Bromus carinatus</i> | California brome | Occasional | | | | | 4 |
| <i>Eriophyllum confertiflorum</i> | Golden yarrow | Occasional | | | | | 3 |
| <i>Gnaphalium californicum</i> | California everlasting | Occasional | | | | | 1 |
| <i>Lathyrus vestitus</i> | Wild pea | Occasional | | | | | 6 |
| <i>Lotus scoparius</i> | Deerweed | Occasional | | | | | 6 |
| <i>Muhlenbergia rigens</i> | Deergrass | Occasional | | | | | 4 |
| <i>Nassella pulchra</i> | Purple needlegrass | Occasional | | | | | 4 |

C-1

¹ Plant species may be substituted with the concurrence of the project biologist/restoration specialist.

² Scattered distribution indicates that plantings should be distributed throughout the terrestrial natural community.

³ Refers to distance between plants of the same species; category applies only to species planted in groups.

⁴ Final specifications for the seed mix will be developed after tests for purity and seed germination of seed collected for each species.

Table C-2. Southern Willow Scrub Plant Palette

| Scientific Name ¹ | Common Name ¹ | Occurrence | Minimum Density | Distribution ² | Spacing ³ (feet) | Container Size (gal.) | lb./acre ⁴ |
|--|--------------------------|-------------|-----------------|---------------------------|-----------------------------|-----------------------|-----------------------|
| Upper Canopy Layer | | | | | | | |
| <i>Acer macrophyllum</i> | Bigleaf maple | Occasional | 15/acre | Groups: 1-3 | 20 | 5, 15 | |
| <i>Platanus racemosa</i> | Western sycamore | Occasional | 20/acre | Groups: 2-4 | 20 | 5, 15 | |
| <i>Populus balsamifera</i> ssp. <i>trichocarpa</i> | Black cottonwood | Occasional | 20/acre | Groups: 2-4 | 20 | 5, 15 | |
| <i>Populus fremontii</i> ssp. <i>fremontii</i> | Fremont cottonwood | Occasional | 25/acre | Groups: 3-4 | 20 | 5, 15 | |
| <i>Sambucus mexicana</i> | Mexican elderberry | Occasional | 25/acre | Groups: 3-4 | 15 | 5, 15 | |
| <i>Salix gooddingii</i> | Black willow | Subdominant | 50/acre | Groups: 5-10 | 10 | | |
| <i>Umbellularia californica</i> | California bay/laurel | Occasional | 15/acre | Groups: 1-3 | 20 | 5, 15 | |
| Lower Canopy Layer | | | | | | | |
| <i>Salix exigua</i> | Narrow-leaved willow | Occasional | 25/acre | Groups: 3-4 | 6 | | |
| <i>Salix laevigata</i> | Red willow | Subdominant | 50/acre | Groups: 5-10 | 10 | | |
| <i>Salix lasiolepis</i> | Arroyo willow | Dominant | 250/acre | Scattered | | | |
| <i>Salix lucida</i> ssp. <i>lasiandra</i> | Shining willow | Occasional | 25/acre | Groups: 3-4 | 8 | | |
| Shrub Understory Layer | | | | | | | |
| <i>Baccharis pilularis</i> | Coyote brush | Occasional | 50/acre | Groups: 3-4 | 6 | 1 | 1 |
| <i>Baccharis salicifolia</i> | Mule fat | Dominant | 200/acre | Groups: 5-15 | 4 | 1 | 1 |
| <i>Rosa californica</i> | California rose | Dominant | 150/acre | Groups: 5-10 | 3 | 1 | |
| <i>Rubus ursinus</i> | California blackberry | Subdominant | 100/acre | Groups: 4-8 | 4 | 1 | |
| <i>Vitis girdiana</i> | Desert grape | Subdominant | 100/acre | Groups: 4-8 | 4 | 1 | |
| Herbaceous Understory Layer | | | | | | | |
| <i>Ambrosia psilostachya</i> | Western ragweed | Occasional | | | | | 10 |
| <i>Artemisia douglasiana</i> | Mugwort | Occasional | | | | | 10 |
| <i>Carex barbarae</i> | Santa Barbara sedge | Occasional | | | | | 5 |
| <i>Hordeum brachyantherum</i> | Meadow barley | Occasional | | | | | 15 |
| <i>Muhlenbergia rigens</i> | Deergrass | Occasional | | | | | 8 |
| <i>Urtica dioica</i> ssp. <i>holosericea</i> | Hoary nettle | Occasional | | | | | 5 |

¹ Plant species may be substituted with the concurrence of the project biologist/restoration specialist.
² Scattered distribution indicates that plantings should be distributed throughout the terrestrial natural community.
³ Refers to distance between plants of the same species; category applies only to species planted in groups.
⁴ Final specifications for the seed mix will be developed after tests for purity and seed germination of seed collected for each species.

Table C-3. Mule Fat Scrub Plant Palette

| Scientific Name ¹ | Common Name ¹ | Occurrence | Minimum Density | Distribution ² | Spacing ³ (feet) | Container Size (gal.) | lb./acre ⁴ |
|--|--------------------------|-------------|-----------------|---------------------------|-----------------------------|-----------------------|-----------------------|
| Upper Canopy Layer | | | | | | | |
| <i>Acer macrophyllum</i> | Bigleaf maple | Occasional | 20/acre | Groups: 1-3 | 20 | 5, 15 | |
| <i>Alnus rhombifolia</i> | White alder | Occasional | 25/acre | Groups: 2-4 | 20 | 5, 15 | |
| <i>Platanus racemosa</i> | Western sycamore | Occasional | 25/acre | Groups: 2-4 | 20 | 5, 15 | |
| <i>Populus fremontii</i> ssp. <i>fremontii</i> | Fremont cottonwood | Occasional | 25/acre | Groups: 3-4 | 20 | 5, 15 | |
| <i>Populus balsamifera</i> ssp. <i>trichocarpa</i> | Black cottonwood | Occasional | 20/acre | Groups: 2-4 | 20 | 5, 15 | |
| <i>Sambucus mexicana</i> | Mexican elderberry | Subdominant | 50/acre | Groups: 3-4 | 15 | 5, 15 | |
| <i>Umbellularia californica</i> | California bay/laurel | Occasional | 20/acre | Groups: 1-3 | 20 | 5, 15 | |
| Lower Canopy Layer | | | | | | | |
| <i>Salix lasiolepis</i> | Arroyo willow | Dominant | 250/acre | Scattered | | | |
| Shrub Understory Layer | | | | | | | |
| <i>Baccharis salicifolia</i> | Mule fat | Dominant | 200/acre | Groups: 5-15 | 4 | 1 | 1 |
| <i>Rosa californica</i> | California rose | Dominant | 200/acre | Groups: 5-10 | 3 | 1 | |
| <i>Rubus ursinus</i> | California blackberry | Subdominant | 100/acre | Groups:4-8 | 4 | 1 | |
| <i>Vitis girdiana</i> | Desert grape | Subdominant | 100/acre | Groups:4-8 | 4 | 1 | |
| Herbaceous Understory Layer | | | | | | | |
| <i>Ambrosia psilostachya</i> | Western ragweed | Occasional | | | | | 10 |
| <i>Artemisia douglasiana</i> | Mugwort | Occasional | | | | | 10 |
| <i>Carex barbarae</i> | Santa Barbara sedge | Occasional | | | | | 5 |
| <i>Leymus condensatus</i> | Giant wild rye | Occasional | | | | | 20 |
| <i>Muhlenbergia rigens</i> | Deergrass | Occasional | | | | | 8 |
| <i>Urtica dioica</i> ssp. <i>holosericea</i> | Hoary nettle | Occasional | | | | | 5 |

¹ Plant species may be substituted with the concurrence of the project biologist/restoration specialist.
² Scattered distribution indicates that plantings should be distributed throughout the terrestrial natural community.
³ Refers to distance between plants of the same species; category applies only to species planted in groups.
⁴ Final specifications for the seed mix will be developed after tests for purity and seed germination of seed collected for each species.

Table C-4. Sage Scrub Plant Palette

| Scientific Name ¹ | Common Name ¹ | Occurrence | Minimum Density | Distribution ² | Spacing ³ (feet) | Container Size (gal.) | lb./acre ⁴ |
|--|----------------------------------|-------------|-----------------|---------------------------|-----------------------------|-----------------------|-----------------------|
| Canopy Layer | | | | | | | |
| <i>Juglans californica</i> var. <i>californica</i> | Southern California black walnut | Subdominant | 30/acre | Groups: 1-2 | 20 | 5, 15 | |
| <i>Sambucus mexicana</i> | Mexican elderberry | Subdominant | 30/acre | Groups: 1-2 | 15 | 5, 15 | |
| Shrub Understory Layer | | | | | | | |
| <i>Adenostoma fasciculatum</i> | Chamise | Dominant | 150/acre | Groups: 2-4 | 4 | 1, 5 | 2 |
| <i>Artemisia californica</i> | California sagebrush | Dominant | 150/acre | Groups: 2-4 | 4 | 1, 5 | 2 |
| <i>Ceanothus crassifolius</i> | Hoaryleaf ceanothus | Occasional | 20/acre | Groups: 2-4 | 4 | 1, 5 | |
| <i>Cercocarpus betuloides</i> | Birchleaf mountain-mahogany | Occasional | 30/acre | Groups: 2-4 | 4 | 1, 5 | |
| <i>Dendromecon rigida</i> | Bush poppy | Occasional | 20/acre | Groups: 2-4 | 4 | 1, 5 | |
| <i>Encelia californica</i> | California encelia | Subdominant | 75/acre | Groups: 2-4 | 4 | 1, 5 | 2 |
| <i>Eriogonum fasciculatum</i> | California buckwheat | Subdominant | 75/acre | Groups: 2-4 | 4 | 1, 5 | 8 |
| <i>Eriophyllum confertiflorum</i> | Golden yarrow | Occasional | 40/acre | Groups: 2-4 | 4 | 1, 5 | 2 |
| <i>Heteromeles arbutifolia</i> | Toyon | Subdominant | 50/acre | Groups: 2-4 | 4 | 1, 5 | |
| <i>Isocoma menziesii</i> var. <i>menziesii</i> | Goldenbush | Occasional | 20/acre | Groups: 2-4 | 4 | 1, 5 | 2 |
| <i>Keckiella cordifolia</i> | Heartleaf penstemon | Occasional | 20/acre | Groups: 2-4 | 4 | 1, 5 | |
| <i>Mahonia nevinii</i> | Nevin's barberry | Occasional | 20/acre | Groups: 2-4 | 4 | 1, 5 | |
| <i>Malosma laurina</i> | Laurel sumac | Occasional | 30/acre | Groups: 2-4 | 6 | 1, 5 | |
| <i>Mimulus aurantiacus</i> | Bush monkeyflower | Occasional | 50/acre | Groups: 2-4 | 6 | 1, 5 | 1 |
| <i>Opuntia littoralis</i> | Coastal prickly pear | Occasional | 30/acre | Groups: 1-2 | 4 | 1 | |
| <i>Prunus ilicifolia</i> ssp. <i>ilicifolia</i> | Hollyleaf cherry | Occasional | 30/acre | Groups: 2-4 | 6 | 1, 5 | |
| <i>Rhus integrifolia</i> | Lemonadeberry | Occasional | 30/acre | Groups: 2-4 | 6 | 1, 5 | |
| <i>Rhus ovata</i> | Sugar bush | Occasional | 30/acre | Groups: 2-4 | 6 | 1, 5 | |
| <i>Salvia apiana</i> | White sage | Occasional | 30/acre | Groups: 2-4 | 4 | 1, 5 | 2 |
| <i>Salvia mellifera</i> | Black sage | Subdominant | 50/acre | Groups: 2-4 | 4 | 1, 5 | 2 |
| <i>Quercus berberidifolia</i> | Scrub oak | Occasional | 30/acre | Groups: 2-4 | 6 | 1, 5 | |
| <i>Yucca whipplei</i> | Chaparral yucca | Occasional | 30/acre | Groups: 2-4 | 4 | 1 | |

CITY OF PASADENA / ARROYO SECO MASTER PLANS

Lower Arroyo Master Plan

Sage Scrub Plant Palette, cont.

| Herbaceous Understory Layer | | | | | | | |
|------------------------------------|----------------------|------------|--|--|--|--|---|
| <i>Leymus condensatus</i> | Giant wild rye | Occasional | | | | | 6 |
| <i>Lotus scoparius</i> | Deerweed | Occasional | | | | | 8 |
| <i>Lupinus bicolor</i> | Miniature lupine | Occasional | | | | | 5 |
| <i>Nassella lepida</i> | foothill needlegrass | Occasional | | | | | 3 |
| <i>Nassella pulchra</i> | Purple needlegrass | Occasional | | | | | 3 |
| <i>Scrophularia californica</i> | California figwort | Occasional | | | | | 3 |

- 1 Plant species may be substituted with the concurrence of the project biologist/restoration specialist.
- 2 Scattered distribution indicates that plantings should be distributed throughout the terrestrial natural community.
- 3 Refers to distance between plants of the same species; category applies only to species planted in groups.
- 4 Final specifications for the seed mix will be developed after tests for purity and seed germination of seed collected for each species.

Table C-5. Southern Sycamore Riparian Woodland Plant Palette

| Scientific Name ¹ | Common Name ¹ | Occurrence | Minimum Density | Distribution ² | Spacing ³ (feet) | Container Size (gal.) | lb./acre ⁴ |
|--|--------------------------|-------------|-----------------|---------------------------|-----------------------------|-----------------------|-----------------------|
| Upper Canopy Layer | | | | | | | |
| <i>Acer macrophyllum</i> | Bigleaf maple | Occasional | 10/acre | Groups: 1-3 | 20 | 5, 15 | |
| <i>Alnus rhombifolia</i> | White alder | Occasional | 15/acre | Groups: 1-3 | 20 | 5, 15 | |
| <i>Fraxinus dipetala</i> | California ash | Occasional | 10/acre | Groups: 1-3 | 20 | 5, 15 | |
| <i>Platanus racemosa</i> | Western sycamore | Occasional | 30/acre | Groups: 2-4 | 20 | 5, 15 | |
| <i>Populus balsamifera</i> ssp. <i>trichocarpa</i> | Black cottonwood | Occasional | 10/acre | Groups: 2-4 | 20 | 5, 15 | |
| <i>Populus fremontii</i> ssp. <i>fremontii</i> | Fremont cottonwood | Occasional | 10/acre | Groups: 3-4 | 20 | 5, 15 | |
| <i>Quercus agrifolia</i> | Coast live oak | Occasional | 10/acre | Groups: 1-3 | 20 | 5, 15 | |
| <i>Sambucus mexicana</i> | Mexican elderberry | Occasional | 15/acre | Groups: 3-4 | 15 | 5, 15 | |
| <i>Salix gooddingii</i> | Black willow | Subdominant | 10/acre | Groups: 2-4 | 10 | | |
| <i>Umbellularia californica</i> | California bay/laurel | Occasional | 10/acre | Groups: 1-3 | 20 | 5, 15 | |
| Lower Canopy Layer | | | | | | | |
| <i>Salix laevigata</i> | Red willow | Subdominant | 15/acre | Groups: 5-10 | 10 | | |
| <i>Salix lasiolepis</i> | Arroyo willow | Dominant | 25/acre | Scattered | | | |
| <i>Salix lucida</i> ssp. <i>lasiandra</i> | Shining willow | Occasional | 15/acre | Groups: 3-4 | 8 | | |
| Shrub Understory Layer | | | | | | | |
| <i>Baccharis salicifolia</i> | Mule fat | Dominant | 25/acre | Groups: 5-10 | 4 | 1 | 1 |
| <i>Rosa californica</i> | California rose | Dominant | 30/acre | Groups: 5-10 | 3 | 1 | |
| <i>Rubus ursinus</i> | California blackberry | Subdominant | 25/acre | Groups: 4-8 | 4 | 1 | |
| Herbaceous Understory Layer | | | | | | | |
| <i>Artemisia douglasiana</i> | Mugwort | Occasional | | | | | 10 |
| <i>Hordeum brachyantherum</i> | Meadow barley | Occasional | | | | | 15 |
| <i>Muhlenbergia rigens</i> | Deergrass | Occasional | | | | | 8 |
| <i>Urtica dioica</i> ssp. <i>holosericea</i> | Hoary nettle | Occasional | | | | | 5 |

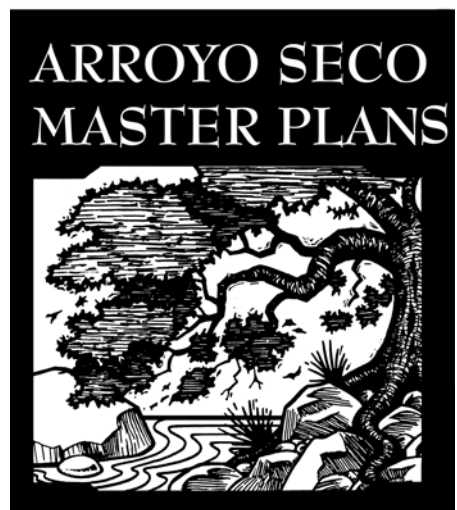
¹ Plant species may be substituted with the concurrence of the project biologist/restoration specialist.

² Scattered distribution indicates that plantings should be distributed throughout the terrestrial natural community.

³ Refers to distance between plants of the same species; category applies only to species planted in groups.

⁴ Final specifications for the seed mix will be developed after tests for purity and seed germination of seed collected for each species.

Appendix D



APPENDIX D: PROJECT DESCRIPTIONS

The following are the project descriptions of the Lower Arroyo Master Plan.

IMPROVE THE GROUNDS OF LA CASITA DEL ARROYO

Restore Arroyo Stone Walls and Stairs

Restoration of the Arroyo stone walls on the project site will be undertaken in accordance with the Secretary of the Interior's guidelines for restoring historic structures. Restoration of the garden steps at the southern rear corner of the site will be undertaken in accordance with the Secretary of the Interior's guidelines for restoring historic structures.

Maintain Trail Connections

Trail connections to La Casita and its immediate area will be maintained.

Provide Interpretative Information

Interpretive information on the Arroyo Seco, its history and its resources will be installed at La Casita in coordination with the Arroyo Seco Design Guidelines and the La Casita Foundation.

Slope Stabilization Assessment and Implementation

The slope around the rear of La Casita and the Arroyo stone walls north of the building are subject to continuous erosion which, if left alone, could result in the failure of existing wall sections along the edge of the slope and eventually threaten the clubhouse itself. Los Angeles County Department of Public Works recently completed a geotechnical investigation of the site. A short-term solution to the problem has been agreed to by various parties including the City, but a long-term solution needs to be assessed including the possible construction of a crib wall at the base of the slope to create a landscaped terrace between the existing top of the slope and the top of a new, lower crib wall. The parameters of such a project are not really known at this time, but would be the subject of further study.

ENHANCE MAIN PARK ENTRANCE

This project element will upgrade the existing entrance located near the intersection of Arroyo Boulevard and Norwood.

Provide New Gate

The entry driveway will have a new entry gate similar to the one that will be designed for the southern entrance to the Lower Arroyo; a gate design similar to the existing one at La Casita has been mentioned but needs further evaluation.

Improve Entry Landscape

New landscaping with native plantings and boulders will be included in this project element.

Widen Access Road for safety

This project element includes various repairs to the Lower Arroyo access road and improvements to the unsafe, “pinched” sections where currently only one vehicle can pass at a time. The road will be improved to a width of no greater than 20 feet. Improvement to the built-up bench/terrace on the downhill side of the existing road will allow for the road widening. This project will require some on-site grading along the built-up terrace on the downhill side of the road. The uphill portion of the access road will not be affected by this project. Existing barrier rails will also be replaced with Arroyo stone boulders along the top of the road and at the bottom of the road; the remaining length will be replaced with an Arroyo stone barrier wall, of which a short section will be retaining. All wall design will be in conformance with the Arroyo Seco Design Guidelines. The adjacent slope will undergo brush removal and stabilization in addition to native landscaping.

SOUTH ENTRANCE

The southern entrance will continue to provide entry to the Arroyo Seco from the southern city limits to the existing informal entrance through the San Pascual Stables in South Pasadena. Continued discussion with the City of South Pasadena is needed to ensure protection and appropriate use of Pasadena’s property.

Equestrian Amenities

A designated equestrian path/use area with hitching posts for horses as well as a watering trough will be provided at least 500 feet away from all other public activity facilities, as recommended in *Trails for the Twenty-first Century*.

Interpretive Area

The area will serve as a southern gateway to Pasadena’s Arroyo Seco and an interpretive area will be provided. Interpretive material, maps of the area and regional trails, and general information will be provided.

Restore Native Plant Communities

The open area between San Pascual stables and the first bridge crossing north of the stables will be restored to the native plant communities of the area. There will be ongoing coordination with the stables, the City of South Pasadena, and the City of Pasadena.

Maintain Trail Connections

A formal trail will loop through this area to connect to the eastside multi-use trail and keep riders/hikers off restored planting areas.

IMPROVE CASTING POND AREA

Repair Pond and Resurface Deck

The cracked and leaking surface of the Casting Pond will be resurfaced. Benches adjacent to the pond will be replaced and the drinking fountain will be modified to allow for a dog trough. The asphalt deck surrounding the pond will be replaced with a suitable material.

Repair Drainage System

Repair and modification of the pond’s drainage system will occur to improve the aesthetics of the pond.

Provide ADA-accessible Trail

The entire area around the pond will be made ADA-accessible including the allocation of two ADA fishing stations. This project element will also provide an ADA-accessible portion of the Eastside Multi-use Loop Trail between the Casting Pond and La Casita del Arroyo. Three rest stops will be created along this stretch of trail in accordance with ADA standards.

Enhance Existing Restroom

The existing public restroom at the Casting Clubhouse can be improved and enhanced for public use as appropriate and in conformance with the Arroyo Seco Design Guidelines. The area will be landscaped with woodland and coastal scrub native plantings as appropriate.

ENHANCE BIRD SANCTUARY

This project element will improve the existing bird sanctuary site.

Restore Stonework and Fountain

The existing drinking fountain will be rebuilt to allow for dog use, separate from human usage. Stonework in the seating area, surrounding walls, steps, and the decorative central fountain will be restored in accordance with the Design Guidelines for the Arroyo Seco and the Secretary of the Interior's guidelines for restoring historic structures.

Provide Trail Connection to Memorial Grove

A new trail connection will be created from the Bird Sanctuary to the Lower Arroyo at the Memorial Grove.

Provide Lighting for Increased Security

Better lighting will be provided, especially in the area of the stairs and lower terrace, to ensure a safe area and to minimize problems with vandalism.

Provide Curb Cut to Encourage Use as Rest Area

A curb cut will be created along Arroyo Boulevard for small maintenance vehicles to access the site and also allow cyclists using Arroyo Boulevard to use it as a rest stop.

Provide Interpretative Signage

Interpretive signage will be placed at this site as part of a larger interpretive signage system for the Arroyo Seco.

Enhance Landscaping

Native plantings will be increased, especially in the area of the stairs and lower terrace, to promote usage, restore native plant communities, and to mitigate problems with vandals.

Repair Storm Drain

The steep slope below the bird sanctuary, where an existing storm drain is exposed and major erosion has occurred, will be repaired.

NORTHERN ARCHERY RANGE

Use of the northern range by the Roving Archers will be reduced and all targets removed. Use of the range by the club will be tournament usage only and not exceed 13 times per year.

Improve Paths and Trails

Trails and paths in the northern range will be restored for public use. Lanes will be narrowed where possible and those lanes that can be eliminated will be, to allow native vegetation to thrive. Trails may require some clearing to provide safe conditions during tournaments.

Improved Signage for Safety

Archery trails will be defined with improved signage to alert non-archers when the range is in use. A safety program will be implemented by the Roving Archers Club as a condition of their permitted use of the area.

SOUTHERN ARCHERY RANGE

Improve Paths Trails and Amenities

Archery paths will be improved in accordance with the Design Guidelines for the Arroyo Seco for ADA accessibility, where feasible. Two existing drinking fountains in the area will be upgraded and relocated for better accessibility to a greater number of users and to meet ADA standards.

Rebuild Targets and Target Access

The layout of the southern range (south of the Archers' Clubhouse) will remain the same with the exception that trails for archers will be clearly defined and separated from other trail users. A design standard for target construction and access to the targets will be developed as part of the Design Guidelines for the Arroyo Seco and implemented to provide a safe and well-maintained course.

Improved Signage for Safety

Archery trails will be defined with improved signage to alert non-archers when the range is in use. A safety program will be implemented by the Roving Archers Club as a condition of their permitted use of the area.

ROVING ARCHERS' CLUBHOUSE

Rebuild Clubhouse with Restroom and Storage Area

The clubhouse was recently burned in a fire and replacing it is a recommendation of this master plan. If replaced, it will be replaced to the standards of the Design Guidelines. The building would be the same size as the previous clubhouse with the addition of a storage room taking up a maximum of 600 square feet. The new storage room will replace the recently demolished storage area and restroom in Memorial Grove. The location of the clubhouse shall be in the same location as the removed, burnt structure, or in close proximity.

Provide Interpretative Information and Map of Range Area

The building will also serve as an information site for park users, for interpretive signage and a map of the area as part of the larger interpretive trail system for the Arroyo Seco.

Landscaping with Native Plants

Land immediately surrounding the clubhouse will be landscaped in native vegetation.

Provide Picnic Area

Up to eight picnic tables can be placed at the clubhouse.

BRIDGE CROSSING AT ARCHERS' CLUBHOUSE

New Gate with Passage for Non-Motorized Users

The existing bridge that crosses over to the Archers' Clubhouse will be improved with the installation of a new swinging gate. A gap in the gate will allow for hikers, walkers, and equestrians to cross the bridge.

IMPROVE WESTSIDE MULTI-USE TRAIL ACCESS AT PARKER-MAYBERRY BRIDGE

This project element will improve the northern end of the existing Westside trail and allow equestrian and pedestrian access onto the west side of the existing Parker Mayberry Maintenance Bridge (located beneath the Colorado Street Bridge). Directed use of the maintenance bridge will allow users to cross the Arroyo and exit on Arroyo Boulevard (current eastern exit point for the bridge).

Install Bollards at Arroyo Boulevard Entry/Exit to Prevent Non-Motorized Use

A system of bollards or a modified swing gate will be installed to prevent vehicles from entering while allowing recreational users to pass through this entry with ease. The bollards could be removed or the swing gate opened when official vehicles need to enter. No grading will be required. The existing iron gate on the east side of the bridge would remain open at all times.

WESTSIDE MULTI-USE TRAIL FOR HIKERS AND EQUESTRIANS

- **Maintain Trail from Southern City Limits to Parker-Mayberry Trail Bridge**
- **Parker-Mayberry Bridge to Southern City Limits** - This project element will maintain the pedestrian and equestrian trail along the west side of the flood control channel from the Parker-Mayberry Bridge to the Southern Entry at the southern City Limits.
- **Parker-Mayberry Bridge to the Archers' Range** - This project element will restore the Westside Multi-Use Trail between the Parker-Mayberry Bridge and the Archers' Range.
- **La Loma Bridge to the San Rafael Bridge at Laguna** - The existing trail will be maintained and its alignment possibly adjusted after further design review to create a more desirable landscape. This area traverses wide expanses with as much as 1.5 acres of potential habitat for restoration.

- **San Rafael Bridge at Laguna to the South City Limits** - This project element will do much the same as the project element described above. It will keep the trail maintained to a minimum width (multiple use exclusive of bicycles) in accordance with the standards recommended by the Design Guidelines for the Arroyo Seco.

EASTSIDE MULTI-USE TRAIL FOR HIKERS AND EQUESTRIANS

Maintain Trail from South City Limits to Parker-Mayberry Bridge

This project element will maintain this segment of the trail, repairing erosion problems in steep areas, resurfacing the trail with native soil or decomposed granite (DG), and making it ADA-accessible where feasible. The trail will be improved to accommodate maintenance vehicles and still allow the passage of recreational users (pedestrians and equestrians). Some material will be needed to fill ruts in the trail.

An existing above-ground irrigation system will be salvaged or replaced and placed below the ground to provide individual bubblers to trees along the trail.

This project element will also improve the sloped trail beneath the Parker Mayberry Maintenance Bridge and the Colorado Street Bridge. This area serves as a transition between the Lower Arroyo and the pathway along the unchannelized reach of the Arroyo upstream of the Colorado Street Bridge. The relatively steep slope and unimproved conditions will be modified with grade breaks of large timbers, stone, concrete, or other suitable material to create a stepped pathway. The trail (multi-use, but exclusive of bicyclists) must have adequate vertical clearance for equestrian passing under the lowest bridge. This project will improve the existing Eastside Multi-Use Trail.

CAMEL'S HUMP LOOP TRAIL

Expand Trail System at Camel's Hump

This project element will enhance the habitat, circulation for trail users, circulation for maintenance access and the general appearance of the area. The project element will build on the existing trail system by adding new trails to areas recreational users will be able to enjoy and also provide maintenance access to these areas that are currently difficult to reach. Additionally, a three-year-old planting project in this area will require renovation.

Study Geological Stability

The project element will involve a study of the stability of the Camel's Hump, in particular the western face. Extensive erosion and rockslides have occurred over time at this location. As a key passage route in the Arroyo Seco, a geologic investigation will be needed to determine the safety of continuing to allow a trail under the western face of this formation. The study will make recommendations to address any further deterioration of the slope and assess the existing trail along the western face.

Clear Brush and Create Fuel Modification Zone

A brush-clearing program will eliminate high fuel volume and create a fuel modification zone using fire retardant native plantings in the area bordering the Busch Gardens. This project will also create a more appealing screen of the wooden fence in Busch Garden's neighborhood.

Retrofit and Repair Irrigation System

Remnants of the existing irrigation system that is exposed will be salvaged, and buried to provide a system of individual bubblers to trees in the area as well as retrofitted for new plantings.

Habitat Restoration

An additional 65,000 square feet of terrain will undergo habitat restoration.

WESTSIDE PEDESTRIAN TRAIL

Separate Southern Archery Range Trail from Westside Multi-Use Trail

The existing trail on the edge of the Southern Archery Range area will be separated from the Westside Multi-use Trail and will hug the westerly slope. The trail will be improved and repaired with compacted native soil. Native plantings, Arroyo stones, and boulders will be used to help define the separation of these trails.

Improve Signage for Safety

This trail will keep the archery activity separated from the other park uses and provide improved safety through signage. Archers will be prohibited from using the Westside Multi-use Trail through signage.

Restore Native Plant Community

At the trail edge, the area will be restored with plantings native to the area's plant communities.

RESTORE ARROYO BOULEVARD RIM TRAIL

Improve Trail for Pedestrians Only

Area residents heavily use this trail that runs along Arroyo Boulevard from the Parker-Mayberry Trail to Westover. This project element will make repairs to the trail so that access is safe and barrier-free. The trail will be made ADA-accessible where feasible, and curb cuts will be made at various points along the trail to improve accessibility.

Prohibiting the use of this trail by equestrians and cyclists will be part of the signage and trail-definition program. No substantial grading will be required

Restore Arroyo Stone Walls

Areas where sections of Arroyo stonewall are damaged along the trail will be repaired in accordance with the Design Guidelines for the Arroyo Seco and the Secretary of the Interior's guidelines for restoring historic structures.

Restore Native Plant Communities

Approximately 60,000 square feet of brush clearing and poison oak removal will occur to make the area passable and restore native plant communities in areas that can accommodate new plantings.

Repair Irrigation

Currently, exposed irrigation systems create hazardous situations and will therefore be repaired to eliminate the hazards. Exotic vegetation will also be removed. Areas where washouts have occurred will be repaired.

RESTORE NEIGHBORHOOD TRAIL ACCESS

Restore Historic Trails

This project element will restore the major access points leading into the Lower Arroyo Seco from the various surrounding neighborhoods. This project element will be a combination of trail restoration work, rubble wall restoration work, trailhead improvements and planting restoration. All structural restoration will be undertaken according to the Secretary of the Interior's guidelines for restoring historic structures. The following are 12 access points that will be restored:

- Westminster
- La Casita Trail (through butterfly garden)
- Bird Sanctuary
- California Boulevard
- La Loma
- Bradford Street
- Busch Garden Court
- Rockwood Place Parker-Mayberry Bridge to Westside Trail
- Westbridge Place
- South of Westbridge Place
- San Pascual (north of San Rafael Avenue)

The trail restoration work will include repair of washed out trails, repair of ruts, and removal of sediment that has washed down over the trails. Grading will be balanced on-site. Developing names for the trails has been suggested by several members of the community.

Restore Arroyo Stone Walls

This project element includes Arroyo stone wall restoration work. All structural restoration will be undertaken according to the Design Guidelines for the Arroyo Seco and the Secretary of the Interior's guidelines for restoring historic structures.

Restore Plantings

The planting restoration part of this project element will clear the trail of all exotic weeds and grasses and any overgrown or dead brush. New planting will occur as needed for slope stabilization or to replace dead trees or for general habitat enhancement or aesthetic purposes.

Improve Trailheads

The trailheads are where the trails begin in the neighborhoods. Trailheads will be identified and appropriate signage and mapping located as part of a larger signage program.

MEMORIAL GROVE RESTORATION

This project element proposes restoring native vegetation, and renaming of the AIDS Memorial Grove to the Memorial Grove. The field has become the location for trees to be planted in memory of someone. The City will specify tree species that can be planted and will supply interested parties with standards for planting, a list of vendors where trees can be purchased, and information about tree care responsibilities.

Maintain Open Natural Area

Brush clearance and slope stabilization will occur in the Memorial Grove, and the area will be replanted with a more open canopy to accommodate the memorial theme and to minimize the dependency on regular maintenance.

Habitat Restoration

Habitat restoration will be a significant component of this project element. A planting project was implemented approximately three years ago and is in need of modification. Remnants of the existing irrigation system that covers that area will be salvaged and buried to provide a system of individual bubblers to trees in the area as well as be retrofitted for new plantings.

IMPROVE REGIONAL TRAIL CONNECTION

Stabilize Slope of Trail Under Bridges

This project element will improve 60 feet of sloped trail beneath the Parker-Mayberry Maintenance Bridge and the Colorado Street Bridge. The area serves as a transition between the Lower Arroyo and the pathway along the unchannelized reach of the Arroyo upstream of the Colorado Street Bridge. The relatively steep slope and unimproved conditions will be modified with grade breaks of large timbers, stone, concrete or other suitable material and surfaced with pathway treatment to create a stepped pathway. The trail (multi-use exclusive of cyclists) will be at least four feet wide and have ten feet in vertical clearance. This project element will improve the existing Eastside Multi-use Loop Trail.

RESTORE THE BANKS OF THE LOWER ARROYO

This project element proposes to restore the banks of the Lower Arroyo Seco through the following methods: Providing for a wildlife corridor along the banks of the Lower Arroyo, stabilizing the banks and controlling erosion, and actively restoring and conserving the native plant communities. Implementation of these projects will address the safety concerns in the Lower Arroyo Seco related erosion and fire danger.

RESTORATION OF ANNANDALE CREEK/LAGUNA CANYON

The restoration of Annandale Creek/Laguna Canyon is proposed and will achieve the following: Restoration of the habitat and native plant communities in this area, restoring the natural stream course in this canyon where feasible, and enhancing the water quality entering the Arroyo Seco Channel/streamcourse from Annandale Creek/Laguna Canyon. This project will require further coordination with Los Angeles County Department of Public Works.