

Ballona Creek and Trail Focused Special Study

July 18, 2003
Revised December 3, 2003

Produced for:
The City of Culver City

Produced by:
RRM Design Group

Ballona Creek and Trail
Draft Focused Special Study

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Prologue and Acknowledgements

This Ballona Creek and Trail Focused Special Study has been prepared by RRM Design Group in close coordination with the City of Culver City and the California Coastal Conservancy. The development of this report could not have occurred without the multi-departmental team effort of City of Culver City, the funding of the California Coastal Conservancy, the contributions of Ballona Creek Renaissance, and the remainder of our consulting team, including Chambers Group and Everest International Consultants, Inc.

We wish to acknowledge all of those who played an important role in the formulation of the Focused Special Study and the public outreach process that was followed in developing this community-based design study for the restoration of Ballona Creek.

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Conservation Authority
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Chapter 1 Executive Summary

The Ballona Creek and Trail Focused Special Study (“Focused Special Study”) has been prepared for the City of Culver City pursuant to the Land Use, Circulation, and Open Space Elements of the City’s General Plan, adopted in 1996. Under a grant from the California Coastal Conservancy and with the staff support of the City of Culver City, the Planning Division has led an effort to prepare the Focused Special Study for the four (4) mile long stretch of Ballona Creek that primarily traverses the limits of the City of Culver City.

The Focused Special Study identifies a number of potential short, mid, and long-term priorities for the Ballona Creek Corridor, many of which will require additional study and funding before they can be implemented. The Focused Special Study also identifies issues relating to the development of a cohesive maintenance and operations strategy for the entire Ballona Creek Corridor, as well as an approach for obtaining funding to implement the improvements proposed for Ballona Creek over time.

1.1 The City of Culver City’s Opportunity

Because a significant portion of Ballona Creek flows through Culver City’s jurisdiction, Culver City has the unique opportunity to take a leadership role in the planning and design of improvements to the Ballona Creek Corridor. In view of the fact that outside agencies, such as the State of California and the Baldwin Hills Conservancy, have an interest in planning in the Ballona Creek Corridor, it is important that Culver City take advantage of this opportunity and assume a proactive role by identifying potential improvements that would be in the best interests of Culver City.

The Focused Special Study also offers the City of Culver City the opportunity to identify alternatives for transforming a barren and bleached concrete lined flood control channel into a beautiful linear greenway that will dramatically improve the appearance of the channel, potentially enhance the values of abutting properties, and provide a safe, and attractive system of trails connecting the City of Culver City to its parks, its schools, and Santa Monica Bay. The Focused Special Study can do all of this while maintaining, or improving, the ability of Ballona Creek to carry storm waters to an equal or higher degree than it does today. Borrowing from the experience of other communities, like San Luis Obispo and Santa Rosa, which have been able to accomplish similar improvements to their creeks with highly successful results, the City of Culver City hopes to facilitate the renaissance of Ballona Creek.

The Focused Special Study proactively guides and identifies future Ballona Creek improvements by identifying potential improvements. It also provides a framework that other related jurisdictional entities can rely upon.

1.2 Developing the Study

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The City of Culver City retained a consulting team led by RRM Design Group, including Chambers Group and Everest International Consultants, Inc., to complete this Focused Special Study. This study represents the culmination of an intensive public outreach and engagement effort with the citizens of the City of Culver City and various stakeholder organizations to devise a study for the eventual improvement and maintenance of Ballona Creek. As a result of that public process, additional goals and objectives were added to guide the completion of this study. The original goals of this effort, plus the additional goals derived from the public process, have been systematically addressed through the development of the Focused Special Study.

The Focused Special Study envisions a reconfigured Ballona Creek, enhanced landscaping and a network of wider, safer, and ADA accessible trails. It also includes specific recommendations for rest stops, scenic overlooks, and terraces, where they do not interfere with existing residential areas. Three inflatable dams and three new pedestrian bridges are proposed at selected locations along Ballona Creek including a “land bridge” between Ballona Creek and Baldwin Hills State Park.

The improvement projects identified in this Focused Special Study are intended to help Culver City address the following goals:

1. To preserve the ability of Ballona Creek to continue carrying flood waters.
2. To address issues of noise and noise echoes and public safety concerns on the trail system.
3. To promote the development of a pedestrian and bicycle path system that will be safe, secure, and meet ADA accessibility requirements.
4. To develop a cohesive program for overall maintenance and operations of Ballona Creek while minimizing jurisdictional fragmentation.
5. To improve the overall appearance of Ballona Creek with extensive landscaping.
6. To enhance the recreational use potential of Ballona Creek.
7. To improve the quality of waters carried by Ballona Creek to the Santa Monica Bay.
8. To develop a pedestrian and biological connection between Baldwin Hills Park, along Ballona Creek, to the Santa Monica Bay.

Early in the process it was determined that the sheer velocity of flood waters conveyed during storm events within the confined legal right of way of Ballona Creek will not permit the restoration of Ballona Creek to a natural channel. The erosive flows of storm water dictate that the walls and sides of Ballona Creek need to be armored with protective materials for it to continue to function as a flood control facility.

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However, because of the configuration of the banks along much of Ballona Creek, there is a significant opportunity to reconfigure the channel to a beautiful, landscaped greenway, with a system of recreational paths that will enhance the connection to the Santa Monica Bay, while still safely conveying floodwaters.

1.3 Elements that Influenced the Study

In the process of developing the Focused Special Study, it became apparent that in addition to the need to maintain or enhance the ability of Ballona Creek to convey flood waters, the needs and concerns of three key groups: adjoining property owners, trail users and public agencies, would need to be addressed in each of the recommended improvements included in the Focused Special Study:

- **Flood Control:** Of paramount importance to the community and the City of Culver City is the need to preserve the ability of Ballona Creek to convey flood waters to an equal or greater degree than it does today.
- **Adjoining Property Owners:** Addressing the interests of creekside, residential and commercial, property owners is central to developing any potential improvements for the Ballona Creek area. Resident concerns about the safety and security of the trail, noise echoes, and enjoyment of their properties significantly influenced the recommendations of the Focused Special Study.
- **Trail Users:** Recreational and commuter trail users desiring an enhanced trail experience were also influential to the study. Making the trails accessible under the American Disabilities Act, (ADA), and enhancing their safety became central features of the recommendations included in the Focused Special Study.
- **Public Agencies:** A wide variety of the local, state, and federal agencies have a strong interest in what will happen with Ballona Creek. Their differing interests and responsibilities were all considered in the development of this study.

These key groups were used as the abstract “clients” in crafting the Focused Special Study and the concepts contained within it. The recommendations of this study were consistently measured and adjusted to address each of these elements and to maximize the benefits and opportunities for each of them.

1.4 Things to Keep in Mind While Reading the Study

It must be emphasized that this Focused Special Study is conceptual in nature and that its purpose is to identify key issues and groups and to recommend potential improvements and policies that the City of Culver City may or may not want to address in future work programs. While there are some recommendations for improvements that could be done in the very near future (i.e., landscaping, fencing and signage improvements along the top

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of bank, etc.), additional work will need to be completed to further evaluate and analyze any projects in Ballona Creek that propose changes to the configuration of the channel.

While the City of Culver City has taken a leadership role in the preparation of the Focused Special Study, the expenses for future capital improvements, and operations and maintenance of Ballona Creek cannot be borne by the City of Culver City. It will be necessary to secure extensive outside funding from a variety of state, federal, special agencies and grant sources to build and maintain the recommended improvements or to fund the City of Culver City's completion of such work. Additionally, before improvements can be made, it will be necessary to implement a formal long-term agreement, between the appropriate entities, that addresses the management and maintenance of the flood control channel and all of its improvements.

While the public workshop process indicated a strong level of support for most of the Focused Special Study, there are a number of concepts which may contain an element of controversy. Those recommendations of the Focused Special Study that may be controversial have been noted in Chapter 7, which has been devoted to describing these controversial components, the nature of the controversy, the efforts that have been made to address the controversial items and outlines of additional options to be considered by the community and the City of Culver City before implementing any projects.

Chapter 2 Project Setting

2.1 Project Area Description

Once a natural stream, Ballona Creek is now a flood control channel of approximately nine miles in length, approximately four miles of which are located within the City of Culver City. The Ballona Creek watershed, which is approximately 130 square miles, is bounded by the Santa Monica Mountains to the north, the Harbor Freeway on the east, and Baldwin Hills to the south. Ballona Creek accepts run-off and drainage from the entire Ballona Creek watershed. Culver City is entirely situated within the Ballona Creek watershed (see Figure 2-1).

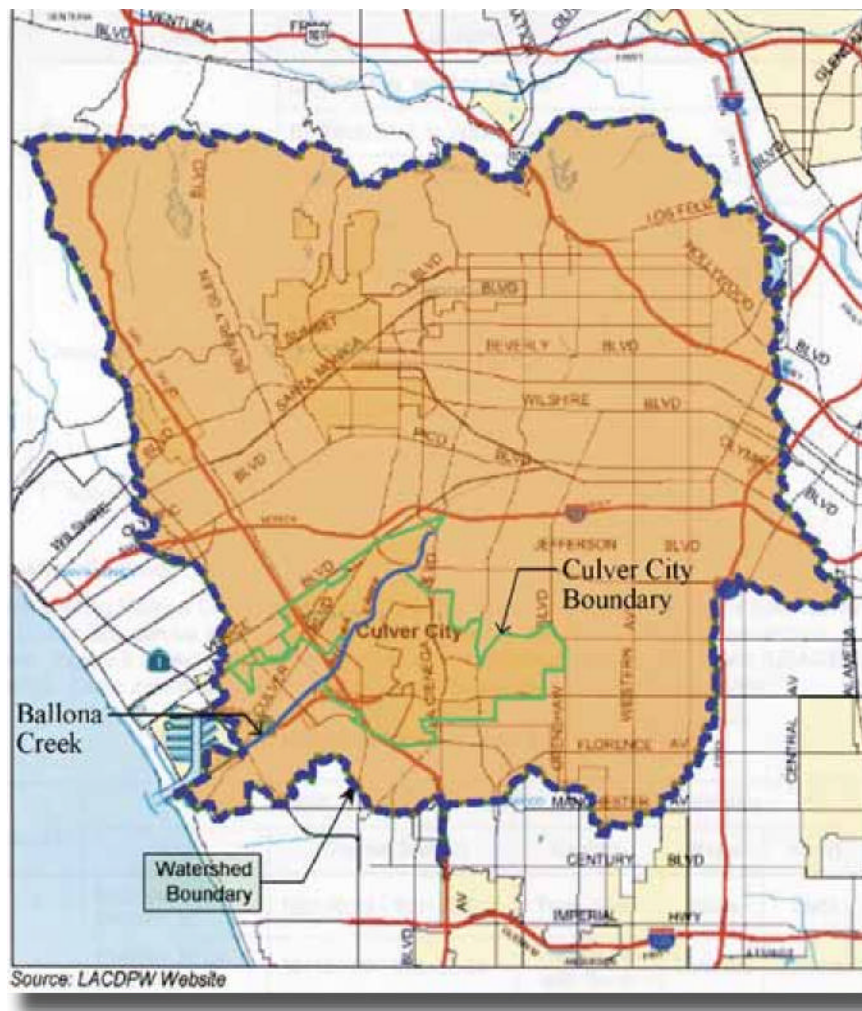


Figure 2-1. Ballona Creek Watershed Map

Typical flows within Ballona Creek include dry weather urban runoff, with the water level and speed dramatically increasing during storm events. Ballona Creek waters are

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highly contaminated with pollutants, including trash, animal waste, oil, grease, pesticides, fertilizers, pool and industrial chemicals, paint lead, and bacteria, along with larger discards, such as shopping carts (Source: Chamber Group, environmental consultants). Due to increased nutrient levels, algae accumulation is a problem in some places along Ballona Creek. Graffiti has become a problem in certain areas along Ballona Creek.

The stretch of Ballona Creek that lies within the City of Culver City boundaries starts just upstream from Washington Boulevard and ends downstream at the confluence of the Sawtelle Westwood Storm Drain Channel, just west of the San Diego 405 Freeway. The segment of Ballona Creek being evaluated as part of the Focused Special Study is bordered by, and in some cases overlaps the City of Los Angeles limit lines. Ballona Creek is a concrete lined channel throughout the entire length of the study area. Although within the City of Culver City limits, Ballona Creek is devoid of native riparian habitat, waterfowl are often seen in the area.

The Ballona Creek Trail is an approximately 10-foot wide paved Class I trail along the north bank of the channel with transition ramps to the trail at key intersections of major streets, (Sawtelle Boulevard, Sepulveda Boulevard, Overland Avenue, Duquesne Avenue, Higuera Street, and National Boulevard). The trail starts at Syd Kronenthal Park, just upstream from National Boulevard, and traverses southwest along the entire length of Ballona Creek to the Santa Monica Bay.

Along the eastern upstream reach of Ballona Creek, the trail approaches the base of the Baldwin Hills, an area that has recently been acquired by the State of California for its ultimate improvement as a State Park for the greater Los Angeles basin. (*Note: Information on the Baldwin Hills Conservancy and the Baldwin Hills Master Plan is located in section 2.3.1 of this Chapter.*)

The northern bank of Ballona Creek abuts a number of residential areas between the Sawtelle Westwood Storm Drain Channel and, the Hayden Tract, and then again just east of Syd Kronenthal Park. The Hayden Tract is the only area of industrial and commercial use on the north bank of the Ballona Creek. By contrast, the south side of Ballona Creek is largely abutted by commercial and industrial uses between Washington Boulevard and Overland Avenue, and transitions to residential uses from Overland Avenue downstream to the Sawtelle Westwood Storm Drain Channel.

Although a legal survey of the Ballona Creek Corridor has not been conducted, it appears that the channel varies in width from 125 to 230 feet from top of bank to top of bank, with the channel bottom maintaining a consistent width of generally 80 feet.

Ballona Creek is maintained as a flood control channel by both the U.S. Army Corps of Engineers and the County of Los Angeles Department of Public Works, both of which maintain different stretches of the Ballona Creek at different standards of maintenance. The City of Culver City Public Works Department and the City of Los Angeles also maintain stretches of the Ballona Creek Corridor within their respective city limits

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2.2 History of Ballona Creek

Before settlement of the City of Los Angeles, Ballona Creek was a natural resource for the indigenous peoples that once inhabited the region. Once the downstream remnant of the Los Angeles River, but major storms in 1825 and during the 1880's changed the course of the Los Angeles River to the south and east to drain toward San Pedro and away from what became Ballona Creek.

With increased urbanization came increased flooding along Ballona Creek that eventually led to the U.S. Army Corps of Engineers designing and building a concrete lined flood control channel in the late 1930's to create what Ballona Creek is today. Presently, Ballona Creek falls under the jurisdictions of the U.S. Army Corps of Engineers and the County of Los Angeles Public Works Department.

With the advent of the environmental movement of the 1960's and 1970's came a national reexamination of the practice of "channelization," the straightening and concrete lining of drainways as long practiced by the U.S. Army Corps of Engineers. These legal changes, as well as changes in public attitudes, gave rise to changes in the way the U.S. Army Corps of Engineers reviewed the environment. In the 1980's, the U.S. Army Corps of Engineers adopted environmental restoration as a major institutional goal.

In the 1990's, public interest constituencies began looking at the urban streams of the greater Los Angeles basin in a different way. Rather than having urban streams relegated to the role of unattractive concrete flood control channels devoid of life, a call for the restoration and enhancement of creek systems began to be heard. Originally focused upon the Los Angeles River, the movement to restore creeks and rivers started to embrace Ballona Creek as well.

In 1996, the City of Culver City adopted its General Plan which called for the preparation of the Ballona Creek and Trail Focused Special Study. In 2001, the Coastal Conservancy agreed to fund the preparation of this Focused Special Study.

2.3 Jurisdictional Context

Incorporated in 1917, the City of Culver City enjoys a high quality of life and takes great pride in the high level of municipal services provided to its citizens. The City of Culver City is essentially an island in the sea of urbanization that is the City and County of Los Angeles. The City of Culver City has consistently worked to protect its uniqueness, its quality of life, and its high standard of municipal services.

The efforts to improve Ballona Creek have begun to attract not only the interest of the City of Culver City but a wide variety of local, state and federal agencies. There are now a number of parallel agency initiatives that are taking into consideration the Focused Special Study effort, the most notable of which is the State of California's plans to create a State Park in the Baldwin Hills area.

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2.3.1 The Baldwin Hills Conservancy

In 2000, through special State legislation (SB 1625), the State of California Resources Agency formed and funded the Baldwin Hills Conservancy to oversee land acquisitions and the development and implementation of a Master Plan for Baldwin Hills Park, a 1,400 acre State park in the Baldwin Hills area. In addition to the 1,400 acres, SB 1625 also indicated that an area on either side of Ballona Creek is an “area of influence” for the Conservancy. Subsequent legislation (SB 259) reduced the “area of influence” to 50 yards on either side of the Ballona Creek Corridor.

In October 2002, the Baldwin Hills Conservancy approved a Master Plan, which addresses planning issues in the approximately 1,400 acre area, including portions of the City of Culver City’s eastern sphere of influence. The Master Plan also indicates that the Baldwin Hills Conservancy would like to create a connection between the Baldwin Hills and the Santa Monica Bay via utilization of the Ballona Creek Trail and via the development of a land bridge from the Baldwin Hills to Ballona Creek. The Baldwin Hills Conservancy also has an interest in improving wildlife habitat along the Ballona Creek Corridor, and to connect to it via a land bridge over Jefferson Boulevard.

In 1999, the State Parks and Recreation Department acquired the scenic overlook formerly known as the Vista Pacifica property. The Baldwin Hills Conservancy is looking to this property, which abuts Jefferson Boulevard adjacent to the Ballona Creek Corridor, to serve as the location for the main entrance and interpretive center for the park.

The City of Culver City is represented on the Board of Directors of the Baldwin Hills Conservancy, as is the Coastal Conservancy, the agency that provided the funds to conduct the Focused Special Study. One of the fundamental challenges of completing the Focused Special Study is identifying improvement projects that accomplish the objectives of the City of Culver City, in the context of these additional State efforts.

2.3.2 Maintaining Local Control While Minimizing City Costs

In view of the interest that agencies, such as the Baldwin Hills Conservancy, are taking in Ballona Creek, it is important for the City of Culver City to clearly state its position on the future of Ballona Creek and to work to obtain the buy-in of these agencies in a way that best protects the interests of the City of Culver City.

While the City of Culver City would clearly like to see the Ballona Creek Corridor improved, the City of Culver City does not have the financial capacity to take on expensive improvements to Ballona Creek. Any improvements to the Ballona Creek Corridor would need to be completed with minimal, if any, financial contribution by the City of Culver City for either capital projects or long term maintenance and operations.

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Therefore, implementation of Ballona Creek improvements are contingent upon the receipt of funding from other agencies (i.e., U.S. Army Corps of Engineers, Los Angeles County Department of Public Works, Baldwin Hills Conservancy), or by other major sources of grant funds. Because the City of Culver City desires to maintain control over projects within their jurisdiction, it is possible that the City of Culver City will continue to play a lead role in obtaining grants to fund the improvements outlined in this Focused Special Study.

Further, since the City of Culver City does not have the ability to spend any additional funds on maintenance of the Ballona Creek Corridor after it is improved, the City of Culver City will need to work with multiple jurisdictions in and around Culver City to develop a cohesive maintenance strategy that will become the responsibility and expense of another agency than the City of Culver City.

2.3.3 The Concerns of Some Creekside Residents

Another significant challenge is addressing the concerns of some residents who live near or adjacent to the Ballona Creek Corridor. Some residents are concerned with how the potential implementation of some of the projects described in the Focused Special Study might impact their quality of life. While the study process has revealed that a majority of workshop participants support improving the appearance and character of Ballona Creek, there is a vocal core of residents, particularly on the north bank of Ballona Creek upstream of Overland Avenue, who are concerned with potential noise, public safety, security, and public use impacts that may result, if some of the projects detailed in the Focused Special Study are implemented. Great efforts have been taken to address their concerns. The Focused Special Study now calls for further work to evaluate those concerns prior to project implementation.

2.4 Parallel Planning and Study Efforts

In addition to the Baldwin Hills Conservancy's master planning efforts, many other agencies are currently undertaking planning activities. Among those efforts are the following:

2.4.1 The Baldwin Hill Scenic Overlook Plan

The State of California Department of Parks and Recreation is currently in the process of developing a long-term plan for the Scenic Overlook property which abuts Jefferson Boulevard. The State would like this property to serve as the primary gateway and interpretative center for the new State Park. The State Department of Parks and Recreation has hired a consulting design team to assist in the park planning and development process, including the design of the proposed Jefferson Boulevard bridge connection between Baldwin Hills Scenic Overlook and Ballona Creek. The preliminary design workshops for this project have been completed.

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2.4.3 The West Los Angeles College Master Plan

West Los Angeles College is currently updating their Campus Facilities Master Plan, which is intended to guide campus development over the next twenty years and to accommodate a projected enrollment of 18,904 students. Components of the Master Plan address issues such as providing a secondary access road to the College, providing additional parking facilities, and improving other buildings associated with the expansion of the College. A Draft Environmental Impact Report was circulated and the City of Culver City has prepared comments to the draft document. The City of Culver City intends coordinate and closely monitor this effort.

2.4.4 Replacement of the Pedestrian Bridge

In October 2003, the City of Culver City installed a Steadfast BowTruss Pedestrian Steel Bridge bridge adjacent to an older pedestrian bridge located by the Westwood Boulevard and Ocean Drive intersection. The older bridge has been closed and will be removed shortly.

2.4.5 The Ballona Creek Watershed Plan

The County of Los Angeles Public Works Department Watershed Division is leading an effort to develop a management plan for the entire Ballona Creek watershed. This effort, which involves multiple stakeholders, including the City of Culver City, is expected to be completed by the end of 2004.

The goal of the Watershed Management Plan is to set pollution controls and habitat restoration actions to “achieve ecological health” in the Ballona Creek Watershed.

2.4.6 Ballona Wetlands Restoration Plan

The California Coastal Conservancy together with the owners of the Playa Vista project, are working to preserve significant portions of wetlands at the mouth of Ballona Creek where it meets the Santa Monica Bay. The Ballona Wetlands Foundation, created to coordinate this restoration effort, is comprised of Playa Vista, the City of Los Angeles, and Friends of Ballona Wetlands. The California State Coastal Conservancy is the funding agency and is also the agency that will manage and coordinate the restoration of the Ballona Wetlands

2.4.7 Landscaping Guidelines for Los Angeles River and Tujunga Wash

The County of Los Angeles Department of Public Works has been developing a set of landscape guidelines and plant palettes for the restoration of the Los Angeles River and Tujunga Wash. It is anticipated that these landscape guidelines could be used in the landscaping of Ballona Creek.

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2.4.8 Joint Study for the Consolidation of Waste Transfer Station Facilities

The City of Culver City and the City of Los Angeles both operate independent sanitation facility sites along Jefferson Boulevard, near the Baldwin Hills Scenic Overlook. Both cities are working to determine the feasibility of developing joint facilities.

The Baldwin Hills Conservancy is also interested in obtaining the City of Los Angeles vehicle storage site at 6000 Jefferson Boulevard to construct a gateway parking facility for the Baldwin Hills Scenic Overlook.

2.4.9 Continuous Deflective Separation Units

In December 2002, the Los Angeles County Department of Public Works installed two Continuous Deflective Separation, (CDS), units to address the trash reduction requirements set forth by the Regional Water Quality Control Board. The CDS units and their locations are as follows:

1. A PSWC 56-68 unit was installed at the intersection of Lucerne Avenue and Ince Boulevard.
2. A PSWC 70-70 unit was installed at the intersection of Maxella Avenue and Mildred Avenue.

Los Angeles County does not plan to install any other CDS units for the next three (3) years.

The purpose of the CDS units is to establish a baseline trash amount for the next three (3) years so that agencies can begin to reduce the amount of trash flowing into Ballona Creek by 10% per year. Additional CDS units will need to be installed over the next 13 years to comply with the requirements of the Regional Water Quality Control Board.

The City of Culver City is in the process of installing a CDS unit on the north bank of Ballona Creek just downstream from Overland Avenue. Expected to be completed in Spring 2004, this particular CDS unit is a demonstration project funded by the California Coastal Conservancy.

2.4.10 Ballona Creek Sediment Management Plan Feasibility Study

The U.S. Army Corps of Engineers is evaluating several alternative measures to control sediment discharges from Ballona Creek. The action is needed because the Marina del Rey entrance channel suffers from sediment accretions, which inhibit navigation and makes periodic maintenance dredging necessary. The deposited sediment is contaminated with pollutants that originate from the Ballona Creek watershed. The U.S. Army Corps of Engineers has found it difficult to dredge the

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south entrance channel because of a lack of suitable disposal sites for the contaminated material. Because of the difficulty of properly maintaining the entrance channel, navigation safety may be threatened. Furthermore, resuspension of these sediments during dredging operations raises concerns of environmental damage. Control of contaminated sediments before they enter the ocean could help alleviate the problem of contaminated sediment dredging. Alternatives include an in-stream sediment basin trap upstream of Marina del Rey, a jetty extension at the mouth of Ballona Creek or a combination of the two concepts.

The U.S. Army Corps of Engineers is partnering with the County of Los Angeles Department of Beaches and Harbors, and the County of Los Angeles Department of Public Works on the Feasibility Study. The County of Los Angeles Department of Beaches and Harbors is responsible for managing the Marina del Rey harbor. The County of Los Angeles Department of Public Works is responsible for managing the Ballona Creek Flood Control Project and overseeing water quality improvement activities for the Ballona Creek Watershed. The U.S. Army Corps is also preparing an Environmental Impact Statement (EIS) of the alternatives.

2.4.11 Loyola Marymount University Ballona Creek Study

The Baldwin Hills Conservancy awarded a grant to Loyola Marymount to fund a study that will provide a database itemizing all studies and plans that have been prepared on the Ballona Creek Corridor. Completion of the study is expected at the end fall 2003.

2.4.12 Environment Now Ballona Creek Project

The non-profit environmental organization, Environment Now, was awarded a grant from the Baldwin Hills Conservancy to fund an enhancement project along Ballona Creek. The organization is looking for matching funds that could be used in conjunction with the \$245,000 grant to select and construct a demonstration project.

2.4.13 Joint Powers Maintenance Authority

City of Los Angeles Councilwoman Cindy Miscikowski and Congresswoman Jane Harman have taken leadership roles with regard to the development of a Joint Powers Maintenance Authority for streams in the Los Angeles Basin. They have contacted other elected officials and worked with the appropriate local, state, and federal agencies to determine the level of interest in creating an agency that could manage and maintain Los Angeles Basin streams in a direct and consistent manner. While this issue has not yet been resolved, its eventual resolution will have a significant impact on the future of Ballona Creek.

Chapter 3 Challenges and Opportunities

Early in the Focused Special Study, the challenges and opportunities associated with the enhancement of the Ballona Creek Corridor were identified and evaluated. This chapter discusses those challenges and opportunities.

3.1 Flooding Characteristics and Channel Conditions

Prior to construction of the flood control channel system on Ballona Creek by the U.S. Army Corps of Engineers in 1939, the areas along Ballona Creek were subject to frequent flooding due to concentrated storm flows from upstream canyons. Records from the U.S. Army Corps of Engineers indicate that historical flooding events from major storms in the watershed were related to local drainage capacities rather than concentrated flood flows from upstream after completion of the flood control channel system. Consistent with engineering practices of the time, the construction of the Ballona Creek Flood Control Channel System as an open concrete-lined trapezoidal channel was completed by the U.S. Army Corps of Engineers during the period from 1936 to 1939. Table 3-A provides a chronology of major improvement events along Ballona Creek (USACE 1959, 1979, 1983, 1991).

Table 3-A Major Improvement Events

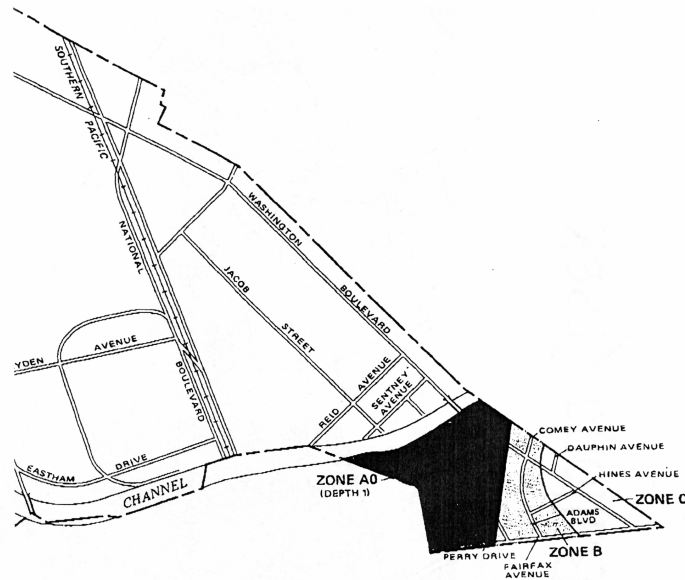
Improvement	Location	Date
Flood control channel and bridge constructions	La Salle Ave. to Vista del Mar	1936
	Redondo Blvd. to Washington Blvd.	1937
	Washington Blvd. to La Salle Ave.	1939
	Vista del Mar to Pacific Ocean	1939
Conveyance Upgrades	Channel-wide	1950s and 1960s
	Washington Blvd. to La Salle	1959
	Fairfax Ave. to Burnside Ave.	1970s
	Jasmine Ave. ¹ to Centinela Ave.	1980
	Reid Ave. ¹ to Jasmine Ave.	1983

1. Approximate

The areas susceptible to flood hazards, as established by flood insurance studies, are delineated in the Flood Insurance Rate Map (FIRM) below, prepared by the Federal Emergency Management Agency (FEMA). The FIRM for Culver City identifies only the

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area between La Cienega Boulevard and Ballona Creek north of Perry Drive as being in Zone A-O where shallow flooding overtopping the Ballona Creek flood control channel by one to three feet may occur during a 100 year storm event. By widening and reconfiguring this portion of the channel and by minimizing any further impediments to floodwaters, potential flooding of this area may be able to be alleviated. The Flood Hazard Zones are shown in Figure 3-1 below and are also depicted on sheet 3 of the Opportunities and Constraints exhibits at the end of this report.



Source: FEMA

Figure 3.1 Flood Hazard Zones

Inundation of portions of the City of Culver City from potential upstream dam failures can also occur. These dams include the Lower Franklin Canyon Reservoir, the Silver Lake Reservoir, the Stone Canyon Reservoir, Mulholland Reservoir, and the Hansen Dam as shown in Figure 3-2.

Within the boundaries of the City of Culver City, the existing Ballona Creek Flood Control Channel System is widest at the downstream confluence of Ballona Creek and the Sawtelle Westwood storm drain channel. It is narrowest at the easternmost City limits at Washington Boulevard. The sides and bottom of the channel were constructed of quarry stone mined from Catalina Island in the 1930's. Shortly thereafter, the smooth gunnite surface was applied to the stone banks and bottom to provide for the smooth flow of flood waters.

For study purposes, Ballona Creek has been divided into three segments: the Western Reach, the Central Reach, and the Eastern Reach (See Figure 2-2).

There are a variety of channel configurations found in Ballona Creek (see Figure 3-3). The Central and the Western Reaches of Ballona Creek are characterized by a wide

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trapezoidal channel measuring 230 feet from top of bank to top of bank with an 80 foot wide bottom. Channel depth ranges from 19 to 21 feet below the top of bank and the bottoms of road bridges that cross the Ballona Creek. The Ballona Creek walls extend up from the bottom at a slope of three to one to intersect the top of bank roadway berms at an elevation that provides a minimum free board of two feet above the design water elevation at the location.

The Eastern Reach, or upstream portion of the channel, is characterized as a rectangular section with trapezoidal sections above. The entire upper portion of the channel is constructed of concrete with flat sections below the top of bank that are used for maintenance and emergency vehicle access. While these flat areas flank both sides of Ballona Creek from Washington Boulevard downstream to Madison Avenue, only the north bank access is used as the Ballona Creek Trail. The channel bottom is approximately 80 feet wide, but the trapezoidal walls above the lower access roads are steeper at a slope of one and one-half to one. The top of bank width in the Eastern Reach varies from 39 feet on the upstream side of Washington Boulevard to 80 feet at and below National Boulevard. The central portion of the channel transitions between these two extremes (See Figure 3-3).

From a structural standpoint the channel seems to be in good condition with no readily apparent structural flaws. There are a number of bridge crossings at major access roads. Ballona Creek is crossed by Washington Boulevard, National Boulevard, Higuera Street, Duquesne Avenue, Overland Avenue, Sepulveda Boulevard, Sawtelle Boulevard, and Interstate 405 Highway at the western end of the City of Culver City limits. During a significant storm event, the height of the bottom of the bridges may be the greatest obstacle to flood waters.

During the public workshops for the Focused Special Study, the most fundamental concern of workshop participants was that any improvements made to the Ballona Creek Corridor should not, in any way, interfere with the ability of Ballona Creek to carry flood waters. If anything, the proposed program of improvements to the channel should enhance the ability of the Ballona Creek to continue to carry flood waters.

Because Ballona Creek conveys a volume of flood waters at a velocity that can move upwards of 25 miles per hour during storm events, the flows are too great to consider returning Ballona Creek to any semblance of a natural stream within the area confined between the existing tops of the north and south banks (source: Everest Consultants International). Everest Consultants International, hydrologists for this study, further determined that attempts to install a natural stream bottom would likely result in the scouring, or removal of earth, from the bottom of the Ballona Creek Channel by the erosive flows of water, thereby jeopardizing the structural integrity of the sides of the channel. The only way one could look toward creating a natural channel bottom in Ballona Creek would require the setting of a continuous line of deep sheet piles on both sides of the channel bottom to guard against such scouring. However, the reconfiguration and sculpting of the creek bottom and sides with terracing and plantings, could give Ballona Creek a much more natural appearance than it has today. Further, developing a

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two to three foot deep confined meandering low flow channel in the bottom of Ballona Creek could allow for cooler waters to pool and perhaps allow for the reintroduction of fish or other wildlife habitat to upper Ballona Creek in the long term, without jeopardizing the channel's ability to convey floodwaters.

At one point in the Public Workshop process, the notion of covering the entire Ballona Creek Corridor to provide space for active use recreation was suggested. While this idea was opposed by many participants of the first Public Workshop, the City of Culver City wanted to understand whether or not this could be done. While it would be theoretically possible to cover Ballona Creek, it would be prohibitively expensive, it would jeopardize the ability of Ballona Creek to carry floodwaters, and it is contrary to the Ballona Creek restoration efforts. The suggestion is also inconsistent with the U.S. Army Corps of Engineers' Policy on Crossing and Covering Flood Control Channels issued on December 1, 1990, (See Appendix D).

Therefore, it was determined that any program of improvements made to Ballona Creek will require an open channel with a continuous armored treatment for both the creek bottom and the sides of the channel.

3.1.1 Challenges

- a. It is clear that whatever improvements are made to Ballona Creek, they cannot diminish the ability of Ballona Creek to carry flood waters. If anything, the program of improvements should improve the ability of Ballona Creek to carry flood waters.
- b. With the notable exception of the area of Washington Boulevard, as identified in Figure 3.1, which is subject to inundation under a 100 year storm event, Ballona Creek is largely capable of carrying flood waters with the only constraint being height of the bottoms of a series of bridges crossing Ballona Creek.
- c. Any attempt to reconfigure the banks and bottom of Ballona Creek must maintain structural performance standards to guard against levy failure and retain the existing level of flood protection.
- d. Because of the sheer volumes and velocity of waters conveyed within the confines of the flood control channel during storm events, Ballona Creek cannot be returned to a natural channel within the current floodway easement.
- e. Any attempts to reconfigure Ballona Creek to create steeper slope sections to provide for landscaping and recreation areas still need to be armored to guard against the erosive flows of Ballona Creek.
- f. The notion of providing a natural bottom to Ballona Creek would be extremely difficult and expensive requiring the lining of the natural bottom

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with sheet piles to guard against the likely scouring that would come with erosive creek flows.

3.1.2 Opportunities

- a. The relatively gently sloping sides of the concrete lined Ballona Creek along the wide section of Ballona Creek, downstream of Madison Avenue, allows ample room to develop steeper walls with room for plantings, trail terraces, and trails that could be designed in such a way as to make the creek much more attractive while increasing the cross sectional area with which to carry flood waters.
- b. The channel sections are constructed of quarried rock lying on shallow slopes and covered with smooth gunnite. Reconfiguration of Ballona Creek Channel to create steeper walls and provide additional cross sectional area, properly armored, could improve the ability of Ballona Creek to convey flood waters and avoid stream bank erosion.
- c. During the course of reconstruction of Ballona Creek, the reuse of the quarry rock underneath the gunnite on the reconfigured banks of the channel could serve as a major source of building materials to apply as stone veneer on the reconfigured bank retaining walls that will protect the channel sides and provide for an aesthetic appearance to the sides. Similar treatments have been utilized at the Prince Memorial Greenway in downtown Santa Rosa, California. This use of a textured surface may also serve the purpose of minimizing noise echoes.
- d. A continuous grouted low flow channel, approximately three feet wide and three feet deep, could provide for a stream of cooler water that might invite the reintroduction of fish species and other natural organisms to Ballona Creek. This low flow channel, which is a technique that is often used in restoring concrete-lined drainage channels, could meander along the Ballona Creek bottom. The channel bottom could also be lined with grouted boulders to give it a more natural appearance.
- e. Improved maintenance and vehicle access areas can provide a cleaner looking creek as well as better emergency access.

3.2 Trail Conditions and Access

At present, the Ballona Creek Trail System extends along the north side of Ballona Creek from Syd Kronenthal Park to the east all the way to Santa Monica Bay to the west. Access to the trail and transition ramps are presently at National Boulevard, Duquesne Avenue, Overland Avenue, the pedestrian bridge by Farragut Middle School, Sepulveda Boulevard and Sawtelle Boulevard.

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From Syd Kronenthal Park to Madison Avenue, the trail lies considerably below the top of the north bank along a flat section within the concrete lined channel. There is also a similar flat section along the south bank for much of the same length. At Madison Avenue, the path transitions to the top of bank where it remains all the way to the western Culver City limits. Once reaching the limits of the City of Los Angeles, it continues on the top of the northern bank with the exception of transition ramps below the Sepulveda and Sawtelle Boulevard Bridges.

The existing trail generally measures 10 feet wide, which is narrower than the 12 foot width required by CalTrans standards for multi-use trails. There are also a number of spots along the trail where unsafe conditions, such as excessive cracking and standing water due to cross drains coming into Ballona Creek above the bicycle path system, exist. Further, the open pipe guard rails with cables do not meet current standards for guard rails and the transitional ramps on the trail system are too steep to meet Americans with Disabilities Act (ADA) accessibility requirements.

Most of the residents adjacent to the trail system have opposed providing any additional trail connections through their neighborhoods for fear of parking intrusion. Some residents have indicated that some of the Top of Bank improvements are located too close to their homes. Some residents are of the opinion that trail improvements may attract undesirable elements to their neighborhoods and properties. The records of the City of Culver City Police Department reveal minimal criminal activity along the trail.

3.2.1 Challenges

- a. Some creekside residents object to creating any additional trail connections into their neighborhoods.
- b. There are a number of unsafe conditions along the trail caused by standing water from upstream drainage outlets crossing the path.
- c. While the path is currently open at all hours, excluding storm events. Some neighboring residents would like to close the path system during evening hours. At the same time, others fear that closing the trail in the evenings may invite more criminal activity and decrease bicycle commuting opportunities.
- d. The trail system does not meet current CalTrans standards for multi-use paths for width, height, and density of the guard rail, or ADA accessibility standards.
- e. Widening the trail to meet CalTrans standards would require reconfiguration of much of the channel.

3.2.2 Opportunities

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- a. The flat access areas below the top of bank section along the south bank of the Eastern Reach of Ballona Creek offers an opportunity to create an ADA accessible trail between Washington Boulevard and the pedestrian bridge just west of Overland Avenue.
- b. Reconfiguration of the Ballona Creek bank to relocate the top of bank trail further away from residential areas appears to be physically feasible.
- c. The reconfiguration of the northern bank of Ballona Creek would also allow the northern path to be brought up to width, guard rail, and ADA accessibility standards required for the trail.
- d. There is an opportunity to extend the north bank trail below the top of bank between Syd Kronenthal Park and Washington Boulevard, providing continuous trail access from a major commercial boulevard at the eastern City of Culver City limits to the Santa Monica Bay.
- e. The development of light rail transit on the Exposition Right-of-Way by the Metropolitan Transportation Authority provides the opportunity to create additional transition ramps to the trail system downstream from the National Boulevard crossing.
- f. There are some opportunities for creating rest stops with benches and water fountains for users of the trails, particularly at the east corner of Overland Avenue and behind the Julian Dixon Library immediately downstream from Overland Avenue.
- g. The further improvement of the trails system on Ballona Creek will make it more attractive to existing trail users and commuters with the additional benefits of lessening traffic, reducing parking demand and community noise levels, and improving public safety by placing more eyes on the trail by law abiding citizens.

3.3 Jurisdictional Fragmentation

One of the primary considerations in developing the Focused Special Study is the issue of maintenance and operations. *Which agencies maintain Ballona Creek and its facilities today? To what standard do they maintain it? And, which agencies will maintain Ballona Creek after it has been improved?* These critical questions arose early in the process and they need to be answered conclusively before any extensive improvements can be made to the Ballona Creek.

At the outset of the study process a Technical Advisory Committee, composed of a variety of officials from the City of Culver City, the County of Los Angeles, and other state and federal agencies as well as interest groups and organizations with a stake in the outcome of the Focused Special Study, was formed. The goal of the Technical Advisory

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Committee was to identify and address issues and ideas associated with improvements to and maintenance of Ballona Creek from an institutional perspective.

Five different agencies and organizations currently maintain Ballona Creek with differing standards of maintenance. Those agencies, responsibilities, and maintenance standards are as follows:

- a. **United States Army Corps of Engineers.** The U.S. Army Corps of Engineers maintains the flood channel from Jacob Street, which is within the City of Los Angeles, downstream to Madison Avenue just west of Duquesne Avenue. The primary responsibility of the U.S. Army Corps of Engineers is to ensure that the structural section of the channel remains intact. While they trim vegetation if it interferes with their maintenance vehicles, the U.S. Army Corps of Engineers rarely conducts any Ballona Creek clean up activities.
- b. **The Los Angeles County Department of Public Works.** The Los Angeles County Department of Public Works maintains the flood channel along the section of Ballona Creek between La Cienega Boulevard and Jacobs Street on the far eastern end of Ballona Creek, as well as the area downstream from Madison Avenue to beyond the City of Culver City limits. The County of Los Angeles ensures the structural integrity of the channel, and conducts frequent clean-ups, including the removal of large debris.
- c. **The City of Culver City Public Works Department.** The Culver City Public Works Department is responsible for maintaining that portion of the Ballona Creek Trail along the north bank between the Syd Kronenthal Park on the east and Nichols Avenue to the west and is also responsible for maintaining the trail, guard rails and transition ramps throughout Culver City. Culver City Public Works sponsors the annual Ballona Creek clean up with the help of Ballona Creek Renaissance.
- d. **The City of Los Angeles Public Works Department.** The City of Los Angeles maintains a small stretch of the Ballona Creek Trail along the north bank of Ballona Creek between South Nichols Avenue and the confluence of the Sawtelle Westwood storm drain channel in Ballona Creek to the west of the Interstate 405 freeway.
- e. **Ballona Creek Renaissance.** Together with the City of Culver City Public Works Department, Ballona Creek Renaissance, a local nonprofit organization, co-sponsors an annual Ballona Creek clean up in September and organizes volunteers for the event. Last year's Ballona Creek cleanup resulted in the removal of upwards of 33 tons of debris from Ballona Creek.

There are a number of other agencies and groups that play important roles in the operations and management of Ballona Creek. As part of the work on the Focused Special Study, a Jurisdictional Matrix was prepared to illustrate the various roles that a

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number of Local, County, State, and Federal agencies, as well as nonprofit organizations, play within the Ballona Creek Corridor (See Figure 3-4).

This matrix depicts the level of involvement of a number of local, state, and federal agencies, as well as nonprofit organizations, that are involved in a wide variety of activities on Ballona Creek including permitting, construction of improvements, maintenance, security, public safety, and funding.

Completing this matrix revealed significant fragmentation between agencies responsible for the maintenance and upkeep of the channel and the lack of cohesive and clear strategy for maintaining Ballona Creek in the future.

If the projects recommended in the Focused Special Study are implemented, these fractured maintenance responsibilities and differing standards of maintenance need to be resolved.

The Focused Special Study Technical Advisory Committee which included representatives from many of these agencies, held a total of six (6) meetings to identify the challenges to and strategies for creating a cohesive strategy for the long term operations and maintenance of Ballona Creek.

Despite the significant challenges, a number of options and strategies were discussed. Those options include the following, with their related implications:

1. The US Army Corps of Engineers (USACE)

Since the USACE already has maintenance responsibilities over a portion of Ballona Creek, the USACE was approached about possibly sponsoring a cohesive maintenance strategy for Ballona Creek. In response, the USACE has indicated that it is trying to get out of its responsibilities for maintaining creek systems as part of national strategy. The USACE indicated during the Technical Advisory Committee meetings that if any major changes were to be made to the configuration of Ballona Creek trail, it would absolve itself of its maintenance responsibilities.

2. The Los Angeles County Department of Public Works

The Flood Maintenance Division of the Los Angeles County Department of Public Works is presently responsible for maintaining the greatest length of the Ballona Creek Channel. Given its current responsibilities, this agency was viewed as an agency that could likely assume greater responsibility for maintenance and operations of Ballona Creek. However, when approached about their ability to accept this responsibility, the department explained that they did not have the resources to do so. For the type of projects proposed in the study, the department takes the position that any entity that makes an improvement to a portion of

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Ballona Creek within the County's jurisdiction must submit for approval a plan detailing provisions for maintenance of those improvements.

3. The City of Los Angeles Public Works Department

The City of Los Angeles' responsibilities are limited to maintaining the bike trail and its related facilities for the portion of the trail in the City of Los Angeles. The City of Los Angeles has no desire to accept maintenance responsibilities for all of Ballona Creek.

4. The City of Culver City

While the City of Culver City's maintenance responsibilities are limited to the maintenance of the trail and its ancillary facilities on the portion of the trail that falls within the City limits, the City of Culver City has indicated that it wishes to limit, if not eliminate, its maintenance responsibilities for Ballona Creek. Some City leaders stated early in the study process that the City of Culver City would not support improvements, if it had to pay for installation, maintenance or operations of the improvement. Culver City will be looking to an outside management entity to assume maintenance and operations responsibilities for Ballona Creek. Any outside maintenance agency would need to maintain Ballona Creek and its facilities at a standard that is acceptable to the City of Culver City.

5. A New Joint Powers Authority

It is the recommendation of this study that the City of Culver City, in partnership with other responsible jurisdictions, consider options to resolve the operations and maintenance funding issues and consider such ideas as establishing a Joint Powers Authority to coordinate the long-term maintenance and operations responsibilities for the Ballona Creek and Trail System. Although there is a developing dialogue occurring between the County and City of Los Angeles, particularly with Congresswoman Jane Harman and Los Angeles Councilmember Cindy Miscikowski to address the notion of possibly forming a Joint Powers Authority that would have one agency accept fundamental responsibility for the maintenance and operations activities along Ballona Creek, no agency has volunteered to financially support the development of a Joint Powers Authority. It is clear that identifying the funding source of a Joint Powers Authority has been and will continue to be of paramount importance.

Because it is apparent that the City of Culver City leaders may not support making any of the improvements suggested in this Focused Special Study, without first developing long-term maintenance agreement that would not financially burden the City of Culver City, a long-term maintenance and operation plan is a critical issue to resolve prior to implementing capital improvements.

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3.3.1 Challenges

- a. There are fractured jurisdictional responsibilities for maintaining certain segments of Ballona Creek and its improvements and differing standards of maintenance activities between maintenance agencies.
- b. The U.S. Army Corps of Engineers has expressed interest in divesting itself of maintenance responsibilities and focusing on providing funding and expertise for possible capital improvements that would occur along the Ballona Creek Corridor. The U.S. Army Corps of Engineers has clearly stated that they are not interested in being the primary agency responsible for maintenance of Ballona Creek.
- c. The City of Culver City does not wish to accept any additional maintenance responsibilities for Ballona Creek.
- d. There is conflict amongst the standards and variety of public improvements such as guard rail fences, graffiti abatement, signs, etc. that often gives Ballona Creek a cluttered appearance.

3.3.2 Opportunities

- a. There seems to be an emerging and sincere interest on the part of the agencies and elected officials to develop a Joint Powers Authority with responsibility for maintaining the creek and river systems of Los Angeles County, including Ballona Creek.
- b. There may be an opportunity for the Baldwin Hills Conservancy to get involved in not only constructing improvements along the Ballona Creek Corridor, but managing and, maintaining, it as well.

3.4 Funding and Implementation

As conceived, the Focused Special Study embraces a number of improvements that will be expensive to build and maintain over time. As such, a very deliberate effort was made to explore the potential range of opportunities there might be for local, state, and federal funding to implement these ideas.

Ballona Creek Renaissance conducted extensive research into potential funding programs. As a result, the attached chart (Table 3-B) of potential funding sources has been prepared to outline the various programs, the agencies responsible for the programs, the amount of the local match required, and the dates for submitting grant applications. This chart is a living document subject to updates, additions, and deletions.

In implementing the projects identified in the Focused Special Study, the City of Culver City and others interested in the improvement and upkeep of Ballona Creek will need to

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be very aggressive in obtaining funding for a variety of projects that could be strategically pursued over time. Among the various potential sources of funding are the following:

- a. The California Coastal Conservancy.** This agency, which provided the funding for the Focused Special Study has indicated that it has a long term interest in facilitating the implementation of improvements to Ballona Creek. With its extensive allotments of Proposition 40 and Proposition 50 Bond Act funds—funds that the California State Governor cannot touch as part of the current State budget crisis—the Conservancy has formally expressed a willingness to continue to assist in funding special projects for Ballona Creek improvements.
- b. The Santa Monica Bay Restoration Commission.** In 2002, SB-1381 (Kuehl) established the foundation for this new commission. To a large extent, it is an evolution of the Santa Monica Bay Restoration Project and related Santa Monica Bay Watershed Council, which will be administrating about \$15 million in Proposition 12 funds, \$20 million in Proposition 50 funds, \$3 million in the Ballona Creek Stormwater B and P Program, and other programs.
- c. The Baldwin Hills Conservancy.** In view of the legislation creating the Baldwin Hills Conservancy, including the 50 yard wide area on either side along Ballona Creek, the City of Culver City and the State Coastal Conservancy could look to the Baldwin Hills Conservancy to play a role in funding a number of the major improvements to the Ballona Creek Corridor. This could include the land bridge connecting Ballona Creek to Baldwin Hills Park, as well as the reconfiguration of Ballona Creek to provide safer trail access that would connect the Baldwin Hills Park to Santa Monica Bay.
- d. The Metropolitan Transportation Authority.** The MTA has served as a major source of funding for new and improved bikeways within the City of Los Angeles and the County of Los Angeles including access enhancements. However, the California State budget crisis may affect the availability of these funds in the future. An MTA “Call for Projects” occurs every two years with the next Call for Projects in 2005. In view of the need to bring the path systems up to ADA accessibility compliance, to create more connectivity with the proposed MTA Exposition Light Rail Line, and to expand trail access on the south bank of Ballona Creek, the MTA may be able to play a significant role in funding these projects.
- e. The U.S. Army Corps of Engineers.** The U.S. Army Corps of Engineers has indicated an increasing interest in helping design and fund creek restoration projects. The U.S. Army Corps of Engineers has a program for spending upwards of seven and a half million dollars on a significant creek restoration projects. The procedures for obtaining those funds will rely heavily upon connections with the local congressional representatives. While these funds can be budgeted for certain creek improvements, it is the U.S. Army Corps of Engineers that often spends the

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funds and designs and evaluates the environmental impacts associated with such projects.

- f. **Southern California Association of Governments (SCAG).** County Transportation Commissions have the responsibility under State law to propose county projects, using the current Regional Transportation Plan's policies, programs, and projects as a guide. The locally prioritized lists of projects are forwarded to SCAG for review. A biennial report is produced on an even year cycle.

As we proceed through the implementation of the next phase of work of the Focused Special Study, the City of Culver City and other interested agencies will need to focus carefully on these sources of funding to match the grant source to an identifiable project that can meet the grant's criteria.

3.4.1 Challenges

- a. While there a large number of funding programs with a variety of local, state, federal, and nonprofit organizations, it is unclear whether, and if so, how, the State budget crisis will affect sources of funding and the ability of the City of Culver City to achieve the implementation of the recommendations of the Focused Special Study, should the City decide to do so.
- b. While the State Coastal Conservancy could be the next logical source of funding to proceed with the first step of implementing the Focused Special Study as outlined in Section 11 of this report, the State Coastal Conservancy has made it clear that it does not want to be the sole source of funding for implementation efforts.
- c. The City of Culver City is unable to bear any additional expense associated with maintenance and upkeep of the Ballona Creek when the Focused Special Study is completed.

3.4.2 Opportunities

- a. There continues to be a significant amount of funds left in State Proposition 40 and Proposition 50 Bond Act funds that could be administered by a number of agencies including the State Coastal Conservancy, the Baldwin Hills Conservancy, and others consistent with project implementation.
- b. Ballona Creek Renaissance can play a significant role in staying up to speed on grant sources and funding possibilities for project implementation. The City of Culver City can tap Ballona Creek Renaissance's skills and connections to assist in obtaining grant funding, along with regional matching funds for project implementation. Ballona Creek Renaissance could also help coordinate with residents.

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- c. Appropriate nonprofits such as Ballona Creek Renaissance and Los Angeles Conservation Corps can work with public agencies to help extend their resources, implement certain improvements more economically and obtain valuable community buy-in in the process with such maintenance related programs as “Adopt-a-Creek” to augment their efforts.
- d. To maximize the opportunities for grant funding, projects with multiple benefits that appeal to a cross section of funding sources should be pursued.

3.5 Opportunities and Constraints Exhibits

The Opportunities and Constraints Exhibits presented in Figures 3-5, 3-6, and 3-7 were generated early in the planning process and presented at the first public workshop. These exhibits were updated during the course of this effort to depict the city limits between the City of Culver City and the City of Los Angeles as well as the location of the existing bicycle trail and supporting facilities. They also show the following opportunities and constraints:

- a. Opportunities
 - Potential new connections to the trail system
 - Existing public open spaces
 - The Baldwin Hills Conservancy area
 - Several candidate demonstration projects for improvements that could be made to Ballona Creek.
- b. Constraints
 - Flood Zone AO, areas of 100 year shallow flooding
 - Flood Zone B, areas between 100 year and 500 year flood limits
 - Bikeway Maintenance Zones
 - Channel Maintenance Zones
 - Areas of resident concerns

Although these exhibits indicate a large number of potential new trail connections to existing residential areas, the planning process resulted in dropping the notion of establishing any new trail connections to residential areas in response to neighborhood concerns.

Chapter 4

The Public Outreach Process

In order to meet the challenge of integrating the seemingly competing goals of maintaining the ability of Ballona Creek to safely carry floodwaters, while at the same time creating a landscaped linear greenway and public trails system, public and agency outreach and engagement had necessarily become an essential part of the study effort. This chapter outlines the facets of the public process pursued as a part of the Focused Special Study and the outcomes of each step in the process.

4.1 Key Stakeholder Interviews

At the beginning of this process, a series of key stakeholder interviews were conducted to draw out public opinion on the issues facing the effort and to garner feelings about what Ballona Creek should become. RRM Design Group held candid, one-on-one interviews over a two (2) day period with multiple stakeholders involved with Ballona Creek, its use, and its management in order to better define core issues, opportunities, and challenges. These interviews included meetings with the City of Culver City staff, City of Culver City Commissioners, Council members, with organizations such as Environment Now, and other interest groups. RRM Design Group also interviewed property and business owners abutting Ballona Creek, the State Coastal Conservancy, Baldwin Hills Conservancy, Los Angeles County and State elected officials, the U.S. Army Corps of Engineers, as well as other agencies and jurisdictions with an interest in Ballona Creek. Stakeholders were interviewed for 30 minutes and each voiced their concerns, perceptions, and hopes for Ballona Creek.

The most frequent comment was the expressed desire for a more “green” Ballona Creek. Interviewees felt this would add a park-like feel, encouraging improved use of Ballona Creek by both people and wildlife. Along with the idea of enhanced landscaping, a preference for the use of native landscaping emerged.

While enhancing Ballona Creek was the main refrain, stakeholders did not want that enhancement to come at the cost of the ability of Ballona Creek to carry flood waters. A number of stakeholders stated that the “concrete is there for a reason” and while their preference was for a more attractive Ballona Creek, protecting public safety and property remains a fundamental priority.

A number of other concerns came out of these interviews, including the frequently mentioned issue of cleanliness and maintenance of Ballona Creek, and the future costs associated with it. General maintenance issues were brought up by almost all stakeholders. Water quality was another issue mentioned, while maintaining and improving the bike path was advocated by the commuters, recreational users, and some government officials.

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Also emerging as a concern was public safety along the trail. Though the City of Culver City Police Department's crime statistics indicate otherwise, there is a general perception among some residents that the path is not safe. While some disagreed with the statement, all felt that the perception was there. Public safety officials noted that lighting along the trail would be helpful. Other stakeholders requested that lighting be considered in the study, especially at crossings, while other nearby residents opposed lighting because spill over illumination or glare could conflict with the enjoyment of their properties and because additional light could encourage nighttime use of the trail, increased noise and increased security concerns.

Additional pedestrian connections were supported amongst key stakeholders with the most favored connection being a bridge from the area formerly known as "Vista Pacifica" to Ballona Creek. Some supporters of this idea specifically asked for a land bridge or something more substantial than a pedestrian bridge. Many stakeholders envisioned the replacement of the pedestrian bridge at the school. The Culver City Public Works Department constructed a replacement bridge in October 2003, as part of a separate project.

There were many other comments made that did not come up as frequently during the interviews but still deserve mention. Among those was the request to provide interpretive and educational exhibits to teach users about Ballona Creek, wildlife and surrounding areas, ADA access to Ballona Creek and Trail, and use of native vegetation to enhance Ballona Creek while encouraging more native wildlife to control rodents and pests. The idea of using an inflatable dam to allow a deeper pool of water in Ballona Creek during low flow months was mentioned to encourage wildlife, assist in improving water quality, and serve as a recreational and aesthetic amenity.

4.2 Public Workshop #1: Issue Identification and Priority Setting

This first public workshop was attended by 85 people, most of whom were City of Culver City residents. The meeting was held in the Rotunda Room of the Veterans Memorial Complex at the corner of Overland Avenue and Culver Boulevard during the evening of September 26, 2002. The purpose of this session was to identify and prioritize the issues and ideas associated with Ballona Creek.

At the workshop, the Issues, Opportunities and Constraints gleaned from the key stakeholder interviews were presented in a PowerPoint slide show. Participants were then asked their thoughts and ideas on the following eleven categories:

1. Connections
2. Restoration and Enhancement
3. Creekside Development
4. Circulation, Transportation, and Parking
5. Landscaping
6. Parks and Recreation
7. Arts and Culture

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8. Operations and Maintenance
9. Education and Interpretation
10. Public Safety

After all participant comments were recorded on banners, the audience was asked to affix different colors and sizes of dots next to each issue to rate what they liked most and what they liked least. Consistent with RRM Design Group's public workshop techniques, twice the number of green or "support" dots were distributed than the number of red or "opposition" dots to keep the workshop on a positive note. (See Appendix A: Public Workshop #1 Summary of Results).

The topic of "Connections" was the most controversial with "Parks and Recreation" drawing almost as much debate. The majority of the issues supported seemed to focus on a more natural creek with "native landscaping". At the same time, a number of participants expressed a concern for safety and noise with comments like "no new connections on residential cul-de-sacs" and opposing "24 hour access to trail".

Returning to the PowerPoint presentation, twenty five potential demonstration areas were then presented, and the unique features of each were described. Participants were then asked to select the five (5) potential demonstration areas that intrigued them most. Among the demonstration projects, the Overland Restoration and Baldwin Hills Park Connection received the most support. Participants seemed to favor areas with the most potential for public space, such as plazas or parks.

4.3 Public Workshop #2: Considering the Alternatives

The second public workshop was held at the former Culver City Senior Center, on the evening of November 14, 2002. An estimated 110 people, the vast majority of them City of Culver City residents, attended this session, though not all participated in the tape dot exercise.

The purpose of this public workshop was to present alternative approaches to Ballona Creek as broadly contrasting ideas and to obtain feedback from workshop participants as to their preferences for the different treatments to the overall Ballona Creek Corridor. Also presented were contrasting approaches to Seven (7) identified demonstration project areas along the Ballona Creek Corridor.

RRM Design Group prepared three overall alternative concepts for the corridor that were subject of a PowerPoint Presentation. Three themes were explored for Ballona Creek and its demonstration project areas. The basic precepts of the themes were as follows:

Option #1: Cosmetic:

This option limited improvements to the Ballona Creek Corridor by installing landscaping where appropriate and supported by governing agencies. This "minimalist" approach was a modest option that would work around the improvements already in place and did not envision any reconfiguration of the Ballona Creek Channel.

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Option #2: Selective Enhancement:

With an emphasis on enhancing key sections of Ballona Creek, this option increased connectivity of the trail system to the community through commercial areas. Outside of the areas selected for Selective Enhancement, the channel essentially remained unchanged and new development abutting Ballona Creek was limited to working around and with existing structures in commercial and industrial areas.

Option #3: Transformative:

The most aggressive of the options, this concept looked towards transforming the existing flood channel into an expanded continuous public linear greenway, taking into account significant enhancements along major sections of Ballona Creek as well as the redevelopment of industrial and commercial areas adjacent to Ballona Creek. It also examined the notion of a “land bridge” over Jefferson Boulevard connecting the Ballona Creek Corridor with the Baldwin Hills Park area and the new trail along the southern bank of Ballona Creek.

Three options for each of the seven (7) Demonstration Project Areas were also presented, corresponding with the three themes for the overall corridor. This added up to a total of twenty one schematic site plans that were presented, giving workshop participants a broad range of concepts. After the presentation of the alternatives, the audience was asked to affix different colors and sizes of dots to the plans. The dots allowed participants to select the concepts they most preferred as well as the concepts least preferred for each of the seven (7) Demonstration Project Areas. Again, in the interest of keeping the meeting on a positive note, participants were given more green dots than red dots, but the red dots were used to show areas of potential controversy. As a result of this exercise, a clear idea began to emerge to guide the creation of improvements included in the Focused Special Study.

While the Selective Enhancement (Option B) approach for Ballona Creek enjoyed the least opposition and proportionally the most support over its level of opposition, participants seemed to prefer the Transformative approach (Option C) for five (5) of the seven (7) Demonstration Project Areas. Generally speaking, the results showed support for a group of concepts that accommodate some attributes of all three options. Therefore, we turned to the input received on the Demonstration Project Areas to obtain more specific direction in preparing the Focused Special Study. (See Appendix B: Public Workshop #2 Summary of Results)

- ***Demonstration Project Area #1: Ocean Drive at Overland***

Participants seemed supportive of the two primary features of The Selective Enhancement Approach (Option B) with stronger top of bank landscaping and transitional paths to the water’s edge. While participants did not support the extension of a recreational trail along the south bank west of the new pedestrian bridge to Cota Street associated with the Transformative Approach (Option C), the other attributes of that option were supported, including a more restorative

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demonstration project between Overland Avenue and the new pedestrian bridge to the school.

- ***Demonstration Project Area #2: Jefferson Interface***

While the Selective Enhancement Approach (Option B) showed strong support, the vast majority showed support for the Transformative Approach (Option C), proposing a significant redevelopment area starting at the corner of Jefferson Boulevard and Overland Avenue. This concept, which envisioned a major parkway element that would open onto Jefferson Boulevard, with significant creek terraces below, seemed to capture the imagination of participants. Also, shifting the vertical elevation of the northern bank bike path slightly down the slope from its current location and providing vertical separation between the bike path and existing residential areas to the north was strongly supported.

- ***Demonstration Project Area #3: Pearson Street***

The Selective Enhancement Approach (Option B) which proposed some private use overlooks behind south bank businesses and enhanced pedestrian bridges, received the least amount of support, but it also did not receive opposition. The Cosmetic Approach (Option A), providing enhanced landscaping, had almost equal support and no opposition. The Transformative Approach (Option C) proposing an overlook and transition path down to the water's edge with a low-water crossing enjoyed the strongest support. However, it also incurred some fairly strong opposition.

- ***Demonstration Project Area #4: Duquesne Crossing***

The strongest support for this project area was the Transformative Approach (Option C), envisioning the reorientation of businesses on the south bank to create overlooks and possibly some additional pedestrian improvements along Ballona Creek bank as well as significant landscaping on top of both banks. The modest proposals of the Selective Enhancement Approach (Option B) of creekside overlook development and additional landscaping received some significant support, but most notably, almost no opposition.

- ***Demonstration Project Area #5: Baldwin Hills Connection***

Envisioning the creation of a land bridge spanning across both Jefferson Boulevard and Ballona Creek with transition ramps on both the south and north banks, the Transformative Approach (Option C) enjoyed the strongest support, while receiving modest opposition. The Cosmetic Approach (Option A), which proposed adding an at-grade pedestrian crossing at Jefferson Boulevard and a new pedestrian bridge across Ballona Creek to the Baldwin Hill Park area, received the second most support. The opposition to this option, however, was considerably stronger than its support. The Selective Enhancement Approach (Option B), proposing an at-grade crossing at Jefferson Boulevard and an additional pedestrian bridge down stream, received limited support and opposition only slightly stronger.

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- ***Demonstration Project Area #6: Syd Kronenthal Connection***
The Selective Enhancement Approach (Option B) showing the trail extending beyond its present location below the top of the north bank to Washington Boulevard enjoyed relatively strong support with very little opposition. The strongest support was for the Transformative Approach (Option C) which envisioned trails on both sides of Ballona Creek and a bridge connection from Syd Kronenthal Park to a tributary channel to the east. Option C did incur some moderate opposition.

- ***Demonstration Project Area #7: Washington Boulevard***
The Selective Enhancement Approach (Option B) that was a modified approach to the stretch of Ballona Creek between Washington Boulevard and La Cienega Boulevard similar to the Rafalian proposal that envisioned covering the portion of Ballona Creek, enjoyed the strongest support by far and very little opposition. The Transformative Approach (Option C) proposing overlook and terrace treatments on both sides of Ballona Creek in this area received moderate support and also moderate opposition.

The final tally of the tape dot exercise for the demonstration project areas revealed that the Transformative Approach (Option C) was supported in five of the seven demonstration project areas and the Selective Enhancement Approach (Option B) was preferred in two of the seven demonstration project areas. This suggested that the recommended improvements should be guided by the “Transformative” approach while including some elements of the “Selective Enhancement” option. While there was virtually no support for the Cosmetic Approach (Option A), participants did recognize that many of the ideas in Option A would be a major improvement to Ballona Creek and could serve as a first phase of improvement for the other two Options.

4.4 Public Workshop #3: Considering Refined Conceptual Improvements

The third and final public workshop focused on a refined design solution that blended concepts associated with the Selective Enhancement and Transformative Options, and integrated the concerns of local residents balanced with the issues faced by governmental agencies.

At this session, which was attended by approximately 125 participants, RRM Design Group reviewed the purpose and outcome of previous workshops, followed by a PowerPoint presentation of the Guiding Design and Planning Principles (see Chapter 5) derived from the public process that lead to the recommendations of the Focused Special Study. A detailed presentation of the recommendations was followed by an extensive question and answer period. Workshop attendees were then asked to fill out a comprehensive questionnaire designed to give specific direction on what the Focused Special Study should look like.

The vast majority of the respondents to the questionnaire were residents of the City of Culver City and over half worked in the City of Culver City. Participants were asked to rank the recommended improvements on a scale from 1 to 5, with 1 being “excellent.”

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With an average of 2.2 or “Good,” the recommended improvements were generally well received. Other questions asked attendees to rank their preference on given goals and objectives with “Beautify the Creek” showing overwhelming support, and “provide more accessibility for the trail” receiving the lowest ranking, reiterating our findings from previous workshops. (See Appendix C: Workshop #3 Summary of Results)

Chapter 5 Design and Planning Objectives

The implementation section of the City of Culver City's General Plan, Land Use, and Open Space elements as adopted in 1996, calls for the creation of Focused Special Studies to evaluate the special needs and opportunities of certain select areas in the community. The General Plan calls for the development of the Ballona Creek and Trail Focused Special Study to determine whether there is potential for enhancing its use as a recreational resource using city, private, and/or multi-agency funding, while recognizing its primary purpose as a flood control channel.

The City of Culver City envisioned that the Focused Special Study include joint participation of Los Angeles County Department of Public Works, the U.S. Army Corps of Engineers, other public agencies with jurisdictional interest in Ballona Creek, residential and business property owners adjacent to Ballona Creek, and recreational users of the bike path.

5.1 General Plan Policies

The original purpose of the Focused Special Study was to develop a basis of information that would serve multiple purposes including the following, as found in the General Plan:

- a. **Protection of adjacent residents from the use of Ballona Creek as a crime corridor.** It is the perception that yards that adjoin Ballona Creek are vulnerable to intruders.
- b. **Buffering adjacent residents from noise echoes.** A number of residents along Ballona Creek have complained about existing noise echoes emanating from the San Diego Freeway as well as from certain businesses along Jefferson Boulevard, further to the south of Ballona Creek.
- c. **Fragmentation of jurisdictional control.** Addressing the concern that there are multiple jurisdictions with fractured responsibilities along the Ballona Creek Corridor was cited as a major issue.
- d. **Improvement of the general condition and appearance of the channel and bike path.** Many improvements are needed to enhance user safety as well as the quality of the trail experience such as landscaping and amenities.
- e. **Increasing access and use potential.** Relatively long sections of the path have little or no visual access or means of exit in emergency situations.

5.2 Public Process Guidelines

Beyond the core reasons outlined above for the preparation of the Focused Special Study, a number of new and additional planning principles associated with the Focused Special

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Study emerged from the public process. Those additional guiding objectives, outlined on the following pages, have been used in developing the recommendations of the Focused Special Study.

5.3 Ideas for the Recommended Conceptual Improvements

Based on the results of the public outreach workshops, the Design and Planning Objectives, and multiple meetings with the Technical Advisory Committee (TAC), RRM has formulated a series of recommended conceptual improvements for the Ballona Creek and Trail Focused Special Study. The direction received from the public process and TAC meetings was to create an environment where people can enjoy Ballona Creek, including:

- Provision of trails on both the north and south banks of the Ballona Creek using multiple pedestrian connections and transition ramps to improve access without connecting to established residential neighborhoods,
- Creation of a linear greenway environment using extensive native landscaping along the top of the banks,
- Vertical separation of the trail from existing residential areas to dampen noise created on the trail,
- Provisions for and encouragement of public art, creek overlooks, inflatable dams, and the potential reorientation of adjacent businesses towards Ballona Creek, and
- Provision of an ultimately reconfigured channel to provide for ADA accessible trail systems, terraces, and landscape treatments while protecting the ability of Ballona Creek to carry floodwaters.

While there was strong overall support for the recommended conceptual elements, some residents adjacent to Ballona Creek continue to strongly voice their concerns and opposition over increased noise emitted from the creekside trails and adjacent businesses, increased public activity, public use areas, and public safety issues. Their perception that the trail system is not safe was addressed by public safety officials who have encouraged the use of low-glare public safety lighting to help ease those concerns.

Final Design and Planning Principles

Table 5-A

Flood Control

1. Maintain or improve the ability of Ballona Creek to convey floodwaters.
2. Take no actions that would interfere with or impair the ability to maintain Ballona Creek for the purpose of carrying floodwaters.

Quality Of Life

1. Limit new access to trails from existing residential neighborhoods to discourage trail users from parking in those neighborhoods to access the trail.
2. Provide for vertical separation and buffer between the elevation of the bike trail and adjacent residential yards.
3. Provide additional landscaping and fencing to buffer public use areas from residential yards.
4. Encourage landscaping techniques that maximize noise absorption and minimize noise echoes.
5. Design paths that would encourage users to move through the trail system.
6. Develop enforceable design guidelines for creek-side development including standards for noise and lighting (i.e. low level and low emitting lighting, shielding of light glare/spill).
7. Control the hours of operation of public use areas.
8. Enforce existing municipal, County, and Federal codes along the bike path and adjacent properties.
9. Enhance Ballona Creek as an amenity for people who already use, live, or work near the bike path.

Public Safety and Maintenance

1. Develop a maintenance and safety program to assure the health and safety of Ballona Creek and Trail users and adjacent residents.
2. Coordinate and correct fragmentation of jurisdictional responsibility such as policing, graffiti control, homelessness, and maintenance.

Aesthetics and Environment

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1. Create environments that will enhance both the scenic beauty of Ballona Creek and the property values of nearby residents and businesses.
2. Spur the low impact revitalization of creek-side commercial and industrial properties and residential improvements towards beautification.
3. Improve the general condition and appearance of Ballona Creek and trail by eliminating dilapidated conditions and devising consistent standards for creek-side fencing, safety lighting, way-finding, landscaping, and guard rails.
4. Provide suitable landscaping (i.e. native plants for certain areas, drought tolerant, or low maintenance) along the bike path and both sides of the channel.
5. Improve water quality in Ballona Creek.
6. Provide attractive signage for the Ballona Creek and Trail denoting Coastal Access.

Recreation and Use Potential

1. Provide a linkage and land-bridge connection to the Baldwin Hills Park area.
2. Provide a system of way-finding to better and more safely connect with various open space areas and parks such as Syd Kronenthal Park, Lindberg Park, Slauson Park, etc. via the trail system.
3. Seek to link the Ballona Creek bike path to other bikeway circulation systems in Culver City such as Culver Boulevard, MTA Exposition right of way and Downtown Culver City.
4. Provide trails that are ADA accessible.

Financial Resources

1. Devise a cohesive operations and maintenance strategy for Ballona Creek that does not cost the City of Culver City any more than it does today.
2. Ensure that improvements made to Ballona Creek and the trail system are funded through outside grants sources with minimal or no matching grants.

Study Process

1. Ensure that the plans for Ballona Creek are in the best interests of Culver City and its citizens.

Chapter 6 Issues and Answers

As a result of the public process and the development of the recommended improvements for Ballona Creek, there remain a number of issues and concerns regarding the Focused Special Study that must be addressed. This section is intended to present some of those issues, provide some answers, and set forth recommendations for additional work that will need to be done to obtain conclusive answers.

6.1 Flooding

The Issue

Of primary concern to the City of Culver City, residents, and businesses along the Ballona Creek Corridor is the issue of flooding. While the proposed reconfiguration of much of the channel sides and bottoms of Ballona Creek will create additional cross sectional area that will allow Ballona Creek to carry more flood waters, this needs to be documented through a HEC-RAS Study, a detailed design engineering and flood flow modeling study by the U.S. Army Corps of Engineers, that will have to be completed before any of the in-creek modifications can be pursued. Approval by the U.S. Army Corps of Engineers will be required.

Developing those detailed plans will further require detailing existing conditions and establishing a topographic survey to develop a reliable detailed design based on the recommendations of this Focused Special Study.

Of additional concern regarding flooding is the proposed installation of inflatable dams at three (3) recommended locations along Ballona Creek: one immediately downstream from Overland Avenue, another immediately upstream from Overland Avenue, and a third just upstream from the proposed pedestrian bridge at the Hayden Tract. Concerns have been expressed over the ability to manage these dams during storm events to ensure that the ability of Ballona Creek to carry flood waters will not be impacted by these features.

The Answers

Proposed creek improvements involving construction work below the top of the channel banks that may inhibit flood water flows within the channel and would require the development of specific designs and testing beyond the scope and scale of the Focused Special Study. Any such action has the potential to trigger environmental review and approval of the U.S. Army Corps of Engineers and the County of Los Angeles with additional CEQA review as well as possible National Environmental Policy Act (NEPA) review. Therefore, for the purposes of this study, all of the recommendations associated with the installation of inflatable dams and modifications of Ballona Creek banks and bottom should only be viewed as a conceptual proposals. These concepts are subject to further hydrologic analysis to confirm that the design recommendations and directions

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contained within the Focused Special Study are workable from a flood flow standpoint, and that any potential significant environmental impacts are addressed.

In order to obtain the conclusive answers to the questions and concerns about flooding, the following process is recommended:

- a. Develop an American Land Title Association (ALTA) topographic and existing conditions survey of the entire Ballona Creek Corridor traversing the City of Culver City's boundaries.
- b. Once that conclusive detailed survey has been obtained, prepare a detailed design of improvements for the entire Ballona Creek Corridor accurately depicting grades and cross sections associated with the channel modifications proposed in the Focused Special Study.
- c. Upon completion of the detailed plan, the U.S. Army Corps of Engineers would conduct a HEC-RAS Study to determine performance of the channel under design storm event. Then detailed design and construction documentation would be developed.

Should the channel, as designed, perform well and continue to contain stormwaters within the channel, the question of the new channel design's impact on flooding will be conclusively answered. On the other hand, if the proposed reconfiguration of the channel does not accommodate flood flows to the degree it does today, then further measures should be identified to change the design plan so that it is able to more readily convey flood waters while remaining consistent with the overall concept of the Focused Special Study.

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6.2 Noise

The Issue

Perhaps the greatest concern expressed by Ballona Creek Corridor neighboring residents, was that of noise. Noise and noise echoes emanating from the I-405 freeway, from the Jefferson Boulevard corridor across Ballona Creek to the south, and from users of the path itself were all cited as problems by creekside residents. The residents of the Jasmine Avenue and Jackson Avenue area had particular concerns regarding potential increases in noise levels associated with the design concept in the area between Jefferson Boulevard and the south bank of Ballona Creek. The concerns of the residents were as follows:

- a. The recent redevelopment of the “Colony” property (including addresses between 10101 and 10111 Jefferson Boulevard) between Jefferson Boulevard and Ballona Creek has opened up some of this creekside property, moving noise sources closer to residential areas and making it easier for noises emanating from the busy Jefferson Boulevard corridor to cross these more open redeveloped properties into residential areas on the north bank of Ballona Creek.
- b. The creekside public overlooks and encouragement of the orientation of creekside businesses toward the creek opposite residential areas may boost public activity. The perception is that additional increased noise from the backs of these businesses could potentially be brought to the residential areas to the north.

The Answers

Indeed, existing noise echoes are a very real problem, particularly with the smooth impervious concrete surface of Ballona Creek that serves to bounce noise echoes into those properties abutting Ballona Creek. Chambers Group, the environmental consultants on the Focused Special Study team, conducted noise readings at certain select locations along the north bank of Ballona Creek to determine the background noise levels on private and public properties under existing conditions.

Noise readings were taken in the yards of the residents who have expressed noise concerns. Those readings, taken during a weekday during the PM peak travel hour, found noise levels to be well within the tolerances set forth for residential areas in the Noise Element of the Culver City General Plan.

Should the evaluations of future project find that noise levels exceed the land use tolerances for such noise levels, mitigation measures would have to be provided. Such measures may include the construction of noise attenuation walls along selected portions of the Ballona Creek property line shared with residential properties affected by excessive noise levels, or it may involve placing noise attenuation measures closer to the source of noise (i.e. Jefferson Boulevard).

Because of these concerns, the recommended improvements have been revised to eliminate many of the public plazas and terraces along the south bank of Ballona Creek

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abutting commercial development along Jefferson Boulevard corridor upstream from the Overland Avenue crossing. The Ballona Creek Greenway, which once proposed lower terraces at the water's edge, now suggest the elimination of those terraces in favor of a greater amount of water inundation behind the inflatable dam and the de-emphasis of these improvements as public gathering place in favor of a place to go through, avoiding the lingering and loitering of the public that may be a source of continuing noise to adjacent residents. The use of inflatable dams will create the "white noise" of falling water, masking negative noise with a positive one. The use of soft landscaped surfaces, stone veneers on reconfigured concrete retaining walls, and landscape plantings on the top of bank may dampen noise levels. However, as a future study, detailed noise modeling would be conducted with subsequent environmental analysis.

The suggested orientation of creekside businesses to Ballona Creek should be proposed more as private use areas behind existing businesses than open public plazas facing residential uses across Ballona Creek. By contrast, encouragement will be given to reoriented commercial uses and industrial uses that face each other across Ballona Creek to create an ambiance and public gathering places in ways that it will not generate noise affecting residential areas.

6.3 Public Safety and Enforcement

The Issue

Through the public process, the City of Culver City Police Department clarified that the Ballona Creek and Trail has not been the focus of much criminal activity. According to the Culver City Police Department, there have been three (3) reported crimes in the Ballona Creek Channel since January of 2000. During this time, two (2) subjects were arrested for public intoxication and three instances occurred wherein subjects were arrested for tagging. No known or reported violent or sex crimes have taken place during this time period. Yet the perception remains, particularly among adjacent residents, that Ballona Creek may become a potential corridor of crime as the result of attracting more people to its enhanced recreational uses. This issue must be addressed.

The Ballona Creek reconfiguration as envisioned in the Focused Special Study may result in additional public use of its trail system. Therefore, it will require not only increased maintenance, but increased policing as well. The City of Culver City is responsible for policing most of Ballona Creek, with the notable exception of the far western end of the creek which is the responsibility of the City of Los Angeles Police Department. Unless another entity or a Joint Powers Authority can be created to take on the maintenance and operation of Ballona Creek as well as its policing, it is likely that the City of Culver City will continue with its responsibilities for policing Ballona Creek.

The issue of graffiti has also become a recent issue, particularly in the vicinity of Syd Kronenthal Park. Because graffiti is occurring on the surface of the channel which is not maintained by the City of Culver City, the responsibility for removing graffiti would normally fall to either the Los Angeles County Department of Public Works or the U.S. Army Corps of Engineers. However, because graffiti removal may not be part of their

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scope of maintenance responsibilities, it may fall back upon the City of Culver City to do something about it.

The Answers

Currently, Los Angeles County controls the opening and closing of Ballona Creek trail entryways, closed primarily only during periods of flooding. While there have been requests on the part of some neighbors to close the Ballona Creek trail during the evening hours, it is the judgment of many that such closures would, if anything, exacerbate potential criminal activity along the Ballona Creek Corridor rather than eliminate what little crime occurs along the trail system. Instead, it is felt that Ballona Creek trails should not be closed, but that their entrances from main streets should be better lighted, and that the trail be illuminated with lower level bollard lighting in ways that do not increase glare onto neighboring residential properties.

Further, the actual condition of the trail itself, with its often broken irregular surface and its pools of standing water seeping from drainage outlets to Ballona Creek above the trail system, will need to be remedied through the reconfiguration of the channel. Also recommended is the elimination of the low gates at the main accessways to the transitional ramps to the Ballona Creek Trail in favor of bollards to allow pedestrians, bicyclists, and people with wheelchairs to negotiate the path, while impeding the ability of motorcycles to use the path.

As the channel is reconfigured, provisions should be made to install heavy duty grommets in the reconstructed banks of Ballona Creek to facilitate swift water rescues.

As for the graffiti issue, perhaps as a short term solution, the City of Culver City could rely upon a nonprofit organization like Ballona Creek Renaissance to develop a program to immediately paint over graffiti as it occurs.

6.4 The Concerns of Adjoining Neighbors

The Issue

Although the public process revealed strong community support for the Ballona Creek and Trail study process, a number of concerns have been raised by some of the neighbors who own properties abutting the creek, particularly along Jasmine Avenue and at the end of Jackson Avenue on the north bank of Ballona Creek. Among the concerns that have been expressed and that have been addressed in this study are the following.

- a. Noise echoes created by users of the trail and others who may gather in public spaces along the trail.
- b. New trail connections in other neighborhoods would create parking and security concerns to the residents.

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- c. Features like the inflatable dams may not be able to be managed adequately to guarantee the ability of Ballona Creek to convey flood waters in a safe and secure manner.
- d. Perception that the Ballona Creek Trail may become a crime corridor and the subject of tagging and graffiti.
- e. Concerns about commercial and industrial development on the opposite bank of the creek, generating noise and glare issues to the residents.
- f. Concerns that the trail is too close to their properties.
- g. Uncertainty over the intentions of the Baldwin Hills Conservancy with respect to the 50-yard boundary on both sides of Ballona Creek and the impacts it may have on their properties.
- h. Fears that making the path more attractive to users may generate more pedestrian traffic, vehicle traffic and create parking problems.

The Answers

The Focused Special Study has kept residents' concerns in mind every step along the way leading to the completion of this report. Noise ratings were taken in the back yards of two residents who expressed the most concern about noise levels on the north bank of Ballona Creek. After arranging with these individuals to take those noise readings during the P.M. peak hour during a weekday, the noise readings indicated the levels were well within General Plan guidelines for noise levels in residential areas. Nevertheless, the concern about noise remains and the recommended improvement concepts were further revised to eliminate many of the public gathering places entertained in previous alternatives.

As for new accesses to the Ballona Creek Trail, there were a number of potential trail connections that could have been made to adjoining residential areas along the creek. However, in view of the concerns of residents regarding parking and the security of their neighborhoods, new trail connections to established residential neighborhoods have been eliminated.

As for inflatable dams, these are installations that are already occurring on the San Gabriel River. However, the inflatable dams could not be installed on Ballona Creek without a thorough hydrologic analysis to ensure that Ballona Creek could continue to convey flood waters to an equal or better degree than it does today. A safe plan for managing the dams to ensure that they are in the down position prior to storm events would also need to be developed.

With respect to concerns about crime, the Culver City Police Department indicates that criminal activity is almost nonexistent along the Ballona Creek Trail. Nonetheless, recommendations have been incorporated to allow for low level lighting and call boxes to increase the safety and security on the path.

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In view of the concerns regarding commercial and industrial development across the creek from residential areas and their potential to generate noise and glare, design guidelines have been developed to ensure that outdoor lighting is directed towards buildings and use areas and away from residential neighborhoods. Further, public use areas behind commercial buildings facing residences across Ballona Creek would be discouraged.

With respect to the closeness of the north bank trail to existing residents, recommendations have been made to move the trail further away from those residents, slightly down the bank along the north side of Ballona Creek to create a further lateral and vertical separation of the trail from the back yards of neighboring residents.

According to the Baldwin Hills Conservancy statute, the agency can only acquire private property within its “area of influence” if there is a willing seller. The Baldwin Hills “area of influence” includes a 50 yard area extending from the centerline of Ballona Creek. The intent of including Ballona Creek within the boundaries of the Conservancy is to make funding available for open space and recreation improvements to existing public areas on or along Ballona Creek. Properties along Ballona Creek that are adjacent to local schools, libraries and other public facilities may be considered for purchase from willing sellers to provide linkages or buffer areas that would increase the compatibility of land use with community needs, desires, and local planning documents.

As for concerns about traffic and parking, it is expected that improving the Ballona Creek Trail system will result in greater pedestrian and bicycle ridership with the result of reducing traffic and demands for parking. With the connection of Ballona Creek to Baldwin Hills State Park, parking for visitors to the State Park is expected to be created on site by the Baldwin Hills Conservancy.

6.5 Jurisdictional Fragmentation

The Issue

As previously discussed, there are multiple agencies with differing and fractured responsibilities for the maintenance and operations of Ballona Creek. The Jurisdictional Responsibilities Matrix (See Figure 3-4) discussed in Chapter 3 of this report clearly shows the wide range of activities, functions, and responsibilities of the many agencies with a stake in Ballona Creek.

The City of Culver City has made it clear from the outset that the Focused Special Study should not increase the financial burden on Culver City for maintenance and operations aspects of Ballona Creek. Since the reconfigured channel would encourage more public use and would increase maintenance activities, the jurisdictions must look for other ways of developing a cohesive maintenance strategy for Ballona Creek improvements once they are completed.

The Answer

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At this time, it appears there is great interest on the part of elected decision makers as well as the agencies in the greater Los Angeles area to address the issue of a cohesive maintenance and operations strategy for river restoration projects throughout the greater Los Angeles Basin.

This Focused Special Study recommends that the City of Culver City seek the endorsement of the Focused Special Study by agencies who play or who may play a future role in the operation, maintenance, and management of Ballona Creek to ensure their acceptance of the provisions of the Focused Special Study.

Chapter 7

Recommended Concepts

7.1 General Features and Concept Themes

Several concepts recommended in the Focused Special Study represent a consistent theme of improvements throughout the project area along Ballona Creek. These features and improvements fall within the following categories:

7.1.1 Channel Reconfiguration

- a. Reconfiguration of the channel to allow greater cross sectional area to convey flood waters while providing additional attractive areas for potential landscaping, stone veneer on channel walls, trails, and terrace improvements.
- b. Relocation of the top of north bank trail adjacent to residential areas to an area below the top of bank.
- c. Provision of a meandering rock lined low flow channel excavated into existing concrete channel bottom to promote water cooling and allow for wildlife habitat.
- d. Several transition ramps carved into the existing concrete channel to allow for increased accessibility to the trails for people with disabilities and/or bicyclists.
- e. Provision of the ability to install up to three (3) inflatable dams in the channel bottom. These dams would be 4' tall, creating a lake that would stretch approximately 330' upstream (based on the average slope of the channel, 1 ft./83 ft.) where it would meet the channel bottom. The inflatable dams would be installed to server an aesthetic, noise attenuation, and water quality control purpose in conjunction with the installation of Continuous Deflective Separation units (See Section 2.4.9 for CDS Units).
- f. Exploration of the use of "turf block", a reinforced concrete unit system that would promote native ground cover in selected portions of the channel.
- g. Provision of a South Bank trail from Washington Boulevard to the reconstructed pedestrian bridge just downstream from Overland Avenue.

7.1.2 Landscaping

- a. Landscaping is proposed along the top of the channel bank to create a greenway without negatively impacting the ability of the channel to quickly carry away flood water. Selected areas of low-growing, low-friction plants

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would be located lower down on the bank to create open space for public use and to provide connections to the water itself.

- b. Use of a primarily California native plant palette throughout the landscaped areas to create habitat, promote biodiversity, contribute to a healthier ecology, and educate the community. A partial list of regionally appropriate plant material consistent with the draft Landscape Palette of the Los Angeles County Department of Public Works is provided in Table 7.A.
- c. Landscaping at the top of bank to beautify Ballona Creek while helping to reduce the effect of potential noise pollution traveling across the creek.

7.1.3 Community Connectivity

- a. Encourage creekside businesses to reorient themselves towards Ballona Creek to promote customer and employee use and enjoyment of Ballona Creek where such businesses do not face residential areas across Ballona Creek.
- b. Encourage creekside businesses along stretches of Ballona Creek that are flanked on both sides by commercial and industrial uses to create passive use areas along their Ballona Creek frontages for local use.
- c. Encourage residents and property owners whose properties abut Ballona Creek to install native landscaping in their yards to promote natural habitat and contribute to the health of the greenway.
- d. Concentrate on strengthening the design appeal and accessibility of the trail system from existing and future access points and transitional ramps.

7.1.4 Site Amenities and Aesthetics

- a. Provision of new consistent fencing along the outer edge of Ballona Creek to provide security for surrounding properties and to safely regulate the use of the trails during the night and throughout the rainy season.
- b. Site lighting that primarily consists of low level path lighting to reduce ambient light pollution while providing safe illumination of public areas.
- c. Site furniture including, benches, tables, drinking fountains, trash and recycling receptacles, dog waste collector dispensers, and bike racks would be selected for their durability, aesthetics, functionality, and compatibility with the design theme. These products would then be used consistently throughout the Ballona Creek Corridor.

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- d. Other functional elements such as, path railings, signage, and new bridges and structures would be that express and accentuate the aesthetics and image of the City of Culver City.
- e. Additional security measures such as solar-powered call boxes and alarms to facilitate public safety.

7.2 Western Reach

The westernmost reach of this study area extends from the confluence of the Sawtelle Westwood storm drain channel at Ballona Creek opposite Emporia Avenue (below Interstate 405) to Fairbanks Way. The study proposes extensive landscaping on the tops of both banks, the continued use of the North Bank Trail for bike and pedestrian travel, and several transitional ramps that provide trail access. Recommendations for the Western Reach include:

- The creation of a new tributary trail along the Sawtelle Westwood Storm Drain Channel, providing a new north bank trail access from Slauson Avenue.
- Extension and enhancement of an existing street-end overlook on Slauson Avenue to provide a viewing area. Stairs and ramps would descend from the overlook to a waterside turf area and trail (See Section A-A).
- Enhanced landscaping at Slauson Park to enhance the park's connection to Ballona Creek and to improve its provision of habitat and biodiversity for area wildlife.
- New landscaping in a new top-of-bank continuous planter along the South Bank to include shade trees and understory planting between residential lots and Ballona Creek.
- Enhanced landscaping around street-creek interfaces and in a continuous top-of-bank planter along the North Bank.
- Installation of an approximately 4' high adjustable inflatable dam directly upstream from the pedestrian bridge. The pooled water behind the dam will be accessible for viewing from the bridge, trail, and school grounds and will be accented by enhanced native landscaping.
- Waterside trail that begins upstream of pedestrian bridge, accessible by ramp and stairs from South Bank Trail. Access point includes a small overlook/seating area at water level.

There are three trail access points in the Western Reach of the study area:

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- ✓ The proposed street-end overlook on Slauson Avenue that connects to the north bank trail and also provides stair access to the waterside grass area.
- ✓ Ramps at the north end of the Sawtelle Boulevard (existing ramp) and on the south side of Sepulveda Boulevard crossings (proposed ramp).
- ✓ The reconstructed pedestrian bridge at Ocean Drive that would provide access to both the north and south bank trails.

7.3 Central Reach

The Central Reach of Ballona Creek extends from just downstream of the Overland Avenue Crossing, near the City of Culver City Julian Dixon Library, to the interface of Baldwin Hills Park on Jefferson Boulevard. The north bank of Ballona Creek in this reach is flanked by residential lots, while properties adjoining the south bank of Ballona Creek have primarily commercial and industrial uses. Ballona Creek is crossed by two vehicular bridges at Overland Avenue and Duquesne Avenue and by above ground pipelines at the foot of Jackson Avenue.

One option explored for the Central Reach was the “Ballona Creek Greenway”, a large public space envisioned for the south side of Ballona Creek along Jefferson Boulevard just upstream from Overland Avenue that would necessitate the purchase of creekside properties and the significant reconfiguration of this stretch of Ballona Creek. However, because of the concerns registered by some residents across the creek from this area, a design option that would not involve the redevelopment of the area between Jefferson Boulevard and Ballona Creek has been prepared.

The recommended concepts include treatment for the south bank similar to that recommended along the north bank. The concept for this area includes a new south bank trail situated below the top of bank, significant landscaping on the top of bank, and an approximately 4' high adjustable inflatable dam immediately upstream of Overland Avenue. The previously considered public gathering places and the significant reconfiguration of the creek banks would be eliminated.

However, should the City of Culver City decide to consider the Ballona Creek Greenway, the Greenway would provide a promenade for viewing and interacting with Ballona Creek, and a significant landscaped open space. It would include an inflatable dam with a larger surface area, a creekside solarium restaurant with outdoor seating, an area for a native demonstration garden, a creek-top terrace with stair and ramp access to the South Bank Trail, a gazebo structure, and a large plaza with a sculptural gateway feature near Jefferson Boulevard. The lower level terraces near the waters edge shown in earlier concept drawings have been eliminated.

Noise attenuation walls would be provided along Ballona Creek Greenway's interface with Jefferson Boulevard. These walls, along with additional landscaping, would help to

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reduce the amount of noise going across Ballona Creek to residential areas from creekside commercial development.

Other conceptual improvements for the Central Reach include:

- Preservation and continued display of the existing “Postcards From Ballona” mural which faces the bicycle path just west of the Culver City Julian Dixon Library on a parking lot retaining wall.
- An outdoor café at the Culver City Julian Dixon Library that would provide a trail connection to the library and create an area for outdoor seating and resting area for trail users.
- Provision of a rest area at the northeastern corner of the Overland Avenue Crossing. The small paved space would be surrounded by enhanced landscaping and would include bike racks, seating areas, and signage.
- Provision of a new trailhead at the southwestern intersection of Overland Avenue and Ocean Drive that accesses the new south bank trail via a transitional ramp. See Section B-B
- Additional plantings to create a green parkway along Ocean Drive’s interface with Ballona Creek.
- Relocation of the north bank trail farther down the bank to create a vertical and horizontal separation of the trail from residences and to allow for a buffer of landscaping between the trail and adjacent private yards.
- Landscaping in new continuous planters along the north bank trail from Farragut School to Jackson Avenue including a double row of trees flanking the trail.
- Promotion of native, habitat-friendly landscaping in residential backyards and other property owners that border Ballona Creek. This would primarily occur through community outreach, volunteers, and education.
- Installation of a 4’ high inflatable dam directly upstream from the Overland Avenue Crossing. The pooled water behind the dam will be accessible for viewing from the bridge, trail, and Ballona Creek Greenway.
- Undergrounding the two existing pipeline bridges located near the southern end of Jackson Avenue
- Provision of an overlook at the end of Pearson Street that would include a small rest stop and trail access point with seating, a drinking fountain and creek viewing areas. Additionally, a new sidewalk along Pearson Street would provide safe

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pedestrian access from Jefferson Boulevard to the south bank trail. See Section E-E and Figure 7-B

- Preservation and continued display of the existing Rivers of the World mural near Duquesne Avenue.
- Creekside terraces in back of commercial properties along the south bank of Ballona Creek. These terraces, comprised of seating areas, landscaping, and tables would allow for the use and enjoyment of Ballona Creek by employees and would promote the reorientation of businesses towards Ballona Creek. The terraces would be vertically separated from the south bank trail, but would allow for a visual connection to Ballona Creek. (See Section F-F)

The Focused Special Study designates four trail access points for the Central Reach:

- ✓ The Overland Avenue crossing, with transitional ramps coming off of both the north and south sides of the crossing.
- ✓ The portion of Jefferson Boulevard that interfaces with the Ballona Creek Gateway, which in turn leads to the south bank trail.
- ✓ The overlook at the end of Pearson Street on the south side of Ballona Creek
- ✓ The Duquesne Avenue crossing, with transitional ramps on either end of the crossing leading to the north and south bank trails.

7.4 Eastern Reach

The Eastern Reach of the Ballona Creek extends from the interface of Baldwin Hills Park with Jefferson Boulevard to Ballona Creek's intersection with Washington Boulevard. This area offers additional opportunities for increased connectivity between Ballona Creek and its surrounding community and open spaces.

One key feature of the Eastern Reach is the proposed connection of Ballona Creek to Baldwin Hills Park. A land bridge would extend from the Baldwin Hills Conservancy Area, across Jefferson Boulevard and Ballona Creek, and would then provide ramped access down to both the north and south bank trails. Landscaping on the bridge would create a living habitat corridor for wildlife and people to move through, uninterrupted by vehicular roadways. Viewing areas, trailheads, and overlooks would also be on and around the bridge (See Section G-G).

Other improvements for the Eastern Reach include:

- Enhanced streetscape along both sides and extension of the median on Jefferson Boulevard from Baldwin Hills Park to National Boulevard. This additional landscaping would strengthen the connection of Baldwin Hills Park to Ballona Creek and provide a buffer from vehicular traffic.

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- Integration of the Samitaur Constructs conceptual design prepared by architect Eric Owen Moss for the abandoned MTA Right-of-Way space adjacent to Hayden Tract. This design, combined with the MTA Exposition Light Rail Train Line proposed for National Boulevard, would promote transit-oriented access and connections to Ballona Creek trail system.
- New pedestrian bridge connecting the Hayden Tract to Jefferson Boulevard. The eventual design of the bridge would be compatible with the potential Samitaur Constructs design concept for that area. A transition ramp would provide access from the bridge to the north bank trail.
- Installation of a 4' high inflatable dam directly upstream from the new pedestrian bridge described above. The pooled water behind the dam will be in view from the pedestrian bridge, trails, Syd Kronenthal Park, and the National Boulevard crossing.
- Increased connectivity of Syd Kronenthal Park to the North Bank Trail through the addition of a trailhead and enhanced landscaping. (See Sections H-H)
- Transition ramps from National Boulevard to both north and south bank trails.
- New tributary trail that follows the Jefferson Storm Drain Channel from Ballona Creek to La Cienega Boulevard. The Jefferson confluence and trail would be flanked by enhanced native landscaping. Additionally, the new tributary trail would consider the potential continuation of a trail in the power line easement leading to Baldwin Hills Park.
- New pedestrian bridge connecting Syd Kronenthal Park to the Jefferson Storm Drain Channel tributary trail and ramped access to south bank trail.
- New south bank promenade beginning from Washington Boulevard and terminating downstream to the reconstructed pedestrian bridge just below Overland Avenue (See Section I-I)
- Provision of a rest area with landscaping, a turf area, benches, and a drinking fountain at the top of the south bank where the new pedestrian bridge would meet the Jefferson Storm Drain Channel tributary trail.
- Ballona Creek overlook on the top of the south bank at end of Smiley Drive and Blackwelder Street that would create a rest area along the south bank trail and provide an area from which to view Ballona Creek.
- Extension of the north bank trail beyond the new pedestrian bridge connecting to Syd Kronenthal Park to Ballona Creek's intersection with Washington Boulevard. The south bank trail would also terminate at Washington Boulevard.

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- Washington creekside terrace would be a gathering space on the east side of Washington Boulevard for trail users as well as retail customers in the area, and would be constructed at street level with viewing cutouts that look down to Ballona Creek below. Overlook platforms would be integrated into the Washington Boulevard crossing.

There are six trail access points proposed in the Eastern Reach:

- ✓ Baldwin Hills Park land bridge, providing access to both the north bank and south bank trails.
- ✓ The transition ramp coming off of the northern and southern sides of the Higuera Street crossing.
- ✓ The portion of Jefferson Boulevard that directly interfaces with the south bank trail.
- ✓ The new pedestrian bridge at the Hayden Tract, which provides direct access to the south bank trail and has transitional ramps to the north bank trail.
- ✓ Transition ramps to both north and south bank trails on the National Boulevard crossing at Syd Kronenthal Park.
- ✓ The new pedestrian bridge at Syd Kronenthal Park to the Jefferson Storm Drain Channel tributary trail with access to both north and south bank trails.

7.5 Recommendations that may be Controversial

The following recommendations included in the Focused Special Study may be considered to have some controversy associated with them. Those concepts, what they entail, the nature of the concerns, how the study has attempted to address those concerns, and options for handling an area if that the improvements recommended for that area are outlined below.

7.5.1 Western Reach

a. Overlook with Waterside Edge at Slauson Avenue

The Slauson Overlook, as depicted in Section A-A proposes a slight widening of the top of the bank that would project out toward Ballona Creek at the end of Slauson Avenue with an excavated terrace and connecting paths at the water's edge near the foot of the north bank of Ballona Creek. It has been proposed as a rest area and overlook that could be used to enhance educational opportunities for children at the day care and related community facilities at the end of Slauson Avenue, including the users of Slauson Park.

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This project may be controversial in that it would allow access to the water's edge opposite the residential area adjacent to the south bank of Ballona Creek. Also, because it involves the encroachment from the top of bank out into the present flood control channel at the top of bank, which is compensated for by an excavation of the channel at the bottom of the bank, it will need to be further evaluated for its ability to convey flood waters to an equal or greater extent than the channel does today.

Should future hydrologic studies show that it does create problems for the conveyance of flood water or should further evaluations indicate that it will raise concerns on the part of the residents on the south side of Ballona Creek, an optional approach to this area would be to eliminate the overlook and waterside edge trail and concentrate on improving landscaping, fencing, and ADA accessibility at the top of bank.

b. Inflatable Dam Opposite Westwood Boulevard

The recommended Focused Special Study recommends installing three (3) inflatable 4' high dams along Ballona Creek, with one just downstream of Overland Avenue. While similar installations have been successful in the San Gabriel, there remain concerns on the part of some residents as to how the inflatable dams would function during storm events and whether they can be managed in a reliable fashion so as to guarantee residents that the dams would be in the down position during such events.

Before any inflatable dams could be installed, a detailed hydrologic study would need to be prepared and permits would need to be secured from the U.S. Army Corp of Engineers and the California Department of Fish and Game. There are also further concerns about providing a waterside trail near the dam and potential liability exposure posed by the possibility of people falling in the water and perhaps drowning. These concerns would be addressed through the inclusion of railings and other safety measures in the project design.

The inflatable dams serve both an aesthetic and water-quality function by covering up much of the bleached concrete sides and bottom of Ballona Creek with water surface. They could be installed in such a way as to catch debris and improve the quality of storm water.

Should the permitting agencies and the neighbors reject the installation of the inflatable dams, or should it be found that they would not be reliable installations capable of being managed in a way that would handle storm water flows, an option would be to eliminate the installation of these features. Under such a scenario, this stretch of Ballona Creek should be redesigned to make the area more attractive and more functional than it would be without the dam.

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c. Ocean Drive Parkway with Waterside Trail and Overlook with Stairways

The recommendations propose improving the area between the south bank of Ballona Creek and Ocean Drive. These improvements include a landscaped parkway with an overlook plaza near the end of Fairbanks Way, a waterside trail connecting to the south bank trail, and a new transition ramp at Overland Avenue to the reconstructed pedestrian bridge near the school. The south bank trail would extend beneath Overland Avenue, connect to the new trail head and transition ramp at the northwest corner of Overland Avenue and Ocean Drive, and continue down to the water's edge. An inflatable dam, 4' in height, would raise the water elevation to just below the elevation of the new trail. This area would serve as the most downstream link of the south bank trail.

This project may pose some concerns placing a new trail connection adjacent to a residential area. However, because the parkway and trail are across the street from homes within this neighborhood and not immediately behind private properties, it should not prove to be as controversial as adding a new trail behind the backyards of residences abutting the creek.

Since the replacement of the pedestrian bridge already provides for bicycle and pedestrian access from the neighborhood to the northern trail, and because the primary trail connection will be well below the top of bank except for where it daylight at Overland Avenue and the pedestrian bridge, this is one of the few areas where a trail could be provided along a residential area without causing an intrusion to the quality of life of the neighborhood.

As for any options that might be considered as an alternative to recommended improvements for this stretch of Ballona Creek, this trail segment could be eliminated, although it would jeopardize the functionality and the continuity of the entire south bank trail.

7.5.2 Central Reach

a. An Outdoor Café behind the Culver City Julian Dixon Library

The area immediately south of the Culver City Julian Dixon Library and at the top of the north bank of Ballona Creek is proposed to be converted into a terrace or patio, possibly using the basement of the Culver City Julian Dixon Library for a concessionaire to offer refreshments to trail users. While it is unclear whether the entities responsible for managing Culver City Julian Dixon Library would be interested in this idea, it should be explored.

However, it is recognized that this ample and well landscaped area is opposite the neighborhood on the south bank and may raise some issues such as noise concerns being registered by these residents similar to those upstream on Jasmine and Jackson Avenues.

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Should the community and the Culver City Julian Dixon Library decide not to support this idea, then an option involving the design of a rest stop with benches and a water fountain adjacent to the transition trail with more elaborate landscaping around the library should be explored.

b. Inflatable Dam Upstream of Overland

See discussion under 7.5.1, b above.

c. Relocated North Bank Trail Flanked by Continuous Planters

In order to address concerns of some north bank residents whose properties back up onto Ballona Creek, the study has recommended adjusting the north bank trail to a location down and away from those residences. By reconstructing the entire north bank along this stretch of Ballona Creek to allow for top of bank landscaping and constructing the trail below the top of bank, it would place the source of noise further away from the residences and further buffer these residences from Ballona Creek with additional landscaping.

However, some of the north bank residents have asked the City of Culver City to consider eliminating the north bank trail entirely in favor of the new south bank trail. If the City of Culver City is interested in considering this option it would require some fundamental rethinking of the entire study. In any event, closing the top of bank access road to the trail would not eliminate the need to retain this access for emergency and maintenance vehicles.

This option has many implications, including the necessary construction of the south bank trail before closing any segments of the north bank trail. Further, if certain segments of the north bank trail (for example, the stretch between Duquesne Avenue and Overland Avenue) were to be eliminated while retaining the remaining links of the north bank trail, cyclists would be required to exit a major street on the north bank, transition to the south bank and then again transition back to the north bank.

If the entire north bank trail were eliminated between Overland Avenue and Washington Boulevard in favor of the new south bank trail, it would require a redesign of the entire project to eliminate the land bridge connection to the north bank of Ballona Creek, to reconfigure connections to Syd Kronenthal Park, and redesign the connections to the trail from National Boulevard, Higuera Street, Duquesne Avenue, and Overland Avenue.

d. Rear Yard Landscaping in Residential Areas

Along the northern bank of Ballona Creek, particularly between Overland Avenue and Jackson Avenue, there are a series of areas sandwiched between rear yard residential fences and the public safety fencing along the Ballona Creek Channel. These areas between the fences are being used by residents as landscape areas. The title and ownership of these areas is in question, and it

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will probably not be resolved until a detailed ALTA level survey can be completed for the entire Ballona Creek Corridor.

Should the survey find that these properties are in public ownership, a new public fence should be placed at the back of private fences and these areas should be devoted to further landscaping. However, should it be found that these areas are owned by the adjoining residents, public fencing would be installed along the legal boundary between public and private ownership.

e. Pearson Street Overlook and Pedestrian Access

This concept was strongly supported by the Star Eco-Station and is one of the demonstration projects that received strong public support during the workshop process. However, upon a closer examination of conditions at the end of Pearson Street it is apparent that Moldex, a nearby industrial business, depends upon the use of the end of Pearson Street for its loading and shipping operations. Their use of this area has been a source of complaints from the neighbors across Ballona Creek to the north.

After meeting with representatives of Star Eco-Station and Moldex, a recommendation to create an overlook at the end of Pearson Street that could be, accessed both by the new south bank trail and a new sidewalk along the east side of Pearson, was included in the Focused Special Study. An area at the end of Pearson Street would be reserved for the exclusive use of Moldex and would be screened from the trail with a noise attenuation wall.

Moldex is still concerned about the safety of children gaining access to the overlook and interfering with their shipping operations. Moldex has suggested the notion of allowing children to gain access to Ballona Creek via a designated path through the internal space of the Colony's newly redeveloped property just west of Pearson Street. While the option presented in the Focused Special Study remains a valid one, the City of Culver City may need to have further discussions with the Colony, Moldex, and the Star Eco-Station to see to what extent a pedestrian right of way could be designated to provide access between Star Eco-Station and Ballona Creek through the Colony property.

f. Creekside Terraces

The recommended development of private creekside terraces behind businesses that back up to Ballona Creek on the south bank is potentially controversial because these terraces would face residential areas across Ballona Creek. These terraces would be small, private-use areas behind existing businesses to allow employees on their breaks to enjoy the use and view of Ballona Creek. Thus, it is anticipated that these improvements would not pose the potential noise source that public plazas would. Nonetheless, if concerns about encouraging the development of these small private-use areas

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behind these businesses remain, they could be eliminated in favor of further landscaping.

7.5.3 Eastern Reach

a. Encourage Orientation of Businesses Towards Ballona Creek

The recommendation that businesses fronting on Higuera Street and Hayden Place that back onto Ballona Creek orient themselves towards Ballona Creek presents an excellent opportunity for encouraging the type of creekside private terrace development that would benefit employees of the area. Because this portion of Ballona Creek does not have residential uses on the opposite side of Ballona Creek, these creekside terraces could be knit together into a publicly accessible. If the City of Culver City or the business owners decide that they would not be supportive of creating private or public-use areas behind their businesses, then the option of further landscaping these areas should be pursued.

b. New Pedestrian Bridge at Syd Kronenthal Park

The study recommends a new pedestrian bridge connection from the end of Reid Avenue that offers access from Syd Kronenthal Park to a new rest area near the Jefferson Storm Drain. This pedestrian bridge would allow users of Syd Kronenthal Park to gain access to the south bank trail by crossing Ballona Creek. The rest stop on the south side of the Ballona Creek Channel and the north side of the Jefferson stormdrain represents an opportunity to slightly expand Syd Kronenthal Park and provide a rest stop for the users of the south bank trail.

Because this pedestrian bridge connects to the end of Reid Avenue and because the rest stop would be located opposite existing residential uses, this recommendation may be a source of some concern to adjacent neighbors. Should the City of Culver City decide not to endorse this concept, the new pedestrian bridge should be eliminated or placed further downstream to provide a more direct connection from Syd Kronenthal Park to the south bank trail and the rest area should be eliminated in favor of more extensive landscaping.

c. North Bank Trail Extension to Washington Boulevard

This recommended extension of the north bank trail along an existing flat area within the northern bank of the channel to connect Syd Kronenthal Park to Washington Boulevard with a transition ramp at Washington Boulevard may be controversial because it recommends expanding access along the back of residential properties. However, because the trail would be well below the top of bank with landscaping above, it is anticipated that this portion of the project would not be as controversial as if the trail were located at the top of the bank. Nonetheless, if neighborhood opposition arises regarding the extension of the northern bank trail, it can be eliminated, with the trail terminating at its

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present location below the top of the bank at Reid Avenue and can rely upon the new pedestrian bridge connection to the south bank as the main connection to the trail.

d. The Rafalian Proposal

The Rafalian proposal is a development project envisioned for the eastern most stretch of Ballona Creek between Washington Boulevard and La Cienega Boulevard. The concepts proposed by this adjacent landowner show this stretch of Ballona Creek being covered over with a plaza, parking area, and visitor center above the parking.

The study recommends a modified version of this proposal by creating a plaza adjacent to Washington Boulevard that would be more open to Ballona Creek than is described in the Rafalian Proposal. However, any attempt to cover Ballona Creek, especially in this particular area where the 100 year flood already escapes the banks of Ballona Creek, will run counter to the U.S. Army Corps of Engineers' policy to keep channels open and will necessitate some detailed studies and special permitting if this project is to be implemented.

If the Rafalian proposal as originally conceived or as modified is not pursued, then additional landscaping could be installed in the narrow planting areas at the top of bank.

Chapter 8 Design Guidelines

The following Design Guidelines would guide creekside development in residential, commercial, and industrial areas.

8.1 General Design Guidelines

- a. The design of public improvements along the Ballona Creek and Trail such as property line fencing, walls, and signage should be consistent with the Standards for Public Improvements in Section 8.6.
- b. For those areas of Ballona Creek that are flanked on both sides by commercial and industrial uses, the development and improvement of these properties should make an effort to orient the buildings and use to Ballona Creek, providing creekside terraces, landscaping, and public use areas that will promote activity and the attractiveness of structures facing Ballona Creek.
- c. For those areas of commercial and industrial uses that face residential uses across Ballona Creek, heavy public use areas behind these businesses should be discouraged. Creekside patios and terraces should be limited to selective locations along the Ballona Creek Corridor and be for private use only. For these stretches of Ballona Creek, the trail system should be viewed as something to travel through rather than encouraging the aggregation of people.
- d. Businesses backing up onto Ballona Creek facing residential uses across Ballona Creek should still be encouraged to allow small patios and terraces, provided they are for the use and enjoyment of employees. Connection of these terraces to encourage further public use and the possible generation of noise from such public use is discouraged.
- e. Site lighting and building lighting on commercial and industrial areas should be directed away from residential uses across Ballona Creek.

8.2 Landscape Design Guidelines

- a. Encourage and promote the planting of additional native vegetation and sustainable stormwater management resources on private properties abutting the Ballona Creek Corridor and develop incentives for commercial, industrial, and residential property owners abutting Ballona Creek to install such native landscaping called for in the Landscape Guidelines.
- b. The City of Culver City should utilize the Draft Landscaping Guidelines and the native plants listed in the Plant Palette for the Los Angeles River as developed by

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the Los Angeles County Department of Public Works and Watershed Management Division that are incorporated by reference in this document, with the following notable exceptions:

1. The Draft Landscaping Guidelines and Plant Palette for the Los Angeles River has yet to be adopted and may be subject to change.
2. Planting pockets to be created between the top of bank and the trail and/or access road at the top of bank should allow for plantings of not only low grasses, annuals, perennials, and shrubs, but for trees as well, utilizing deep root planters to ensure the integrity of the new creek wall sections to be constructed in the reconfigured channel.

“Table 8-A Landscape Palette” follows item 4 of Section 8.2

3. To the extent it is feasible with the velocities and volumes of flood flows, certain areas below the top of the bank of Ballona Creek adjacent to the trail systems should include the installation of turf block strips that would be planted with native grasses and wildflowers.
4. Irrigation lines should be extended to serve the double row of plantings on both sides of the above top of bank trail and/or access road, and the City of Culver City should explore the feasibility of possibly using reclaimed water associated with this irrigation system.

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Botanical Name	Common Name
Trees	
Aesculus californica	California Buckeye
Cercis occidentalis	Western Redbud
Cornus nuttallii	Pacific Dogwood
Juglans californica	Southern California Black Walnut
Lithocarpus densiflorus	Tanbark Oak
Lyonothamnus floribundus	Catalina Ironwood
Platanus racemosa	California Sycamore
Prunus ilicifolia lyonii	Catalina Cherry
Quercus agrifolia	Coast Live Oak
Quercus engelmannii	Mesa Oak
Umbellularia californica	California Laurel
Shrubs	
Arctostaphylos insularis	Island Manzanita
Ceanothus impressus	Santa Barbara Ceanothus
Ceanothus 'Ray Hartman'	Ray Hartman Ceanothus
Garrya elliptica	Coast Silktassel
Lavatera assurgentifolia	Tree Mallow
Rhamnus californica	Coffeeberry
Rhus integrifolia	Lemonade Berry
Ribes speciosum	Fuchsia-flowering Gooseberry
Salvia apiana	California White Sage
Salvia leucophylla	Purple sage
Sambucus mexicana	Blue Elderberry
Groundcovers	
Arctostaphylos uva-ursi	Bearberry
Arctostaphylos edmundsii	Little Sur Manzanita
Ceanothus g. horizontalis	Carmel Creeper
Cotoneaster dammeri	Bearberry Cotoneaster
Juniperus h. 'Bar Harbor' *	Bar Harbor Juniper
Myoporum 'Pacificum' *	no common name
Rosmarinus o. prostrata *	Creeping Rosemary
Salvia leucophylla 'Point Sal'	Prostrate Purple Sage
Vines	
Bougainvillea 'San Diego Red' *	Bougainvillea
Clematis ligustifolia	no common name
Lonicera periclymenum *	Honeysuckle
Muehlenbeckia complexa *	Mattress Vine
Rosa banksiae 'Lutea' *	Lady Banks Rose
Grasses and Perennials	
Festuca californica	California Fescue
Leymus condensatus	Wild Rye
Muhlenbergia rigens	Deer Grass
Sisyrinchium bellum	Blue-eyed Grass

* non-native

Table 8-A Landscape Palette

8.3 Architectural Design Guidelines

Because of the eclectic and highly imaginative architecture which has begun to emerge in the City of Culver City, particularly in the Hayden Tract the City of Culver City should be open to the free expression of architectural design and encourage the design innovation and “edginess” evident in a number of the industrial buildings along Ballona Creek, the Jefferson Boulevard corridor, and the Hayden Tract.

8.4 Standards for Public Improvements

This section sets forth the design standards associated with improvements made to the Ballona Creek Corridor. These installations should be designed to withstand the erosive forces of flood waters.

a. Property line fencing

Property line fencing along the Ballona Creek Corridor should encourage vine plantings to grow up the fence or by a noise attenuation wall of consistent design with concrete block and trailing vines planted at the base of the wall. If warranted by additional noise studies verifying that noise levels exceed those permitted under the Noise Element of the City of Culver City General Plan, the use of noise attenuation walls should be limited to only those residential properties who request to be buffered from potential noise levels emanating from Ballona Creek and Jefferson Boulevard.

b. Guard Rails

Ornamental wrought iron guard rails consistent with the guard rails on the Overland Avenue Crossing should be utilized in all locations where they are necessary. With respect to the bike path adjacent to Ballona Creek, the guard rails must be 54 inches high to comply with CalTrans standards associated with bike path installations. For overlooks out of the way of the bike path, guard rails should be 42 inches high.

c. Landscape Guidelines

All landscape installations should utilize the recommended plant palette along the sides of Ballona Creek. Plants that are not native to California should only be used to set off accessways to Ballona Creek trails where they abut main circulation corridors.

d. Turf Block

Turf block, which is a reinforced concrete system with voids that are planted with grasses, should be explored for installation along portions of the lower creek paths inland from Ballona Creek as well as in the channel bottom, unless it is determined that the forces of flood and flows are too erosive to keep the turf block in place.

Chapter 9 Maintenance and Operations

This report has already discussed the serious jurisdictional fragmentation that exists among various agencies that play a role in managing, maintaining, and operating Ballona Creek. It has also called out for the need to designate a single entity to provide for the long term maintenance and operation of Ballona Creek.

9.1 Organizing a Maintenance Entity

Because the City of Culver City cannot afford to incur the expenses associated with operating and maintaining the Ballona Creek flood control channel, the City of Culver City must strive to resolve this issue before implementing the improvements envisioned in the Focused Special Study. The City of Culver City should continue to explore two options that would have an appropriate entity take responsibility for a cohesive, consistent, long-term program of maintenance and operations on Ballona Creek and execute an agreement with that management entity. One option is as follows:

9.1.1 A Joint Powers Authority

Since dialogue is already occurring on this approach, the City of Culver City could play a leadership role in facilitating further discussions directed toward a solution to the maintenance issue associated with the creeks and rivers of the Los Angeles Basin. The City of Culver City should continue to be a part of those discussions with the County of Los Angeles, the City of Los Angeles, and other local, regional, state, and federal agencies to establish a timetable for addressing and conclusively resolving this issue.

Formation of a Joint Powers Authority to manage and maintain Ballona Creek will be extremely challenging, especially during these times of challenging budgets. But the effort needs to be made to explore it with diligence.

Although top of bank improvements will still require maintenance responsibilities, some may be small enough to be maintained by one of the legal entities presently maintaining Ballona Creek. Improvements will be limited until a maintenance and management entity can be designated and long-term agreements are made with the appropriate agencies to take on those maintenance responsibilities.

9.2 Maintenance and Operations Standards

Once a maintenance and management entity and program can be conclusively resolved, it will be expected to take on the following responsibilities for operations and maintenance based on the standard of care established for each activity.

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9.2.1 Maintenance Activities and Standards

- a. Tree pruning
- b. Other Landscape Maintenance
- c. Irrigation
- d. Trash collection
- e. Rest stop improvements, i.e. benches, signage, water fountains
- f. Structure of the channel
- g. Trails
- h. Lighting
- i. Fencing, guardrails, and gates
- j. Trash collection
- k. Clean out of CDS units
- l. Creek clean up
- m. NPDES monitoring of pedestrian bridges
- n. Directional and interpretive signage

9.2.2 Public Safety and Security Activities and Standards

- a. Call boxes
- b. Graffiti removal
- c. Management of inflatable dams during flood control events
- d. Sponsoring creek clean up events

Chapter 10 Prioritization and Implementation

10.1 CEQA Compliance

Chambers Group has determined that any Ballona Creek reconfiguration work done between the top of banks and within the area of the jurisdiction of the U.S. Army Corps of Engineers would require further detailed environmental evaluations and special permitting prior to implementation.

Knowing that further environmental analysis (CEQA and/or NEPA) will be required associated with Ballona Creek reconfiguration prior to obtaining the required permits from the Corps of Engineers and other entities, the prioritization program outlined below has been prepared.

10.2 Project Prioritization

Upon approval of the Focused Special Study, it is recommended that the City of Culver City simultaneously pursue a two-part strategy to commence implementation of the improvements identified in the Focused Special Study. This strategy would involve: conducting more detailed design studies and testing those studies for their ability to handle flood flows, and the actual implementation of Priority I improvements above the top of bank. Each of these stratagems and their particular features are outlined below.

10.2.1 Recommended Initiatives

If Culver City chooses to implement the recommendations addressed in the Focused Special Study, the City of Culver City should do the following:

- a. Continue to work toward the development of a Joint Powers Agreement that would have one agency accept the fundamental responsibility for operations and maintenance of Ballona Creek.
- b. Develop and pursue a detailed Grant Procurement Program that identifies sources of revenue to go with chosen demonstration projects.

10.2.2 Pursue Priority 1 A Improvements: Physical Projects

The City of Culver City or another entity could apply for and obtain grant funding to further design and construct the following improvements:

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- a. Where determined feasible and appropriate, replace existing public fencing at property line along the entire north bank of Ballona Creek with a new sturdy and attractive fence.
- b. Install an irrigation line between the new fence and the edge of the trail or access road above the top of bank.
- c. Install trees and other native plantings between the path and the new fence in order to buffer adjacent residents from noise.
- d. Design and install trail head improvements including fencing, gates, benches, and water fountains while providing for clear access by emergency, patrol, and maintenance vehicles to the maintenance roads and trail system.
- e. Replace the low chain link gates at path entries with removable bollards. Efforts should be made to exclude unwanted vehicles, such as motorcycles while allowing for ADA access.
- f. Install identification, directional and security signage at key entry points to the path system. Ballona Creek Trail-related signage should only be located on the trail or at trail access points.
- g. Install low level bollard lighting between the fence and the path system.
- h. Design and install signage for Ballona Creek Trail denoting Coastal Access. Ballona Creek Trail-related signage should only be located on the trail or at trail access points.
- i. Provide call boxes along the trail.

10.2.3 Pursue Priority 1 B Improvements: Studies and Design Plans

- a. Commission a full ALTA level topographic and boundary survey depicting all surface and subsurface conditions including utilities along the entire Ballona Creek Corridor.
- b. Develop a more detailed concept plan for the reconfigured channel, by neighborhood segment, showing in both plan and cross section, the detail of the proposed reconfiguration of the Ballona Creek Channel and proposed changes to its topography, surface, and materials.
- c. Conduct a HEC-RAS hydrologic modeling study of the design plan for the reconfigured channel to determine its abilities to convey flood waters in a manner equal to or better than its ability to convey such flood waters today.
- d. Conduct detailed CEQA and NEPA analyses, as necessary.

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10.3 Implementation Priorities

Once the above tasks are complete, the City of Culver City should then proceed with the implementation of certain reconfiguration projects in identifiable and fundable blocks. We suggest prioritizing such projects as follows:

10.3.1 Pursue Priority III Improvements

- a. Construction of the Pearson Street Overlook and pedestrian sidewalk improvements along the south side of Pearson Street between Jefferson Boulevard and Ballona Creek.
- b. Construction of the Overland Demonstration Project between the Overland Avenue crossing west of the reconstructed pedestrian bridge.
- c. Construction of the reconfigured north bank channel from Overland Avenue upstream to Jackson Avenue including trail reconfiguration, ornamental stone surfaces, and additional top of bank landscaping improvements.

10.3.2 Pursue Priority IV Improvements

- a. Design and install the Slauson Avenue Overlook (contingent upon the leadership of the City of Los Angeles).
- b. Design and construct the Jefferson Boulevard/Ballona Creek Land Bridge to Baldwin Hills Park (likely to be the responsibility of the Baldwin Hills Conservancy).
- c. Design and construct the south bank multi-use trail and channel reconfiguration from Washington Boulevard to Overland Avenue.
- d. Reconstruct the north bank trail and channel from National Boulevard at Syd Kronenthal Park and extend trail to Washington Boulevard.
- e. Construct new north bank transition trails west of Higuera Street and west from National Boulevard.
- f. Design and install low flow channel along entire channel bottom.
- g. Design and install inflatable dam west of Overland Avenue.

10.3.3 Pursue Priority V Improvements

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- a. Resolve design and permitting for the reconfiguration of the south bank at the Jefferson Boulevard/Overland Avenue opportunity site between Overland Avenue and Pearson Street.
- b. Install inflatable dam upstream of Overland Avenue.
- c. Install Syd Kronenthal Park pedestrian bridge and construct a rest stop on Ballona Creek trail extension from south bank to La Cienega Boulevard.
- d. Approve Jefferson Boulevard streetscape including median landscaping from Duquesne Avenue to National Boulevard.
- e. Install inflatable dam and pedestrian bridge at Hayden Tract.

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