

# VOLUME 1: SUMMARY MASTER PLAN

**General Plan Action Item:**

Action 3.2.1. Implement the 1993 Creeks Restoration and Trails Master Plan.

## **CREEKS RESTORATION AND TRAILS MASTER PLAN**

**City of Walnut Creek, California**

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**March 1993**

## **PREFACE**

Typical of most older communities in California, Walnut Creek's early town center, homes and farms were located on the fertile valley soils near a wooded water course. The citizens recognized the importance of the landscape of their settlement by naming their town after the nearby creek. For many years, the town supported rich agricultural developments in the countryside along the creek and its tributaries, but the post-World War II population explosion in the San Francisco Bay Area created enormous pressures for change. The combination of the general population expansion, the extension of the freeways and the construction of the Bay Area Rapid Transit line to the City of Walnut Creek resulted in particularly rapid growth. Over the past 30 years, the City has changed from a semi-rural, suburban town to one of the major urban centers in San Francisco's East Bay region.

A by-product of this growth has been the steady encroachment upon the creeks that flow through the town center. Las Trampas Creek, flowing east from the hills of Moraga and Lafayette, and San Ramon Creek, flowing north from the hills above San Ramon, merge in the heart of downtown and continue to flow north as Walnut Creek to the San Francisco Bay. Each creek within the planning area has been significantly altered from its natural condition to fit the expanding urban form. The creek for which the town was named is hardly recognizable as a part of the present day city, although its influence can be seen by those who look closely at certain street and building alignments. It is mostly inaccessible to the public and has lost much of its environmental value. Significantly, at the confluence of the two branches, the City has overwhelmed the creeks by covering them entirely with streets and a shopping center.

A movement to redirect the growth of this burgeoning city in order to re-establish a positive relationship between the built and natural environments began to take hold in the late 1970's and early 1980's. Local citizens expressed alarm at the continued degradation of the natural environment of the City in general and of the creeks in particular. The citizens' call for the creation of greenways along the creek corridors struck a responsive chord with the City staff and political leaders, and the official movement to protect and restore the creeks got under way.

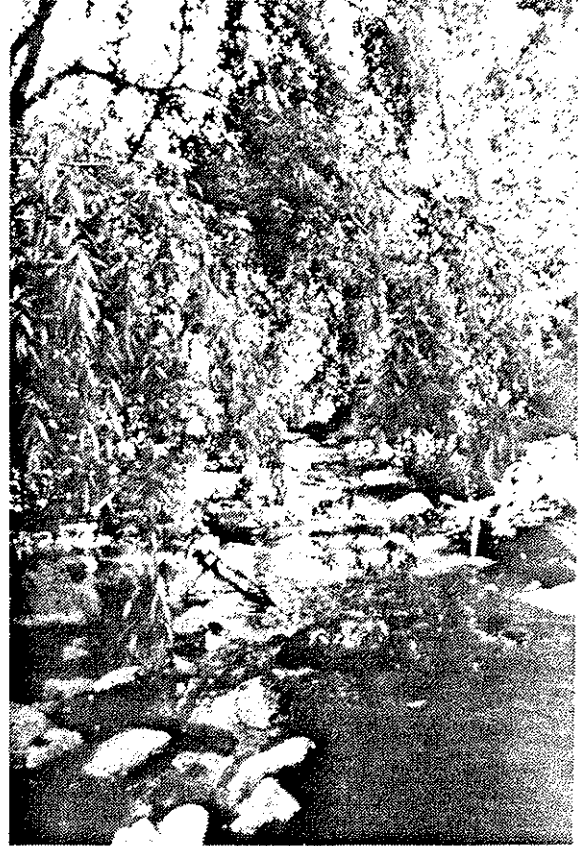


Figure 1: View of Walnut Creek

This Master Plan offers an approach to the creation of a greenway in the heart of the City which is respectful of both the existing urban fabric and the natural systems which support the urban setting. It suggests a means of retrofitting the built environment in order to integrate nature in a positive and mutually supportive way. It envisions ways of enriching the daily life and environment of the people and animals of this place, reflecting the values and aspirations of this particular community. A portion of the unique landscape of this place will be restored to sustain itself and nourish its inhabitants. The magnificent survivors of earlier eras will be protected and will themselves become the source for the new and expanded habitat that is to be created. People will experience the joy and beauty of the creekside greenway, and a new generation will grow up in contact with nature as an inevitable part of their daily rounds--a simple experience with revolutionary implications.

## ACKNOWLEDGMENTS

The development of a comprehensive Master Plan for restoration of the creeks and creation of a trail system has required the participation of many interested citizens, staff and officials. This planning and design process was driven by a Council appointed Citizens Task Force with significant staff support. In addition to the citizens appointed to the Task Force, many others took part in the community workshops and creek related events orchestrated by the Task Force. The plans were developed with the community and Task Force prior to the formal presentations to the City's Commissions and Council for approval. Each person who has participated in this design process has contributed in important ways, and will continue to be an important protector of the greenway once it actually comes into being.

In order to be successful, a grassroots based effort such as this depends upon the vision, enthusiasm and determination of at least one key individual. Walnut Creek has indeed benefitted from the talents and drive of many people, but most singularly, Pam Romo, an extraordinary creek activist. The realization of the greenway will be largely the result of her efforts and organizational abilities.

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## TABLE OF CONTENTS

	<u>Page</u>
INTRODUCTION .....	1
• Planning and Design .....	3
• Integrated Greenway Plans .....	4
CONTEXT .....	7
• Setting .....	7
• Planning Context .....	9
MASTER PLAN .....	15
• Overview of the Plan .....	15
• General Greenway Guidelines .....	15
• Master Plan Concepts .....	18
• A Walk Along the Greenway .....	25
• The Greenway Systems .....	46
• Phasing and Implementation .....	64
RECOMMENDED ACTIONS .....	75
CREDITS .....	79

## LIST OF FIGURES

	<u>Page</u>
Figure 1	View of Walnut Creek ..... ii
Figure 2	School Children Collecting Seeds for Restoration ..... 2
Figure 3	View of San Ramon Creek ..... 5
Figure 4	Walnut Creek Regional Watershed ..... 6
Figure 5	Regional Trails Context ..... 8
Figure 6	Typical City View - Broadway above Walnut Creek Culvert ..... 13
Figure 7	Creeks Restoration and Trails Master Plan ..... 22-23
Figure 8	Section at Civic Park, Looking South ..... 27
Figure 9	Existing Top of Bank View at Civic Park West ..... 28
Figure 10	Typical Civic Park West Trail, Looking South ..... 29
Figure 11	Section B-B Broadway, Looking North ..... 31
Figure 12	Existing View along Broadway Plaza ..... 32
Figure 13	Broadway Plaza, Looking East toward Emporium ..... 33
Figure 14	Longitudinal Section at Drop Structure, Looking South ..... 34
Figure 15	Section at Ross, Looking West ..... 35
Figure 16	Section at Strouds, Looking West ..... 35
Figure 17	Existing View of Las Trampas Creek, Looking East ..... 36
Figure 18	Restored Las Trampas Creek and Trail, Looking East ..... 37
Figure 19	Section at Emporium Parking, Looking South ..... 39
Figure 20	Section at Las Lomas High School, Looking South ..... 39
Figure 21	View of San Ramon Creek and Bedrock Waterfall ..... 40
Figure 22	View of Trail Bridge at San Ramon Creek, Looking South ..... 41
Figure 23	View of South Main Street at Lilac Drive ..... 42
Figure 24	Creekside Town Entry at South Main Street ..... 43
Figure 25	Section at Concrete Channel, Looking North ..... 44
Figure 26	Section at Creekside Glen Apartments, Looking South ..... 44
Figure 27	Proposed Greenway/Habitat ..... 49
Figure 28	Bank Stabilization and Restoration ..... 50

## LIST OF FIGURES (Continued)

Figure 29	Channel Stabilization/Fish Habitat Restoration .....	53
Figure 30	Proposed Creek Trail and Connection .....	55
Figure 31	Proposed Trail Destinations .....	57
Figure 32	Creek Access .....	59
Figure 33	Existing Adjacent Land Uses .....	61
Figure 34	Creek and Trail Influence Zone .....	62
Figure 35	Phasing .....	67
Figure 36	Creek Segments .....	68
Figure 37	Bedrock Waterfall at Near Court - Recommended for Purchase, Bank Restoration and Access Control in Phase 2 .....	73
Figure 38	Las Trampas Creek - Future Linkage to Lafayette/Moraga Regional Trail .....	77

## LIST OF TABLES

Table 1	Preliminary Cost Estimate Summary Individual Creek/ Trail Segments .....	69
Table 2	Preliminary Cost Estimate Total Program .....	70

# INTRODUCTION

There has been a growing awareness in Walnut Creek that the creeks are a community asset which are in need of protection and enrichment as well as environmentally sensitive flood control. Actions have been taken in recent years which address creek issues such as: funding limited access improvements of the creek frontage along Civic Park; receiving agreement to allow public access along the creek frontage of at least one private development near the downtown core; and creating a creek protection overlay zone for properties that abut the creeks. In addition, a major new flood control improvement has been completed which will divert the flood waters from San Ramon Creek around the downtown area thereby limiting the flood hazards in the future. The Bypass Structure was designed to preserve the existing natural channel of San Ramon Creek. The planning of the regional Iron Horse Trail along the right-of-way of the San Ramon Creek Bypass structure has opened the possibility of a direct off-road trail connection to the central business district of the City along a creekside greenway. The combination of these events, a recognition of the generally degraded condition of the creeks, and continued development pressure for the creek frontage properties has exposed the need for a comprehensive long range Master Plan for the enhancement and integration of the creeks into the downtown core of the City.

In September, 1990, the City entered into an agreement with John Northmore Roberts and Associates, a Landscape Architecture and Planning firm, to prepare a Creeks Restoration and Trails Master Plan for segments of three creeks in the vicinity of downtown Walnut Creek. The Design Team included specialists in urban stream restoration, hydrology and flood protection; native vegetation and riparian habitat restoration; fisheries restoration; landscape architecture, trails planning and urban design; and implementation planning. The Team was charged with the responsibility of working with the community and staff to create a long range vision for restoration of and access along the corridor, and a phased implementation strategy. This document is the result of that effort.



Figure 2: School Children Collecting Seeds for Restoration

## PLANNING AND DESIGN PROCESS

The Design Team entered the design process after the community had invested many hours in learning about the creeks, defining flood control preferences and participating in special events along the creek, such as clean-up days and celebrations. Building upon those experiences, the first step for the Design Team was to systematically document and analyze the existing conditions within the creek corridor. The Team looked closely at the natural factors of the creek and its banks, at the landscape and urban context of the creek, and at the planning and implementation framework of the project. The resulting data base for the project, *The Existing Conditions Report*, was completed in November, 1990. The various factual findings and the analysis of the trail and restoration opportunities and constraints of the corridor were first presented to the Task Force and then to the general public in a community workshop/creek walking tour. The material was reviewed by the community, staff and interested agencies, and input was received on the potential for the corridor.

Following the inventory and analysis phase of work, alternative trail plans, urban design treatments, restoration treatments and implementation approaches were developed in response to the community's goals for the greenway and the requirements of the creek resources. The *Trail Alternatives & Alternative Creek Restoration Treatments Report* was completed in May, 1991. The integrated alternative plans explored different approaches to the creation of the greenway. In addition, issues that required more detailed analysis were uncovered. The strengths and weaknesses of the various options presented in the Report were debated by the staff, at Task Force meetings and at a community workshop. The findings were reviewed with staff of the affected agencies. Individual discussions with potentially affected property owners were held as were site explorations of the recommended options. Additional options were explored at the request of the Task Force and the City staff. Ultimately the framework for a Preferred Plan was clarified with specific instructions to the Design Team from the Task Force and staff.

In the third stage of the Design Process, the Preferred Plan for the Creekside Trail system and restoration was developed in response to the emerging consensus of opinion for the

greenway. A Preliminary Implementation Plan and funding program were developed for the Preferred Plan in which priorities, phasing, costs, actions and related implementation issues were assessed. The findings of this phase were presented in the *Preferred Plans Report* in December, 1991 and subjected to close scrutiny by the staff, Task Force and agencies as well as the general public in a third community workshop. As a result of the public review process, further refinements were requested and instructions provided for the final plans.

The final plans in this report reflect the consensus of the community opinion that has emerged through the participatory planning and design process. Following a period of formal public review and further input, these plans will be recommended for endorsement by the City Commissions and approval by the Council.

## **INTEGRATED GREENWAY PLANS**

This Master Plan reflects an integrated approach to the design of a creekside greenway. The trail design, parkway improvements, habitat enhancement and hydrology have been developed in concert so that each individual element supports the other. The linear greenway will unite the City with its creeks and re-establish a natural, self-sustaining landscape at its core. A continuous, accessible creekside trail system will connect the neighborhoods with downtown, schools, parks, and with the regional recreational trail network. People will be able to walk or bicycle in safety to the commercial heart of Walnut Creek with opportunities to stop and enjoy the restored natural setting. The trails and the re-established riparian vegetation will become highly visible components of the City's urban fabric. Opportunities for interpretation of the resources of the creeks and the history of the development of the City will be created. The improved habitat will bring a rich biological diversity into the core of the City. Erosion protection treatments for the channel, its banks and the adjacent properties will work in harmony with habitat revegetation and the trail. Flood protection utilizing environmentally sensitive engineering techniques will improve riparian habitats and also accommodate trails, while ensuring that the flood flows are taken care of. Fisheries and aquatic habitats will be improved with salmon and steelhead trout potentially returning through the downtown to spawn and rear their young.



Figure 3: View of San Ramon Creek

The complete Master Plan is presented in four documents: *Volume 1-Summary Master Plan*, *Volume 2-Trails Plan*, *Volume 3-Restoration Plan*, *Volume 4-Implementation Plan*. In *Volume 1-Summary Master Plan*, the integrated plan for the greenway is described. Overall plan concepts, general guidelines, recommended policies, phasing, priorities and the key components of the integrated creekside greenway are presented. The subsequent documents describe in detail the recommendations for the individual components of the greenway. In *Volume 2-Trails Plan*, the recommended standards, alignment, landscape and urban design character of each trail segment are shown as well as cross sections and other details at critical points along the trail. In *Volume 3-Restoration Plan*, the recommended treatments for bank stabilization, flood protection and restoration/enhancement of the riparian habitat and fishery are presented in detail. In addition, specific guidelines for restoration of the vegetation and riparian habitat along the corridor are included. In *Volume 4-Implementation Plan*, the magnitude of probable construction costs for the trail and restoration improvements are analyzed as well as the public acquisition and funding implications. The volume concludes with a recommended implementation strategy for phasing and prioritizing the creation of the greenway plan.

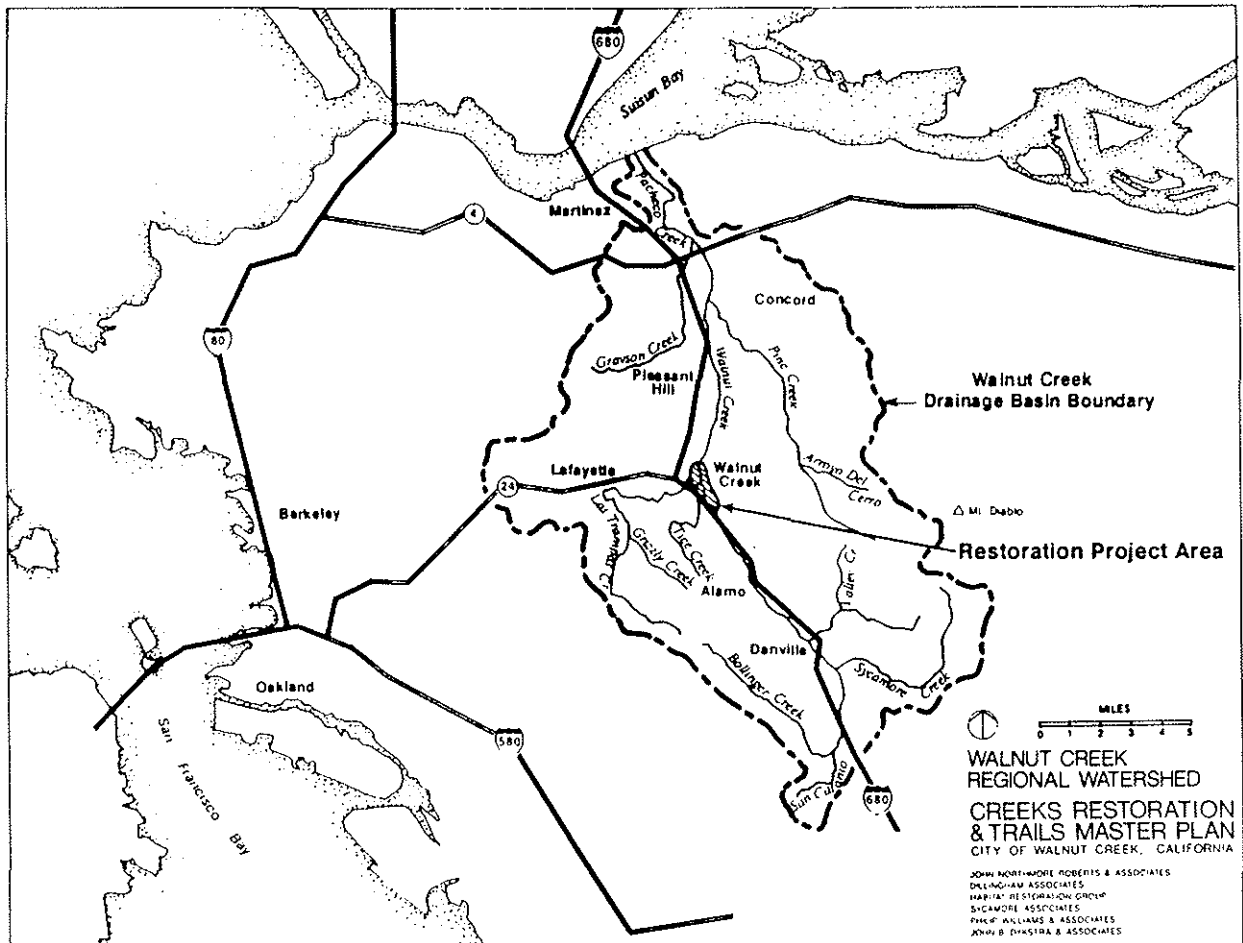


Figure 4

# CONTEXT

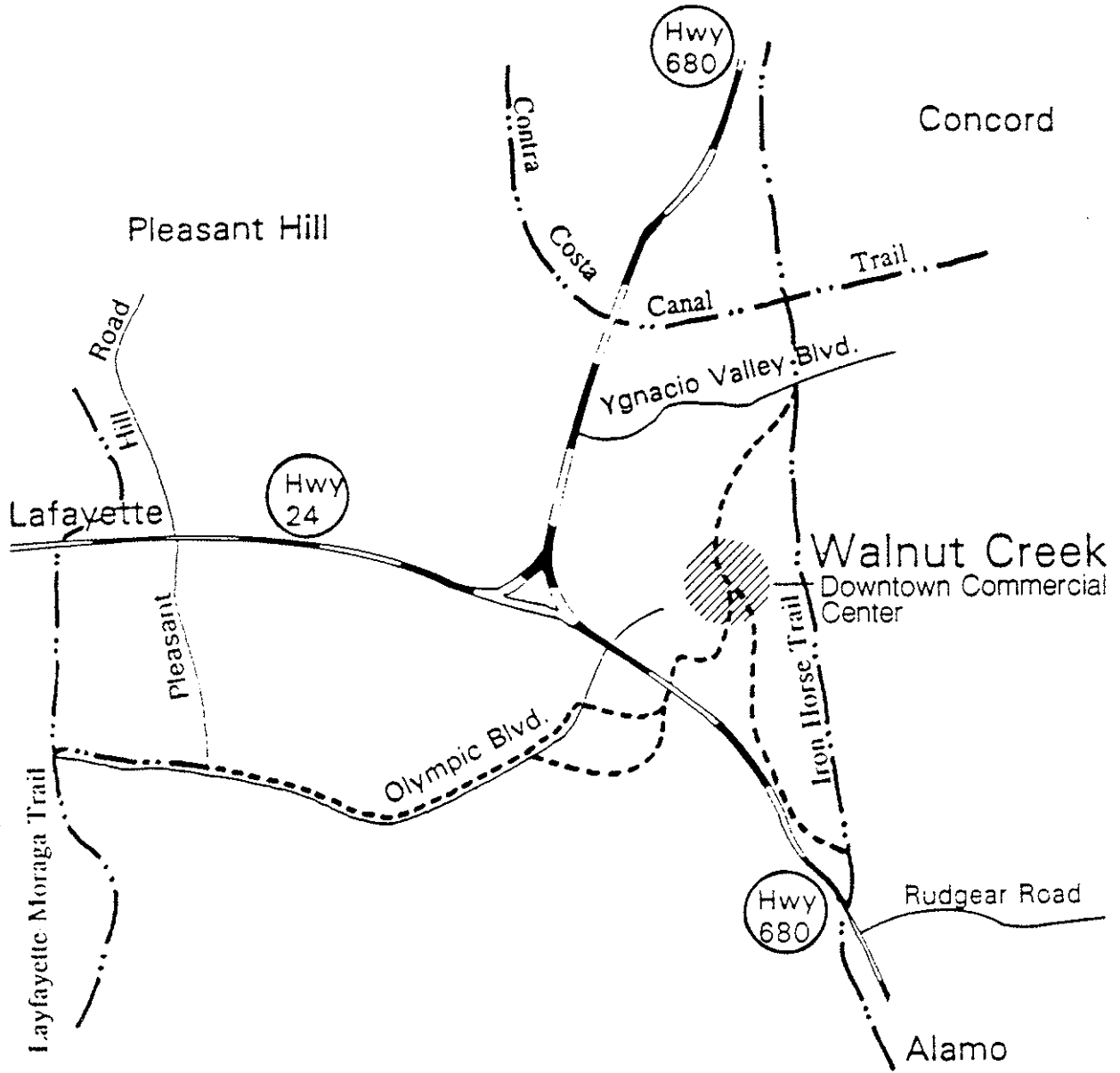
## SETTING

The project study area is in the heart of the City of Walnut Creek. It includes creek segments upstream and downstream of the confluence of the two main tributaries of Walnut Creek. San Ramon and Las Trampas Creeks drain the complex of hills surrounding Mount Diablo and Las Trampas Ridge, merge at Walnut Creek, and flow north to Suisun Bay (see Figure 4).

The City of Walnut Creek has become a major retail, office and cultural center, and is readily accessible by modern transportation systems. Two regional freeways intersect near the study area linking the main north/south East Bay Valley route (Interstate 680) with a major east/west connector to Oakland and San Francisco (Highway 24). The Bay Area Rapid Transit parallels the freeway routes with a stop near the study area.

East Bay Regional Park District's north/south trail, the Iron Horse Trail, will run through the study area, linking the San Ramon Valley with Suisun Bay for bicycles, pedestrians and equestrians. The trail will offer an alternate transportation route into the downtown core of Walnut Creek. A similar east/west trail connection is possible with the extension of the Lafayette/Moraga Regional Trail along Las Trampas Creek (see Figure 5). The final connection to Walnut Creek does not yet exist along this trail. The completed trail system will not only connect urban centers together, but will also tie the City into the extensive regional park and open space system that surrounds the study area.

Throughout the watershed, from south of the study area to Suisun Bay, the streams have been altered for flood control purposes. Upstream of the study area, there has been some limited channelization and construction of drop structures, but streams in these areas remain relatively natural. Within the study area and downstream, however, severe alterations have occurred. Different creek segments are in open trapezoidal channels, open rectangular concrete channels and entirely covered. Two drop structures occur within the study area, and others occur downstream of the study area. The result of the extensive flood control work is that the entire channel system requires high levels of management and maintenance, and the habitat values have been significantly compromised.



**LEGEND**

- POTENTIAL WALNUT CREEK CREEK TRAILS
- FREEWAYS
- MAJOR LOCAL STREETS
- MAJOR REGIONAL TRAIL

**REGIONAL TRAILS CONTEXT**

**CREEKS RESTORATION & TRAILS MASTER PLAN**  
CITY OF WALNUT CREEK, CALIFORNIA

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DILLINGHAM ASSOCIATES  
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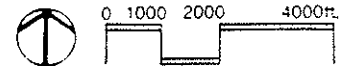


Figure 5

The historical, continuous corridor of riparian vegetation from the Bay to the top of the watershed is now discontinuous. The remnant riparian habitats are now in pockets rather than in a continuous regional wildlife corridor. Similarly, most of the adjacent upland habitat has been replaced by urbanization, separating the largely preserved hillsides from the creeks. The historic fish migrations that passed through the study area no longer occur due to the barriers created in the creeks. Also, historic spawning and rearing areas within the watershed are increasingly affected by siltation and the lack of scouring flows. Migratory salmon and steelhead trout, however, continue to return from Suisun Bay to the bottom of the first drop structure and would go further if allowed.

The study area is the regional hub of these cultural and natural systems. The creeks flow throughout the region and converge at the center of the downtown commercial district, supporting the downtown as a major regional center and destination.

## PLANNING CONTEXT

A number of different planning and design projects have been undertaken in the vicinity of the creek planning area which have influenced the Master Plan. The major efforts are summarized below.

### U. S. ARMY CORPS OF ENGINEERS

1. San Ramon Bypass Channel: By the end of 1991, the Corps of Engineers had completed construction of the San Ramon Bypass Channel, a major flood control project designed to divert the hazardous flood flows around the downtown area from Rudgear Road at the south to Ygnacio Valley Road at the north. The Contra Costa County Flood Control District must accept the completed project before beginning its maintenance responsibilities. Included in the design as a mitigation for the channelization is a provision for the continuation of the low flows into the original San Ramon Creek channel in order to sustain the riparian environment. The success of the low flow intercept of the bypass channel will depend upon diligent and frequent maintenance.

The diversion of flood flows away from San Ramon Creek significantly reduces the flood and erosion hazards of the existing creek channel and offers unique opportunities for access and restoration within the channel that are exploited by this Master Plan. Portions of the Bypass Structure are covered and are planned for use as an extension of South Broadway Blvd., a major cross town collector street. In addition, the proposed extension of the East Bay Regional Park District's Iron Horse Trail will occupy a portion of the surface right-of-way above the Bypass Structure.

2. Walnut Creek Recreation: As a part of the Walnut Creek Flood Control project, the Corps of Engineers will construct trails, seating areas and overlook decks along Walnut and Pine Creeks. The Walnut Creek improvements are proposed for segments within the Master Plan study area in Civic Park. The Master Plan includes the facilities proposed by the Corps with recommendations for minor modifications to be consistent with the overall greenway plan.

## CALTRANS

Major alterations to the freeways near the interchange between Highway 24 and I-680 are proposed in addition to alterations to several of the Walnut Creek off-ramps. The proposed elimination of the ramps and widening of the freeway at Newell Avenue will have a bearing on the Las Trampas Creek portion of the greenway. The potential connections of the Las Trampas Creek trail under the freeway to the Lafayette/Moraga Regional Trail and to the west Newell Ave. neighborhood are conceived in relation to the new and abandoned freeway rights-of-way. A new freeway off-ramp is to be constructed at Olympic Blvd., bringing vehicles more directly into the downtown core. The configuration of the new off-ramp will affect the alignment of the future extension of the Lafayette/Moraga Regional Trail to downtown Walnut Creek. The South Main Street off-ramp has recently been realigned and a new intersection constructed. This is one of the major entryways to Walnut Creek, and it also parallels San Ramon Creek. Special consideration for this entry route into town is made in the Master Plan.

## STATE WATER RESOURCES CONTROL BOARD

The State Water Resources Control Board, in concert with the Lindsay Museum and the City of Walnut Creek, is funding a study by the Lindsay Museum regarding non-point source pollution in the watershed of Walnut Creek. The intent of the study is to create a model for the education of the watershed community about non-point source pollution and its prevention. The long term goal is to clean up and support the restoration of the creek which drains into the environmentally sensitive Suisun Bay. A permanent exhibit and related educational material will be available through the museum.

## EAST BAY REGIONAL PARK DISTRICT

1. Iron Horse Trail: The East Bay Regional Park District (EBRPD) is proposing to create a multi-purpose trail from the San Ramon Valley to Pleasant Hill and beyond if feasible. Portions of this trail exist along the old Southern Pacific right-of-way from south of Danville to Rudgear Road in Walnut Creek. The proposed extension along the San Ramon Creek Bypass Structure around downtown Walnut Creek to Ygnacio Valley Road is currently being designed. The proposed creekside trail system designed as a part of this Creeks Restoration and Trail Master Plan will form a separate City hiking and biking loop connecting to this segment of the regional Iron Horse Trail. The northern reaches of the EBRPD Trail are designed to tie into the Contra Costa Canal Trail and other local trails. Ultimately the regional hiking, biking and equestrian trail may continue north to the Bay and tie into the S.F. Bay Trail, proposed to loop around the Bay.
2. Lafayette/Moraga Trail: The existing Lafayette/Moraga Regional Trail currently passes from above the town of Moraga to the Pleasant Hill Road intersection with Olympic Blvd. in Lafayette. The trail roughly follows the alignment of Las Trampas Creek, which continues to flow toward the east into the study area of the Creeks Master Plan. The planning and design for Walnut Creek's creekside trail system has assumed that an extension of the Lafayette/Moraga Trail to the Las Trampas Creek

trail will be accomplished at some time in the future, perhaps along Olympic Blvd. Preliminary discussions with the staff at the EBRPD indicate a desire to pursue this proposal as soon as the Creeks Master Plan is adopted.

## UPSTREAM AND DOWNSTREAM CREEK RESTORATION AND TRAIL PLANS

There are separate region-wide planning and design efforts under way upstream along San Ramon Creek and downstream of the Master Plan study area along Walnut Creek which are intended to extend the creek restoration and trail systems proposed under this Master Plan. Both projects are joint efforts by several different jurisdictions through which the creeks flow. The goals of both projects are similar to the goals for this Creeks Restoration and Trails Master Plan project for the City of Walnut Creek. Both projects are in the early planning stages, but are intended to dovetail with this project, particularly with regard to a continuous habitat restoration.

## CITY OF WALNUT CREEK

1. Downtown Enhancement Plan: In 1990, the City commissioned the preparation of a plan to enhance the historic downtown as part of a revitalization program. The downtown district abuts the Creeks Master Plan study area and is one of the primary destinations for the creekside trail system. The overall Downtown Enhancement Plan has been discussed before the city Commissions and Council, and portions of it are to be implemented incrementally. The plan envisions special paving, plantings, special crosswalks and a variety of other pedestrian amenities designed to re-establish the district as a major commercial destination for local people and regional shoppers alike. The detail design of the downtown area and the creekside greenway improvements are intended to be compatible and complementary but not necessarily the same.
2. Civic Park Master Plan: In an independent planning process which began before the Creeks Restoration and Trails Master Plan project started, the City has been studying



Figure 6: Typical City View - Broadway  
Above Walnut Creek Culvert

potential alternatives for Civic Park, which straddles the creek near the Civic Center. A new Civic Arts complex with related parking has been the primary variable as well as possible expansion of the park into the adjacent Armory site. Each of the conceptual alternatives carry implications for changes to several of the existing uses in the park. Park planning has slowed pending resolution of the creek Master Plan and the disposition of the Armory adjacent to the ballfield in the eastern half of the park. Since the planning for creek restoration, the creekside trail and related amenities has been on a different schedule from the schematic park planning, the recommendations of the Creeks Restoration and Trails Master Plan have not yet been integrated into the emerging park plans. The Creek Master Plan makes several recommendations with regard to creek related features within Civic Park which need to be considered in future park planning and design.

3. General Plan: In 1989, the City General Plan was updated. There are references in several sub-elements of the officially adopted plan which have guided this Master Plan design process. Sub-elements which define goals, policies and programs directly related to this Master Plan include: Commercial, City Design, Growth Management, Bikeways, Pedestrian Facilities, Parking/Loading, Cultural Resources, Conservation/Open Space, Parks and Recreation, and Safety. In general, the Creeks Restoration and Trails project will address the community's desires to re-establish the creeks as a primary resource for the City and region in ways that will promote pedestrian and bicycle use, new commercial activities, safety from flooding, recognition of the natural and cultural heritage of the City and recreational and visual opportunities.

# OVERVIEW AND GENERAL GREENWAY GUIDELINES

# MASTER PLAN

## OVERVIEW OF THE PLAN

The long range vision for the linear park and creekside greenway is based upon an understanding of the processes of nature and the desire to create human settlements which have a mutually enriching and enduring relationship with their natural setting. This Plan has resulted from a strategy of community participation in which the unique characteristics of this specific site have been matched to the needs and desires of this particular community.

The City of Walnut Creek lies at the confluence of two of the most significant streams in the East Bay. Highways, transit systems, wildlife corridors, natural drainage channels and regional trails all come together at this central location at the base of Mount Diablo. These regional systems follow the valleys carved over the eons by water flowing in the creeks. Downtown Walnut Creek is at the core of these converging systems. The central area is currently dominated by roads, automobiles and structures, and the creeks are not a significant part of its urban design. This Plan provides a vision of an achievable transformation of the urban landscape of this core area, and is an expression of new community values. Walnut Creek will become a place which celebrates and humanizes the convergence of its creeks and these powerful regional systems. The Creeks Restoration and Trails Plan will begin to bring the City back into balance with its natural setting.

## GENERAL GREENWAY GUIDELINES

General guidelines for the creation of the Creeks Restoration and Trails Master Plan were established by the community prior to the start of the design process with the Design Team. These guidelines were discussed and revised as appropriate by the Task Force and staff during the course of the study. All are consistent with the goals and policies of the General Plan for the City, and they elaborate the community desires for the creeks. The following summarizes the major guidelines established for the Design Team. Additional specific guidelines for individual components of the Master Plan are discussed in the appropriate sub-sections of the plan.

## Major Guidelines

1. Create a linear park and greenbelt along the three creek corridors, Las Trampas, San Ramon and Walnut Creek in the downtown which balances human access with the protection, enhancement and restoration of natural systems.
2. Create a continuous bicycle and hiking trail system along the creek corridors. Connect the trails through the commercial and civic downtown area where the creeks have been undergrounded. Link neighborhoods and other facilities within the City located along the creeks such as Alma Park, Murwood School, Las Lomas High School, Walnut Creek Intermediate School, etc. Link the creek trail system with other City, County and Regional trails, specifically the Lafayette/Moraga Trail, the Iron Horse Trail and the proposed regional creek trails north of Ygnacio Valley Road and south of Rudgear Road. Design the trail to comply with the Americans with Disabilities Act.
3. Create passive recreational areas related to the creeks and trails within the downtown to augment the existing parks and to reinforce the connection between the City and the creeks.
4. Enhance the downtown setting by encouraging the orientation of commercial enterprises (i.e. restaurants, specialty shops, etc.) towards the creeks. Encourage the combination of commercial uses with trails and passive parks along the edges of the creeks to allow strollers and recreational bicyclists to shop and dine while enjoying the ambiance of the creeks.
5. Improve the existing riparian habitat, upland wildlife habitat, fisheries and fish passage throughout the creek corridors and restore the degraded native habitats to the greatest extent feasible. Emphasize natural appearing restoration/enhancement/stabilization measures, and tie the City and creek environments together by expanding the creek vegetation out into the City where possible.

6. Preserve (or improve if feasible) the existing flood capacity of the creek channels while providing for improved riparian habitat and trails. Utilize environmentally sensitive channel and bank stabilization techniques within the channel, on the channel banks and at the tops of the banks compatible with habitat restoration and trails.
7. Link the restored riparian and fisheries habitat within the natural channels to restoration treatments within the concrete channelized portions of the creeks upstream and downstream of the study area. The channelized portions are to be restored for wildlife habitat to the extent feasible.
8. Reach voluntary agreements with property owners on right-of-way acquisition wherever possible. Acquire fee title or easement ownership of trail rights-of-way for construction and ongoing maintenance. Co-operate with private landowners to mitigate adverse effects to their properties to the fullest extent feasible consistent with the ultimate goal of creating a continuous trail system for the City pursuant to the Creek Plan.
9. Provide an interim trail alignment around buildings recommended for purchase. The interim alignments can be abandoned upon acquisition for the final right-of-way.
10. Increase public awareness of the creeks, the creek ecology, the effects of human activities on the creeks and the creek related heritage of the City through education, interpretive programs, public events and support facilities along the creek trails.

# MASTER PLAN CONCEPTS

## **MASTER PLAN CONCEPTS**

There will be a time in the future when ribbons of clean blue water will flow in the streams through downtown Walnut Creek. The streams will support dense riparian forests, migrating fish, birds, insects and small mammals as part of a continuum of linked natural habitats through the City. Trails and pedestrian facilities along the top of the stream banks and in the trail-related urban spaces will support a rich variety of activities along the creeks. Walnut Creek will be identified by its restored greenway and downtown trails as much as its excellent shopping districts, commercial activities and comfortable residential areas. This will be known as "the City with a creek at its center".

When the daily and seasonal rhythms of this urban place adjust to the restored streams, with their pools and riffles, vegetation and attendant animal life, it will be clear that the City has re-discovered its center. The creeks will be healthy and well respected bits of nature which also allow safe and interesting ways for children to get to school or visit friends; for families to walk to parks; for shoppers to stroll to downtown; and for cyclists to bike to the regional open spaces. At some point in the future, it will be difficult to imagine that the City has not always been this way. The transformation from a "storm sewer" to an urban greenway naturally linked to its environment will reveal itself in subtle ways to the careful observer. Interpretation will help to educate the trail users. In order to ensure that there is another generation of "creek keepers" to nurture and protect the creeks, it will be important to re-tell the stories of why the transformation happened as well as the stories of the people who made it happen.

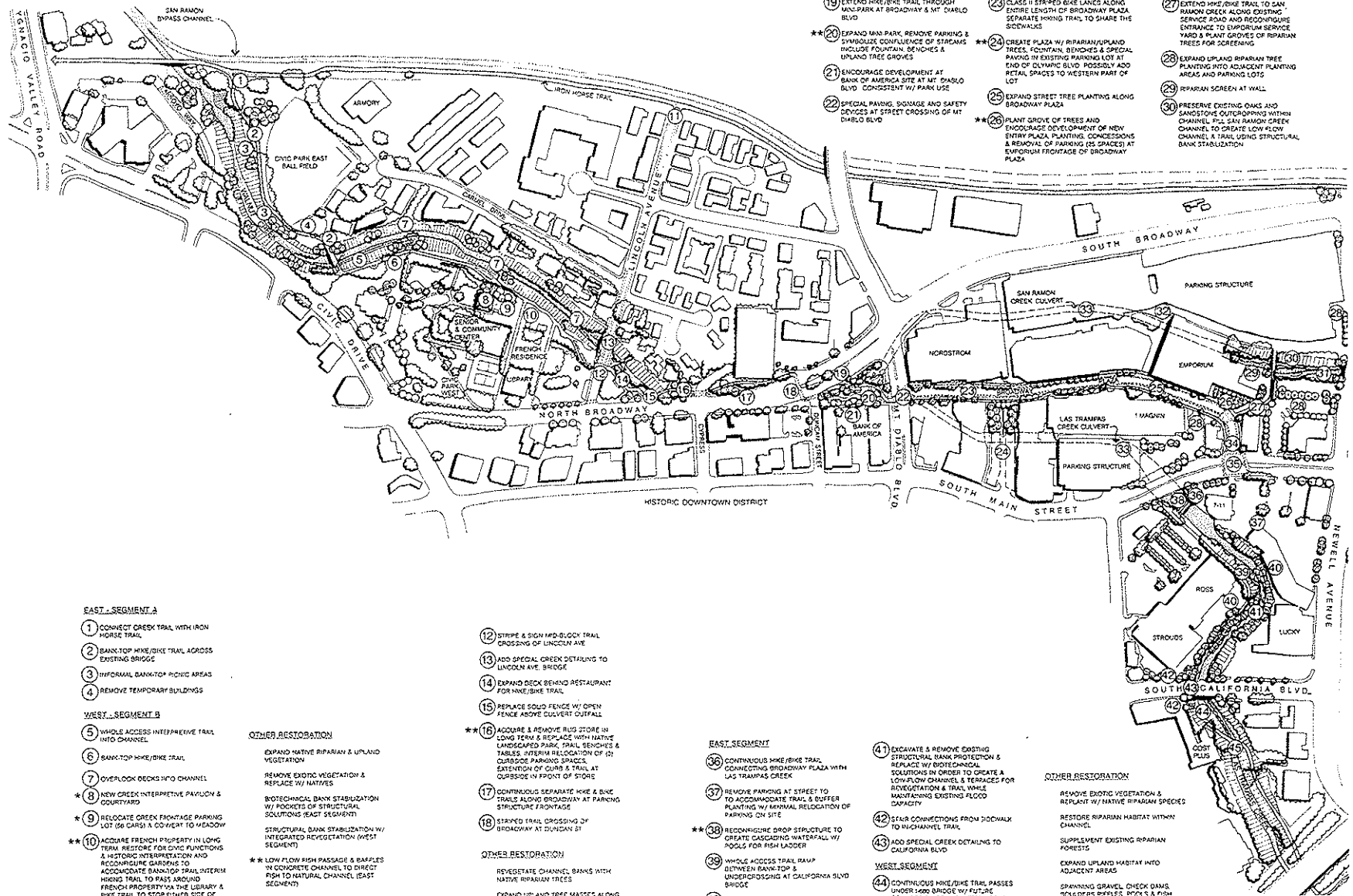
The linear greenway is conceived around a spectrum of outdoor recreational and cultural experiences inherent in human environments. This spectrum, from civilization to wilderness, reflects the diversity that can flourish with proper encouragement and balance along the blue/green ribbon that flows through this community. In many areas, nature will dominate and people will be kept to the edges, with only an occasional limited intrusion allowed. In these areas, the trail will be kept away from the creek channel in favor of restored riparian habitats in order to encourage wildness to re-enter the City and the lives of the residents.

Where access into the channel is unavoidable (i.e. for safely crossing under a busy street) or specifically desired (i.e. for interpretation or a stream crossing), people will be brought directly into contact with the natural systems, but as visitors into a place of nature. Fishing, interpretive activities or other controlled interaction with the creek setting will be encouraged in these areas. At the commercial core of the City and in the parks at the top of the creek banks, the creek environment will provide the backdrop and setting for much more active people-to-people experiences, as distinct from the people-to-nature activities elsewhere along the creeks.

The Master Plan is conceived as a long-range vision to be achieved incrementally over time. In order to facilitate action on the Master Plan, a two tiered implementation system is proposed. Tier 1 components of the Master Plan include final design and engineering work, implementation of the basic trail system, and restoration of the open (above ground) sections of the creeks. These proposals can be implemented in a relatively short period of time and require less complicated interactions with outside agencies or private interests.

Tier 2 of the Master Plan includes proposals with significant trail enhancement, urban design and environmental benefits, but which have more complex implementation requirements. These proposals depend on long-range actions of other agencies (e.g., fish passage improvements in concrete culverts), require purchase of commercial buildings, depend on property owner cooperation, or require coordination with other park planning efforts such as Civic Park. These Tier 2 proposals may take much longer to implement and their implementation will depend upon the ability of the City to take advantage of opportunities as they arise.

Integrated into the greenway are a variety of different, but mutually supportive systems orchestrated to complement and reinforce each other. The intentional interweaving of these systems lies behind the design of the Master Plan, and the various components will be described. However, first join us for a walk along the creekside park as it is envisioned in the long-range Master Plan.



**BROADWAY PLAZA**

- 19 EXTEND HX/BKE TRAIL THROUGH MHPARK AT BROADWAY & MT. DIABLO BLVD
- 20 EXPAND MHPARK, REMOVE PARKING & SYMBOLIZE CONFLUENCE OF STREAMS INCLUDE FOUNTAIN, BENCHES & UPLAND TREE GROVES
- 21 ENCOURAGE DEVELOPMENT AT BANK OF AMERICA SITE AT MT. DIABLO BLVD. CONSISTENT W/ PARK USE
- 22 SPECIAL PAVING, SIGNAGE AND SAFETY DEVICES AT STREET CROSSING OF MT. DIABLO BLVD
- 23 CLASS II STRIPED BIKE LANES ALONG ENTIRE LENGTH OF BROADWAY PLAZA SEPARATE BIKEWAY TRAILS TO SHARE THE SIDEWALKS
- 24 CREATE PLAZA W/ RIPARIAN/UPLAND TREES, FOUNTAIN, BENCHES & SPECIAL PAVING IN EXISTING PARKING LOT AT END OF OLYMPIC BLVD. POSSIBLY ADD RETAIL SPACES TO WESTERN PART OF LOT
- 25 EXPAND STREET TREE PLANTING ALONG BROADWAY PLAZA
- 26 PLANT GROVE OF TREES AND ENCOURAGE DEVELOPMENT OF NEW ENTRY PLAZA, PLANTING, CONCESSIONS & REMOVAL OF PARKING (25 SPACES) AT EMPORIUM FRONTAGE OF BROADWAY PLAZA
- 27 EXTEND HX/BKE TRAIL TO SAN RAMON CREEK ALONG EXISTING SERVICE ROAD AND RECONFIGURE ENTRANCE TO EMPORIUM SERVICE YARD & PLANT GROVES OF RIPARIAN TREES FOR SCREENING
- 28 EXPAND UPLAND RIPARIAN TREE PLANTING INTO ADJACENT PLANTING AREAS AND PARKING LOT
- 29 RIPARIAN SCREEN AT WALL
- 30 PRESERVE EXISTING OAKS AND SANDSTONE OUTCROPPING WITHIN CHANNEL. PLANT SAN RAMON CREEK CHANNEL TO CREATE LOW FLOW CHANNEL & TRAIL USING STRUCTURAL BANK STABILIZATION

**EAST - SEGMENT A**

- 1 CONNECT CREEK TRAIL WITH IRON HORSE TRAIL
- 2 BANKTOP HX/BKE TRAIL ACROSS EXISTING BRIDGE
- 3 INFORMAL BANKTOP PICNIC AREAS
- 4 REMOVE TEMPORARY BUILDINGS

**WEST - SEGMENT B**

- 5 WHOLE ADDRESS INTERPRETIVE TRAIL INTO CHANNEL
- 6 BANKTOP HX/BKE TRAIL
- 7 OVERLOOK DECKS INTO CHANNEL
- 8 NEW CREEK INTERPRETIVE PAVILION & COURTYARD
- 9 RELOCATE CREEK FRONTAGE PARKING LOT (50 CARS) & CO-WAY TO MEADOW
- 10 ACQUIRE FRENCH PROPERTY IN LONG TRAIL RESERVE FOR CIVIC FUNCTIONS & HISTORIC INTERPRETATION AND RECONFIGURE GARDENS TO ACCOMMODATE BANKTOP TRAIL, INTERIM HIKING TRAIL TO PASS AROUND FRENCH PROPERTY VIA THE LIBRARY & BIKE TRAIL TO STOP EITHER SIDE OF

**OTHER RESTORATION**

EXPAND NATIVE RIPARIAN & UPLAND VEGETATION  
 REMOVE EXOTIC VEGETATION & REPLACE W/ NATIVES  
 BIOTECHNICAL BANK STABILIZATION W/ POCKETS OF STRUCTURAL SOLUTIONS (EAST SEGMENT)  
 STRUCTURAL BANK STABILIZATION W/ INTEGRATED REVEGETATION (WEST SEGMENT)  
 \*\* LOW FLOW HIGH PASSAGE & BAFFLES IN CONCRETE CHANNEL TO DIRECT FLOW TO NATURAL CHANNEL (EAST SEGMENT)

- 12 STRIPE & SIGN MID-BLOCK TRAIL CROSSING OF LINCOLN AVE
- 13 ADD SPECIAL CREEK DETAILING TO LINCOLN AVE. BRIDGE
- 14 EXPAND DECK BEHIND RESTAURANT FOR HX/BKE TRAIL
- 15 REPLACE SOLID FENCE W/ OPEN FENCE ABOVE CULVERT OUTFALL

- 16 ACQUIRE & REMOVE BLDG STORE IN LONG TRAIL & REPLACE WITH NATIVE LANDSCAPED PARK, TRAIL BENCHES & TABLES. INTERIM RELOCATION OF (2) OUTSIDE PARKING SPACES. EXTENSION OF CURB & TRAIL AT OUTSIDE IN FRONT OF STORE
- 17 CONTINUOUS SEPARATE HX & BKE TRAILS ALONG BROADWAY AT PARKING STRUCTURE FRONTAGE
- 18 STRIPED TRAIL CROSSING OF BROADWAY AT DUNDON ST

**OTHER RESTORATION**

REVEGETATE CHANNEL BANKS WITH NATIVE RIPARIAN TREES  
 EXPAND UPLAND TREE MASSES ALONG

**EAST SEGMENT**

- 36 CONTINUOUS HX/BKE TRAIL CONNECTING BROADWAY PLAZA WITH LAS TRAMPAS CREEK
- 37 REMOVE PARKING AT STREET TO ACCOMMODATE TRAIL & BUFFER PLANTING W/ MINIMAL RELOCATION OF PARKING ON SITE
- 38 RECONFIGURE DROP STRUCTURE TO CREATE CASCADING WATERFALL W/ POOLS FOR FISH LADDER
- 39 WHOLE ACCESS TRAIL RAUP BETWEEN BANKTOP & UNDERPASSING AT CALIFORNIA BLVD BRIDGE

- 41 EXCAVATE & REMOVE EXISTING STRUCTURAL BANK PROTECTION & REPLACE W/ BIOTECHNICAL SOLUTIONS IN ORDER TO CREATE A LOW-FLOW CHANNEL & TERRACES FOR REVEGETATION & TRAIL WHILE MAINTAINING EXISTING FLOOD CAPACITY
- 42 SEAL CONNECTIONS FROM SIDEWALK TO IN-CHANNEL TRAIL
- 43 ADD SPECIAL CREEK DETAILING TO CALIFORNIA BLVD

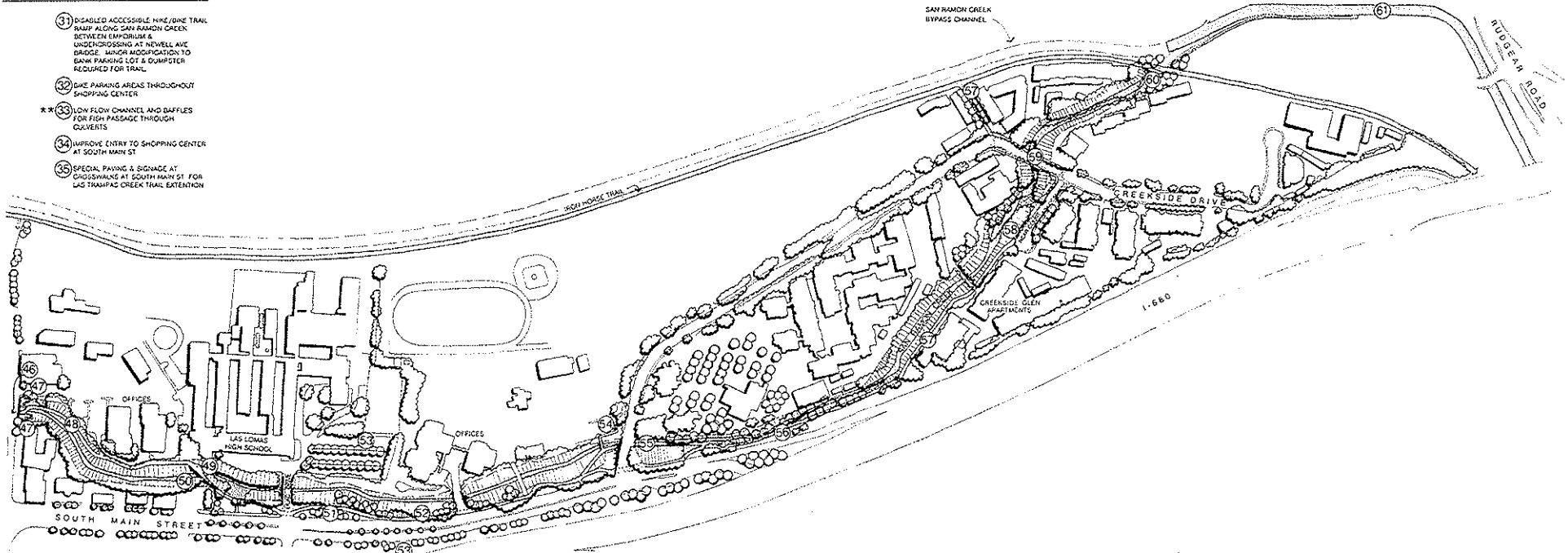
**WEST SEGMENT**

- 44 CONTINUOUS HX/BKE TRAIL PASSES UNDER 1000 BRIDGE W/ FUTURE

**OTHER RESTORATION**

REMOVE EXOTIC VEGETATION & REPLACE W/ NATIVE RIPARIAN SPECIES  
 RESTORE RIPARIAN HABITAT WITHIN CHANNEL  
 SUPPLEMENT EXISTING RIPARIAN FORESTS  
 EXPAND UPLAND HABITAT INTO ADJACENT AREAS  
 SPANNING GRAVEL CHECK DAMS, ROCKERS, BAFFLES, BUCKS & PISH

- 31) DISABLED ACCESSIBLE HIKE/BIKE TRAIL RAMP ALONG SAN RAMON CREEK BETWEEN EMPORIUM & UNDERCROSSING AT NEWELL AVE. MINOR MODIFICATION TO BANK PARKING LOT & DUMPSTER REQUIRED FOR TRAIL.
- 32) BIKE PARKING AREAS THROUGHOUT SHOPPING CENTERS
- \*\* 33) LOW FLOW CHANNEL AND DAFFLES FOR FISH PASSAGE THROUGH CULVERTS
- 34) IMPROVE ENTRY TO SHOPPING CENTER AT SOUTH MAIN ST
- 35) SPECIAL PAVING & SIGNAGE AT CROSSWALK AT SOUTH MAIN ST FOR LAS TRAMPAS CREEK TRAIL EXTENSION



**SEGMENT A, B & C**

- 46) SPECIAL ROAD BRIDGE DETAILING RELATED TO CREEK
- 47) STAR CONNECTIONS FROM STREET SIDEWALKS TO TRAIL
- 48) CONTINUOUS WHOLE ACCESS HIKE/BIKE TRAIL RAMP BETWEEN NEWELL AVE. UNDERCROSSING & BANK-TOP OFFICE COMPLEX WITH SELECTIVE REMOVAL OF LESS SIGNIFICANT TREES AND PRESERVATION OF EXISTING OAKS
- 49) BANK-TOP BRIDGE CROSSING & TRAIL

- \*\* 51) ACQUIRE BUILDINGS & PARKING LOTS ALONG CREEK AT USAD DR. & SOUTH MAIN ST. REMOVE & REPLACE W/ BANK-TOP PARK & TRAIL WITH W/ EXPANDED RIPARIAN ZONE PLANTING. INTERIM TRAIL ALIGNMENT ALONG STREET FRONTAGE. REMOVE (T) STREET PARKING SPACES. MOVE CURB. EXPAND SIDEWALK & PLANT STREET TREES
- 52) CONTINUOUS BANK-TOP HIKE/BIKE TRAIL ON WEST SIDE OF CREEK AT HIGH SCHOOL. TO UNDERCROSSING AT CREEKSIDE DR

- 54) STAIRWAY CONNECTION & LOW-BRIDGE BETWEEN CHANNEL TRAIL & CREEKSIDE DR SIDEWALK

**OTHER RESTORATION**

- REMOVE EXOTIC VEGETATION & REPLACE W/ NATIVE RIPARIAN & UPLAND SPECIES ALONG CHANNEL
- BIOTECHNICAL BANK STABILIZATION TECHNIQUES (AND SOME STRUCTURAL SOLUTIONS) TO PROVIDE LOW FLOW CHANNEL & IMPROVE CHANNEL VEGETATION
- BOULDER RIPPLES CHECK DAMS AND

**SEGMENT A & B**

- 55) CONTINUOUS WHOLE ACCESS HIKE/BIKE TRAIL CROSSES UNDER CREEKSIDE DR & FOLLOWS THE TOP OF EXISTING CONCRETE CHANNEL WITH OVERLOOKS
- 56) FILL IN CONCRETE CHANNEL & CREATE LOW-FLOW CHANNEL WITH RAMPED BOULDER RIPPLES CHECK DAMS. POOLS AND BIOENGINEERING BANK STABILIZATION TECHNIQUES PLANT NEW RIPARIAN FOREST WITHIN NEW CHANNEL
- 57) CONTINUOUS HIKE/BIKE TRAIL, PASSES BEHIND CREEKSIDE GLEN APARTMENTS WITH GRADE SEPARATION & CULVERTS TO HIGH HORSE TRAIL AT EXISTING LAZEMENT NEAR WOODWOOD SCHOOL
- 58) ACQUIRE VACANT PROPERTY AT NEAR COURT SANDSTONE GOLF COURSE &

- 59) ADD PEDESTRIAN BRIDGE TO EXISTING ROAD BRIDGE ALONG CREEKSIDE DR BIKE LANES IN STREET
- \*\* 60) FISH LADDER FOR FISH PASSAGE TO CONCRETE CHANNEL AT BY-PASS STRUCTURE
- \*\* 61) LOW FLOW CHANNEL & DAFFLES IN CONCRETE CHANNEL TO RUGGLAR RD

**OTHER RESTORATION**

- REMOVE EXOTIC VEGETATION & REPLACE WITH NATIVE RIPARIAN & UPLAND SPECIES
- EXPAND UPLAND VEGETATION INTO ADJACENT AREAS INCLUDING FREEWAY FRONTAGE & PARKING LOTS
- COMBINATION STRUCTURAL & BIOTECHNICAL SOLUTIONS TO CREATE

# CREEKS RESTORATION & TRAILS MASTER PLAN

CITY OF WALNUT CREEK, CALIFORNIA

JOHN NORTHMORE ROBERTS & ASSOCIATES  
LANDSCAPE ARCHITECTS & LAND PLANNERS

BILLINGHAM ASSOCIATES • HABITAT RESTORATION GROUP • SYCAMORE ASSOCIATES  
PHILIP WILLIAMS & ASSOCIATES • JOHN B. DYKSTRA & ASSOCIATES

# A WALK ALONG THE GREENWAY

## **A WALK ALONG THE GREENWAY**

Some friends of ours have invited us to join them for lunch in downtown Walnut Creek. It is a sunny day and there is a trail conveniently near our house, so the thought of using our car does not even enter our minds as it would have several years ago. We readily find our way from our neighborhood north of Ygnacio Valley Road to the Iron Horse Trail and begin our familiar journey southward toward downtown.

### **Iron Horse Trail**

We cross under the broad thoroughfare of Ygnacio Valley Road and stop at the old railroad bridge to marvel at the dynamic form of the enormous converging concrete channels. The channels were designed by engineers to carry the flood waters safely around the downtown. Tree branches now overhang the concrete walls, providing some shade to the narrow, meandering ribbon of water below. Groves of large trees on alternating sides of the channel next to the maintenance roads help to create a sense of a tree-lined canal, although the scale and purpose of the structures cannot be hidden.

Small curbs and an interesting pattern of baffles have been added to the bottom of the old concrete flood control channel in order to create an artificial stream course with frequent eddies for migrating fish. The added low-flow stream has not significantly altered the flood capacity of the channel, but it has made an important positive impact on the habitat for this entire watershed. Retrofitting of the old, single-purpose flood structures has occurred from the San Francisco Bay to the coastal hills to enable fish and wildlife to re-establish their natural migratory patterns. The fish are able to rest while making their way through this long, harsh concrete trough to their spawning and rearing grounds upstream. Apparently the salmon and steelhead trout have not yet made it up this far from Suisun Bay following the recent storms. The City's naturalist mentioned that the fish normally take three to five days to reach this spot. They will probably be here in another day or two.

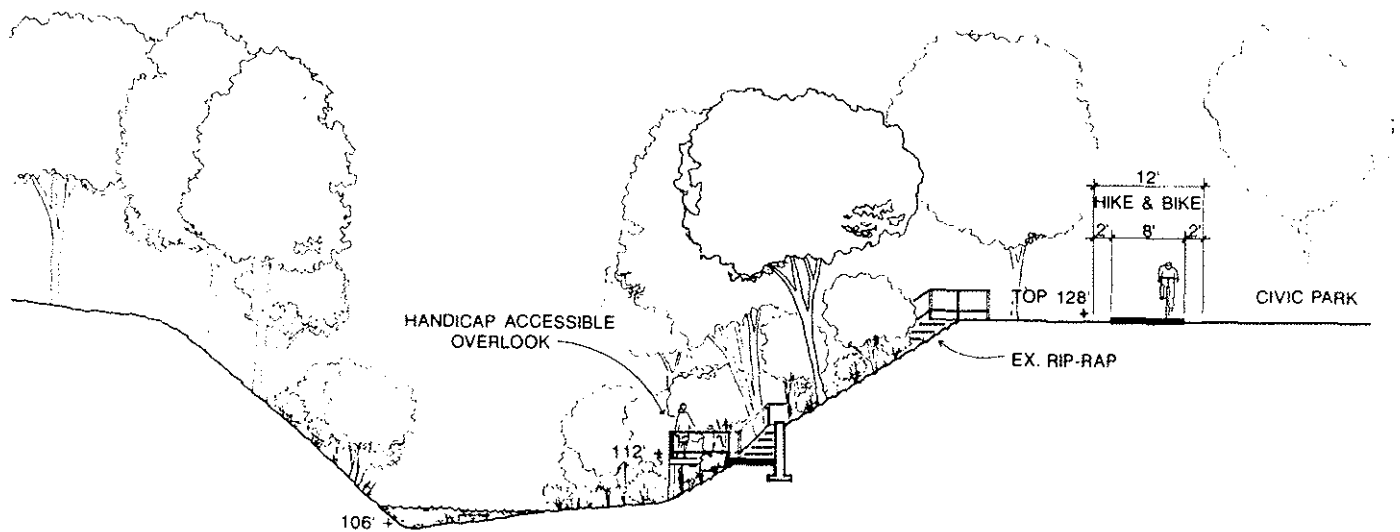


Figure 8: Section at Civic Park, Looking South

### Civic Park -- East

Since we are going to meet our friends at the new restaurant overlooking the creek near downtown, we leave the Iron Horse Trail and turn onto the Creekside Trail to walk through Civic Park. Butterflies greet us as we drop down the hill toward the tree covered bank top. A group of people are setting up a picnic under the trees while a baseball game is getting under way in the field to the south. The dense, lush tree canopy and natural appearing stream channel below form a striking contrast to the retrofitted concrete flood control channel we just left. We notice that the small alders, sycamores and oaks that were planted by our neighbors on a degraded creek bank at the start of the creek restoration process several years ago have become quite mature and help to make a continuous forest. We pause at the old bridge to look down into the boulder strewn creek bed, a favorite place to watch the migrating salmon or listen to the baby birds call from their nests.



Figure 9: Existing Top of Bank View at Civic Park West

### Civic Park -- West

We have a little extra time, so we decide to take the narrow ramp down into the channel and get close to the water. The trail takes us comfortably down the steep slope and through the thickly layered vegetation to a small ledge above the water surface. There is the sound of water running in riffles across rocks and around boulders. Our view of the riffle is partially obscured by tree branches, but we can see two small pools with banks overhung with plants. An interpretive sign identifies the overhanging plants, indicating that they are particularly attractive to certain types of insects that the fish and birds feed upon. A small cluster of ducks swim by. They must have chosen to live here year round rather than to migrate. A young boy is trying his hand fishing in the larger pool while standing on a rock jutting out from the bank while his younger sister is exploring under the cobbles at the edge of the water. We come upon an overlook deck and rest a moment, listening, watching, smelling and almost tasting the cool protected environment. The richness and abundance of this creek environment are revealed within the channel in ways that can only be sensed from above. We understand that we are visitors here and appreciate the fact that there are a few such places for us to get to the water, leaving the rest to the creek critters.

Climbing the steps out of the channel, we resume our walk on the main trail at the top of the bank, under the branches of the spreading valley oaks. At the new park pavilion, which has interpretive displays and other information about the creek and its restoration, we are introduced to the trees and shrubs that donated acorns and seeds for revegetation of the creek banks, and to the people who did the planting. The pavilion and its outdoor courtyard are frequently used for special events because of the stunning creekside location. A family with small children pass us on their bicycles on their way to rest in the native bunchgrass and wildflower meadow which extends back from the top of the bank under the oak trees.



Figure 10: Typical Civic Park West Trail, Looking South

The trail continues past the Community Center, with its patio opening to the creek and the Library. In the creek channel below the trail, the pattern of a log crib-wall, one of the bio-engineering devices used to stabilize the eroding banks in this reach of the creek, can barely be seen through the dense vegetation growing between the cribbing.

## **Broadway**

We emerge from this cool woodland, and pause at a handsome brick plaza at Lincoln Ave., a product of one of the City's first creek renovation projects that has held up quite well. Across the quiet street, the trail continues as a broad wooden deck overlooking the densely wooded creek behind a popular restaurant. Beyond the deck, a small grassy and tree covered park with benches facing downstream greets us. The park straddles the end of the underground creek culvert and marks the point where the creek passes from a dark enclosed concrete box into the open. Upstream of this point, the creeks have been entirely covered over by roads and buildings, and special fish passage devices have had to be installed within the culvert in order to allow the fish to reach their upstream spawning and rearing grounds.

The arching branches of the large trees planted on either side of Broadway continue the spatial feeling of the creek corridor, although the creek is buried directly beneath the roadway. We cross Broadway at the intersection at Duncan Street near the downtown parking structure. Usually, when we walk into town for our routine shopping, we will go straight ahead along Duncan Street one short block to the historic downtown district. Today, however, we turn left through the small park to the south and along Broadway Plaza to our lunchtime rendezvous.

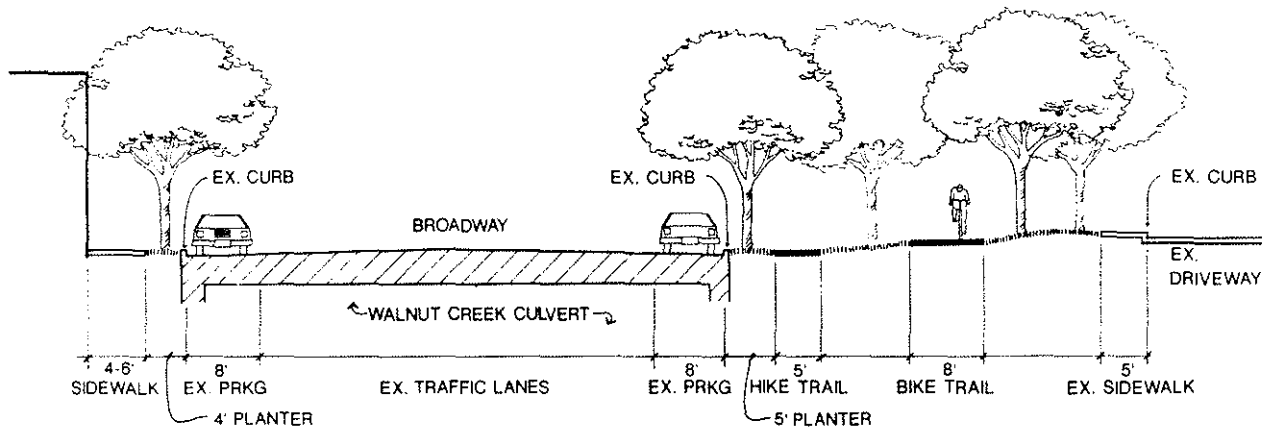


Figure 11: Section B-B - Broadway, Looking North

The small park at the intersection of Broadway and Mount Diablo Blvd. forms a tree covered oasis along these two major cross-town city streets. It marks the confluence of the two main tributaries which drain the extensive watershed to form Walnut Creek. They merge directly beneath the park. It was near this place that the City of Walnut Creek originated. The fountain, paving and gardens contain references to the creeks, to the region and to the origins of the City. The benches and bermed planting areas are inviting for shoppers and employees alike from the historic downtown district, from the new commercial complex at the corner Bank of America site, and from Broadway Plaza across Mount Diablo Blvd. The park is full of people sunning themselves while eating lunch on the benches and watching passers by.



Figure 12: Existing View Along Broadway Plaza

### **Broadway Plaza**

Our journey continues across the specially paved crosswalk at Mount Diablo Blvd. and we start down the sidewalk at Broadway Plaza. Remarkably, a seamless transition has occurred along the trail, from the top of the creek bank to the heart of the tree-lined downtown shopping district. We are separated from the creek, but still within a comfortable and densely vegetated, pedestrian landscape.

The food vendor in the small plaza at the entrance to Nordstrom is very busy. At the larger plaza in a former parking lot on the west side of the street, an original theatrical performance entitled "Horse Ballet" by The Children's Troupe is under way, entertaining the lunchtime crowds. Gestures and phrases are being boisterously passed from one performer to the next across large distances, tying the entire street scene together into a single festive, theatrical space. Even some cyclists along Broadway Plaza have stopped and moved their bikes out of the way to watch. The fountain and trees in this urban space remind us that we are standing above Las Trampas Creek. Near the southern end of the street at the new entrance to Emporium, people have filled the new tree covered plaza, enjoying capuccinos and pastry, and watching the impromptu parade before them. The groves of trees at both ends of Broadway Plaza, the street trees in between, the fountains and the paving give this commercial street a lushly landscaped quality that makes us feel connected to the creeks without actually being within them.

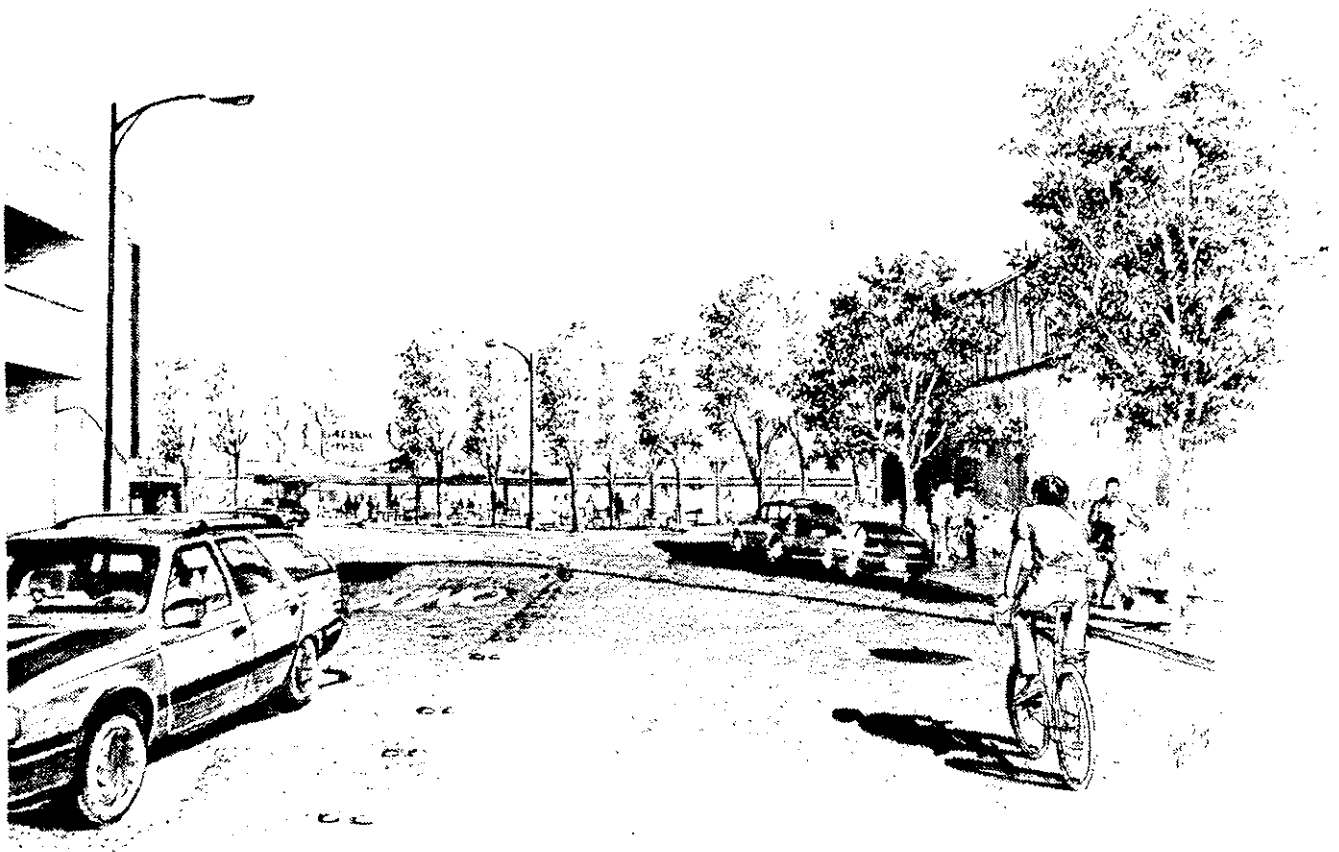


Figure 13: Broadway Plaza, Looking East Toward Emporium  
(Tier 2 proposal)

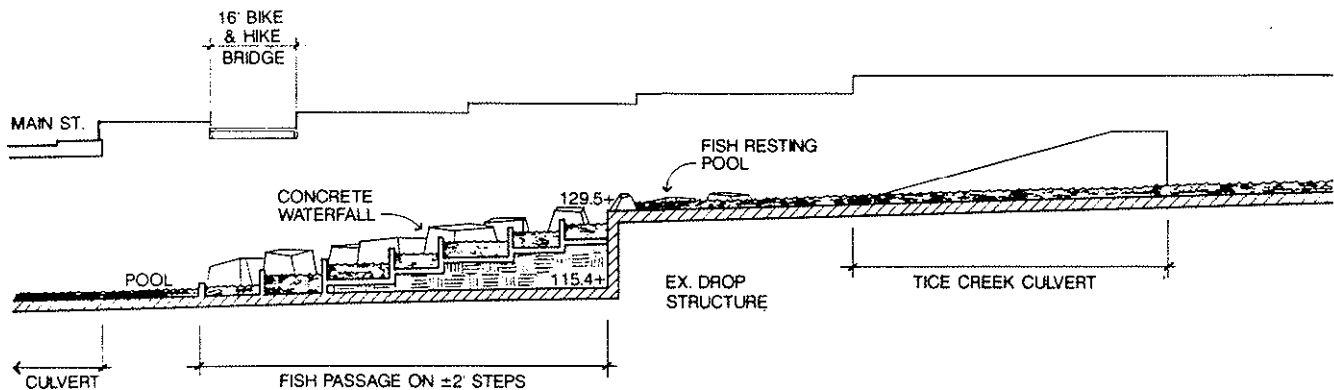


Figure 14: Longitudinal Section at Drop Structure, Looking South  
(Tier 2 proposal)

### Las Trampas Creek -- East

The site and smell of food is making us hungry, so we move quickly toward our destination overlooking Las Trampas Creek. We cross South Main Street and follow the trail past the new bicycle rental shop and 7-11 to the pedestrian bridge which crosses Las Trampas Creek. Visible below the trail bridge is a waterfall. Its dynamic sculpted concrete forms and cascades of water crashing down from the creek above are composed with an offset of shallow pools that allow fish to safely negotiate over the fifteen foot drop during their seasonal migrations. The overlook near the bridge is the favorite spot of local people to watch the amazing dance of the salmon as they fly up from one pool to the next toward their spawning areas.

Our destination is across California Blvd., so we must follow the trail into the channel, then under the road bridge and back up the stairway on the other side in order to avoid a dangerous mid-block crossing. We can hardly tell that this used to be the most degraded of all reaches of the creeks in the City. The dense riparian vegetation growing out of the excavated terraces and the boulder lined water course with its spawning gravels, fish and bird life are testimony to the vision that can be achieved. The transformation of this narrow, flood prone section to a place of great beauty is the result of flood control design which balances habitat restoration and access requirements with public safety. Eventually, the businesses at the top of the banks may change and the upper terraces will serve pedestrians in the beautiful creek setting. Since the present businesses are thriving, we can simply enjoy the greenway without conflict.

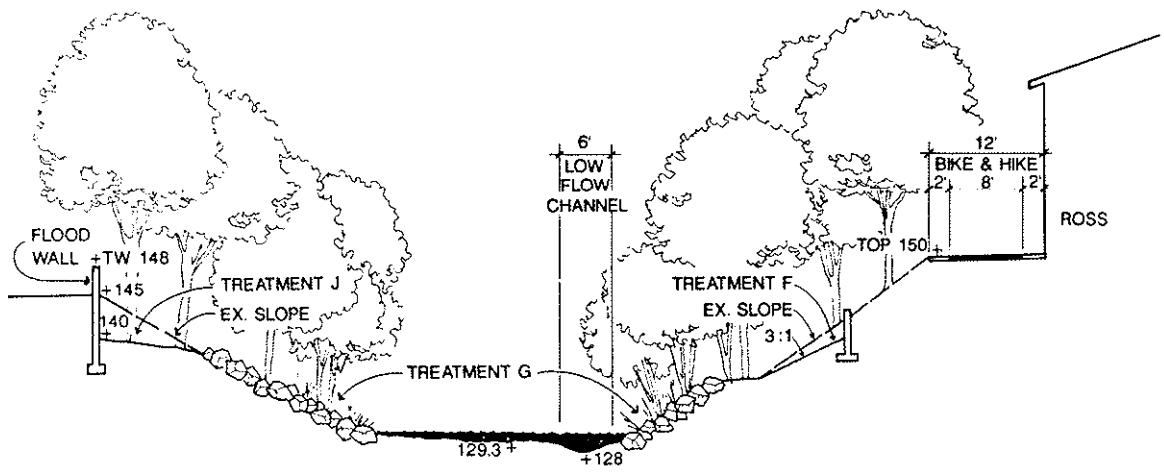


Figure 15: Section at Ross, Looking West

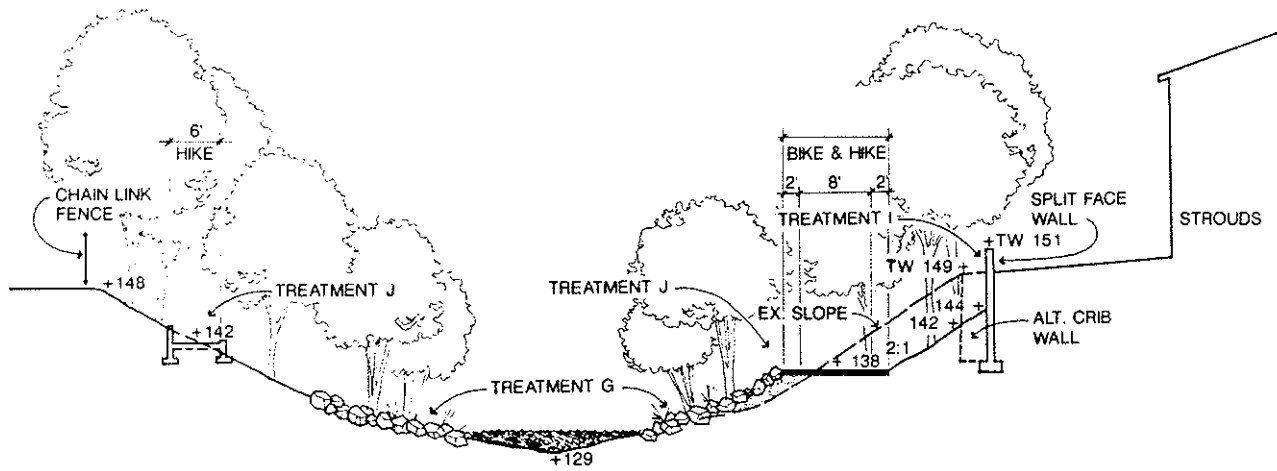


Figure 16: Section at Strouds, Looking West



Figure 17: Existing View of Las Trampas Creek, Looking East

### **Las Trampas Creek -- West**

We cross under the bridge and climb the stairs out of the channel and meet our friends on the deck of the new restaurant, overlooking the old riparian forests. We are near the area that the naturalists describe as prime spawning and rearing habitat for the migratory fish. It seems impossible that we have only walked a little more than a mile and improbable that we could be so close to the center of downtown Walnut Creek. Our friends have come a similar distance to the restaurant from the west by way of the Lafayette/Moraga Trail along Las Trampas Creek.

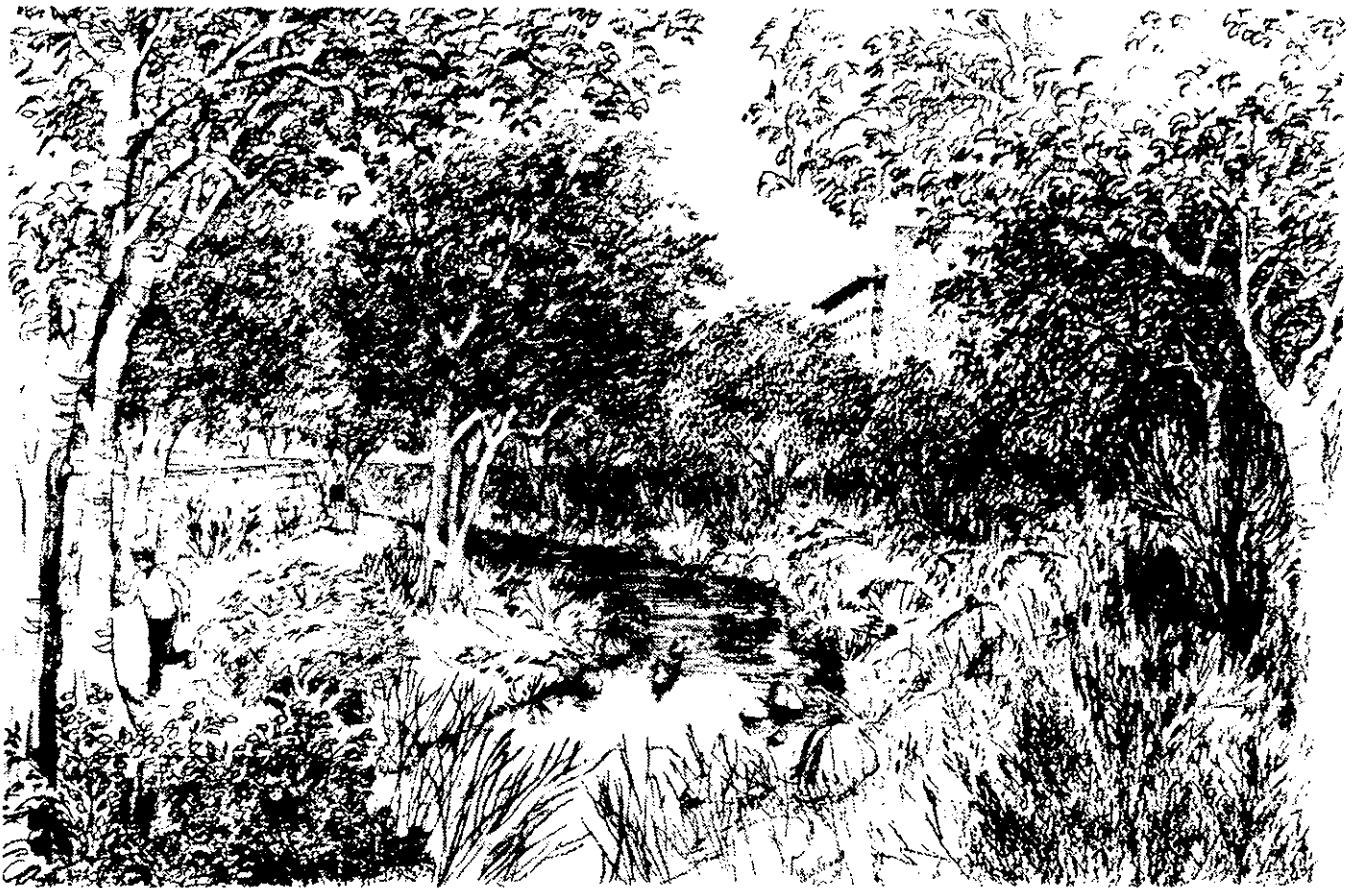


Figure 18: Restored Las Trampas Creek & Trail, Looking East

### **San Ramon Creek -- North**

After lunch, we part company with our friends and return toward Broadway Plaza for our journey home. Not wishing to repeat our steps, we head for the San Ramon Creek Trail at the Emporium, intending to make a loop of the day's outing. Behind the Emporium, the trail moves south into the creek channel in order to cross under the busy Newell Ave. road bridge. Through the willows, sycamore and oak, we can see a dramatic sandstone outcrop with vertical walls plunging down to the bed of the creek. The trail moves naturally and unobtrusively into the channel, a result of careful bio-engineering and restoration design. We are not even aware of the old sackcrete walls that used to adorn the western bank. They are now entirely overgrown with native vegetation thanks to a clever restoration technique in which the old material is selectively removed and replaced by trees and shrubs planted inside special protective collars.

Once under Newell Ave., we cross the creek and climb back up to the top of the bank under the large oaks, cottonwoods, sycamores and willows. There is more evidence of the native sandstone bedrock in the creek bottom and in an occasional outcrop along the bank. The eroding banks are held in check by the roots of the trees and shrubs, and low walls have been constructed to limit the impact of a trail in this rich habitat. We can hear the sound of rushing water and get a glimpse of a series of boulder cascades through the foliage. A small bedrock waterfall near the high school is home to a family of mallards and is also used for science classes at the school. The fact that this deep channel has been cut down to bedrock reminds us of the city naturalist's comments that the first cattle introduced by the early Spanish settlers overgrazed the grasslands in the upstream watershed, beginning an accelerated downcutting process that continues today.

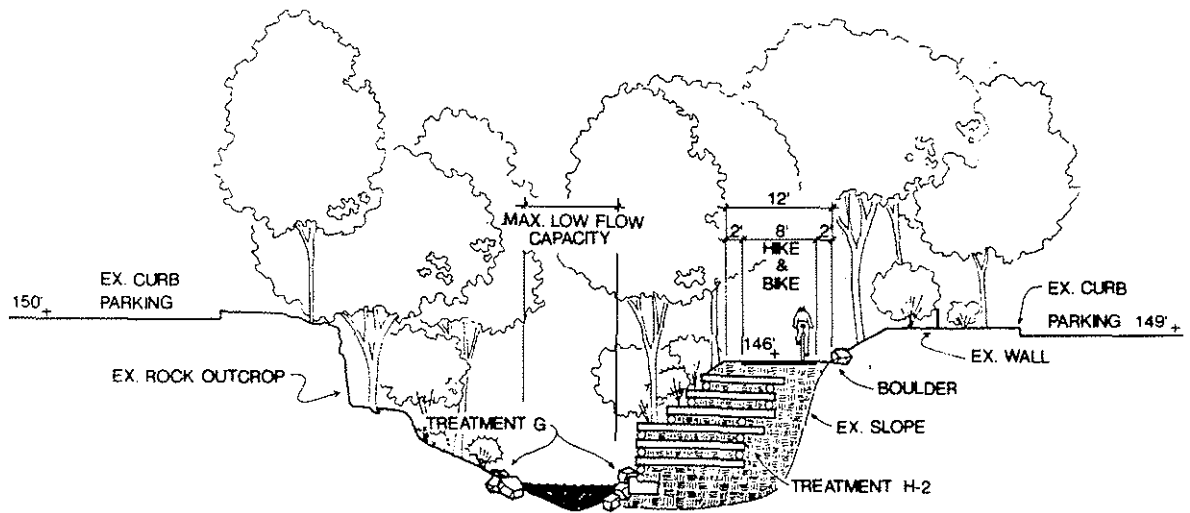


Figure 19: Section at Emporium Parking, Looking South

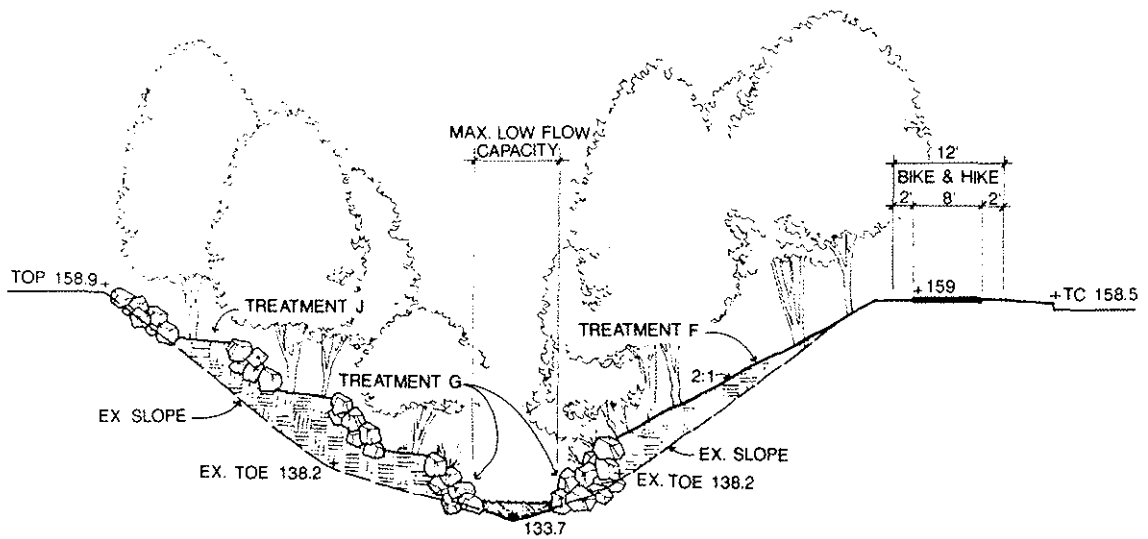


Figure 20: Section at Las Lomas High School, Looking South



Figure 21: Existing View of San Ramon Creek and Bedrock Waterfall

We cross the trail bridge between the tops of the banks. An old cottonwood tree rises through the bridge decking. We feel like we are squirrels in the trees, able to look deep into the forest and up the creek canyon from high above. A weekend worker passes us on her bicycle, with a briefcase and file folders visible in her bicycle packs. She must be on her way to the office complex at the eastern side of the bridge since the trail ties directly into their grounds.

Once across the creek, we follow the top of the bank under high tree canopies and through small open park spaces all the way south to Creekside Drive. Along the way, we cross the entrances to Las Lomas High School and several more office complexes. Students and employees alike are able to ride their bikes or walk directly to school or to work. The continuous tree cover, layered riparian understory and sound of birds and running water are good indications of a healthy and undisturbed habitat within the channel. The oak woodland has even been extended through the High School parking lot, providing shade to the teenagers' cars and habitat for birds and small mammals. Similar extensions of the upland forests have occurred in other parking lots and along roadways, linking the creek corridor to the surrounding areas.

We are walking within a greensward next to the South Main Street freeway entrance to Walnut Creek, and remark on the beauty of the new image of the City that one gets along this entryway. The visitor's first impression of the City at this entryway is the thick riparian vegetation with people walking and bicycling along a trail separated from the road and paralleling the creek.



Figure 22: View of Trail Bridge at San Ramon Creek, Looking South



Figure 23: Existing View of South Main Street at Lilac

### **San Ramon Creek -- South**

At Creekside Drive, we choose to go under the bridge rather than up to the busy intersection at the street. The trail takes us into a former concrete channel that has been converted to a riparian woodland. The San Ramon Bypass structure has diverted the flood waters around this reach, thereby making it possible to partially fill in the concrete channel and reclaim it. The trail climbs to the top of the former channel wall and the newly constructed stream meanders below, through sycamore, alder and willow thickets and around boulders and small waterfalls. We have watched the transformation of this area with pride and amazement over the years, especially as the birds, insects and other animals have moved in and established themselves in their own separate niches. The stream and habitat appear as natural as the untouched channel that we have just left downstream.

As we climb the gentle slope past the Creekside Apartments toward Near Court, we meet a resident of the Creekside Drive neighborhood who tells us that he is on his way downtown along the trail to do some shopping. He says that he is delighted that he does not have to drive and fight to find a parking space. We share his delight and tell him that our neighborhood to the north is served equally well by off-road trails.

We stop at the overlook at the small park along Near Court to listen to the sound of the waterfall over the bedrock sandstone outcrop. A neighborhood group is collected below on the rocks, and a heron can be seen in the shallow water upstream. An interpretive sign tells us that the herons nest in the trees in this vicinity, but our eyes are not sharp enough to spot their nests from this angle.



Figure 24: Creekside Town Entry at South Main Street  
(Tier 2 proposal)

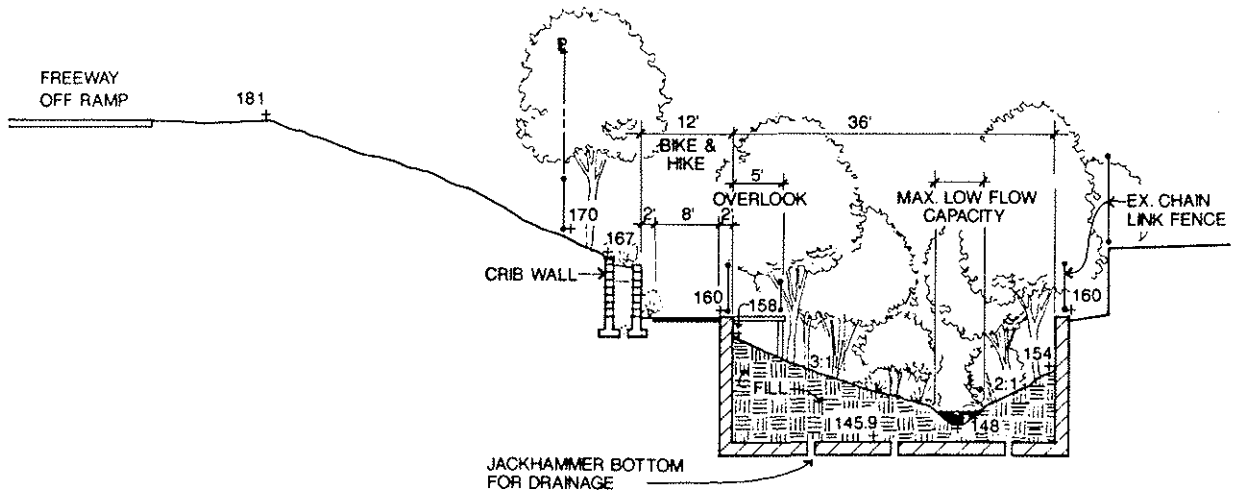


Figure 25: Section at Concrete Channel, Looking North

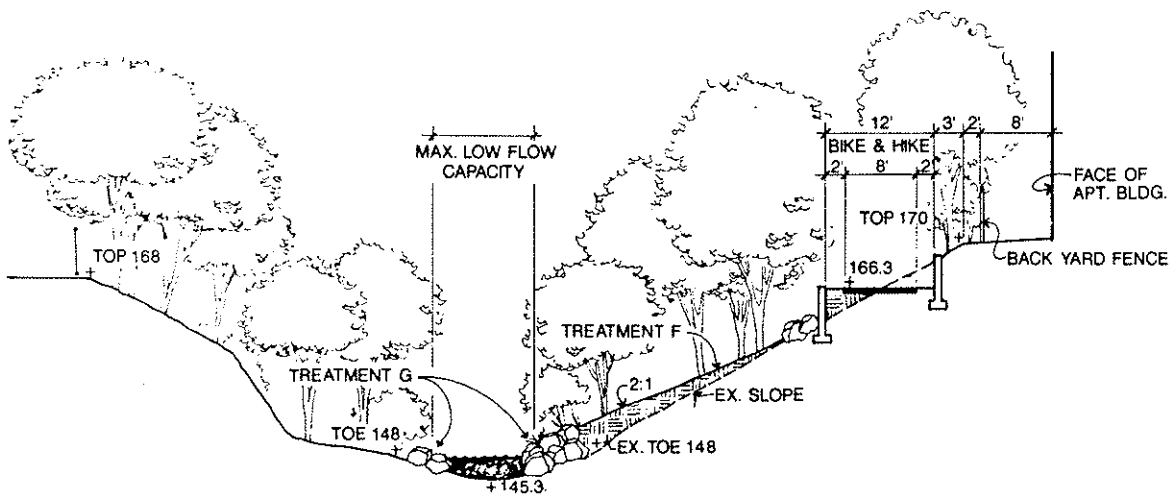


Figure 26: Section at Creekside Glen Apartments, Looking South

Across the bridge at Creekside Drive and a few more steps along the trail, we reconnect with the Iron Horse Trail as it parallels South Broadway. There is a new bridge at this location which carries school children across South Broadway to Murwood School. We suspect that the trail brings many of these children safely to and from school and imagine the fun those children must have on their way. They are probably not aware of how much they are learning by these trips, but we can be sure that these children will be among the future "creek keepers". The creeks will be in all their senses and will affect all their perceptions about their environments.

Before going back home along the Iron Horse Trail, we want to take one last look at the creek from the overlook a few hundred feet to the south. From the overlook, we look down into the natural channel and think about the richness and diversity of this brief 2.5 mile walk. A little bit of wilderness has found its way back into our City, and it has become a part of our lives. Our City is once again opening itself to the creeks. We can safely walk or ride our bikes to the heart of downtown, and beyond if we wish, with little or no conflict with automobiles. We can shop and dine along the creeks. And the birds, fish and other animals that depend upon the riparian habitat have an opportunity to stay and live with us to rear their young, or to move through to other niches upstream or downstream or elsewhere.

# THE GREENWAY SYSTEMS

## THE GREENWAY SYSTEMS

Achievement of this vision of the linear park and greenway depends upon the development of the individual components of the greenway design. The physical and spatial design of the greenway is an orchestrated interweaving of the hydrology, vegetation, aquatic environment, circulation and anticipated uses. Each of these components has been conceived in response to the specific site conditions along the greenway, and then integrated to create the overall plan.

The following are summary descriptions of each of the components. The intent of the Master Plan is to make the technical underpinnings indistinguishable from the park feature that they are designed to support. The basic engineering and biology are driven by the overall greenway design, conceived to benefit the whole, not simply to solve singular technical problems. Each component is described in greater detail in the subsequent volumes of the Master Plan Report.

### Proposed Greenway/Habitat

The riparian habitat along the creeks is now discontinuous, with significant biological gaps in the linear system. These gaps have typically occurred in areas where urban encroachments into the creek channel have been the most severe. One of the primary considerations for the habitat restoration component of the Master Plan is to close those gaps to the extent feasible by planting native riparian and upland habitat vegetation (see Figure 27: PROPOSED GREENWAY/HABITAT). Within the channel and on the creek banks, restoration planting and maintenance will be accomplished by utilizing the techniques described in the Restoration Guidelines in *Volume 3: Restoration Plans*. In instances where the creek is entirely covered over or where there are heavily impacted parcels adjacent to the creek channel, urban landscape installations compatible with the landscape of the riparian corridor are proposed. The intent is to make a continuous tree cover along the corridor with species that optimize the habitat values and that are as closely tied genetically to the locally indigenous plants as is feasible.

Within the existing vegetated areas, the invasive and incompatible exotic species will be removed and replaced with locally indigenous plant material. The existing native vegetation will be preserved and supplemented with additional plantings where appropriate. In areas where bank stabilization is required, bio-engineering utilizing indigenous plants is recommended as the preferred solution. Where more traditional engineering is required, walls and other structures will be designed to integrate native plantings.

Along the greenway are several publicly owned parcels of land of significant size. These include schools, parks and parking lots. The Master Plan recommends that the habitat characteristics of these parcels be acknowledged and developed, consistent with their other uses, in ways that expand the habitat values of the riparian corridor. Similar landscape approaches can be encouraged on the privately owned land, but there is not the same level of control and maintenance that is possible in these instances.

The creeks cross under a number of roads throughout the study area, but in most instances the presence of the creeks is not acknowledged. The Master Plan proposes that at each road crossing, stands of tall riparian trees be planted in groves to mark the creeks for the passing motorists.

Access into the creek channel will have a greater impact on the habitat than access along the top of the bank. There is little difference in habitat impact between a pedestrian trail and a combined bike/pedestrian trail. Since the primary goals of the project are to create trails but also to restore habitat, a balance is proposed in which trails are kept mostly at the top of the banks with limited incursions into the channel only when absolutely necessary for (1) safety, (2) restoration, or (3) for interpretive access.

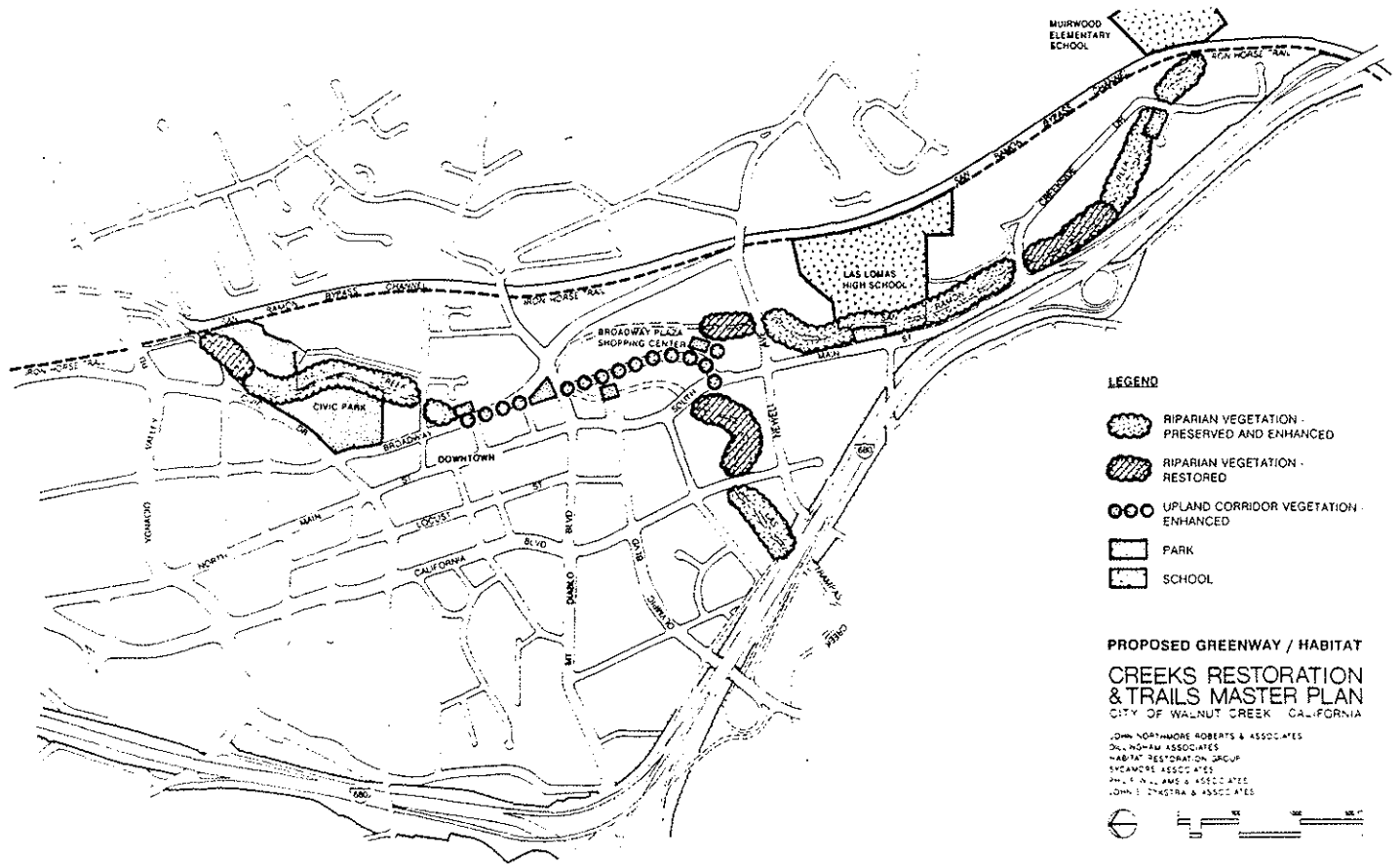


Figure 27

**Bank Stabilization & Restoration**

Flood and erosion hazards within the creek channels vary throughout the study area. In Walnut Creek and Las Trampas Creek they are a primary constraint for restoration, whereas in San Ramon Creek the hazards have been reduced thus allowing extensive restoration. Since restoration (the addition of vegetation) within the creek channel can reduce the flood capacity of the channel, the flood diversion structure allows greater flexibility in San Ramon Creek. Similarly, there are different levels of channel degradation and urban encroachment requiring varying degrees of structural and biotechnical habitat restoration. All treatments which are proposed address the hazardous and degraded conditions and are designed to

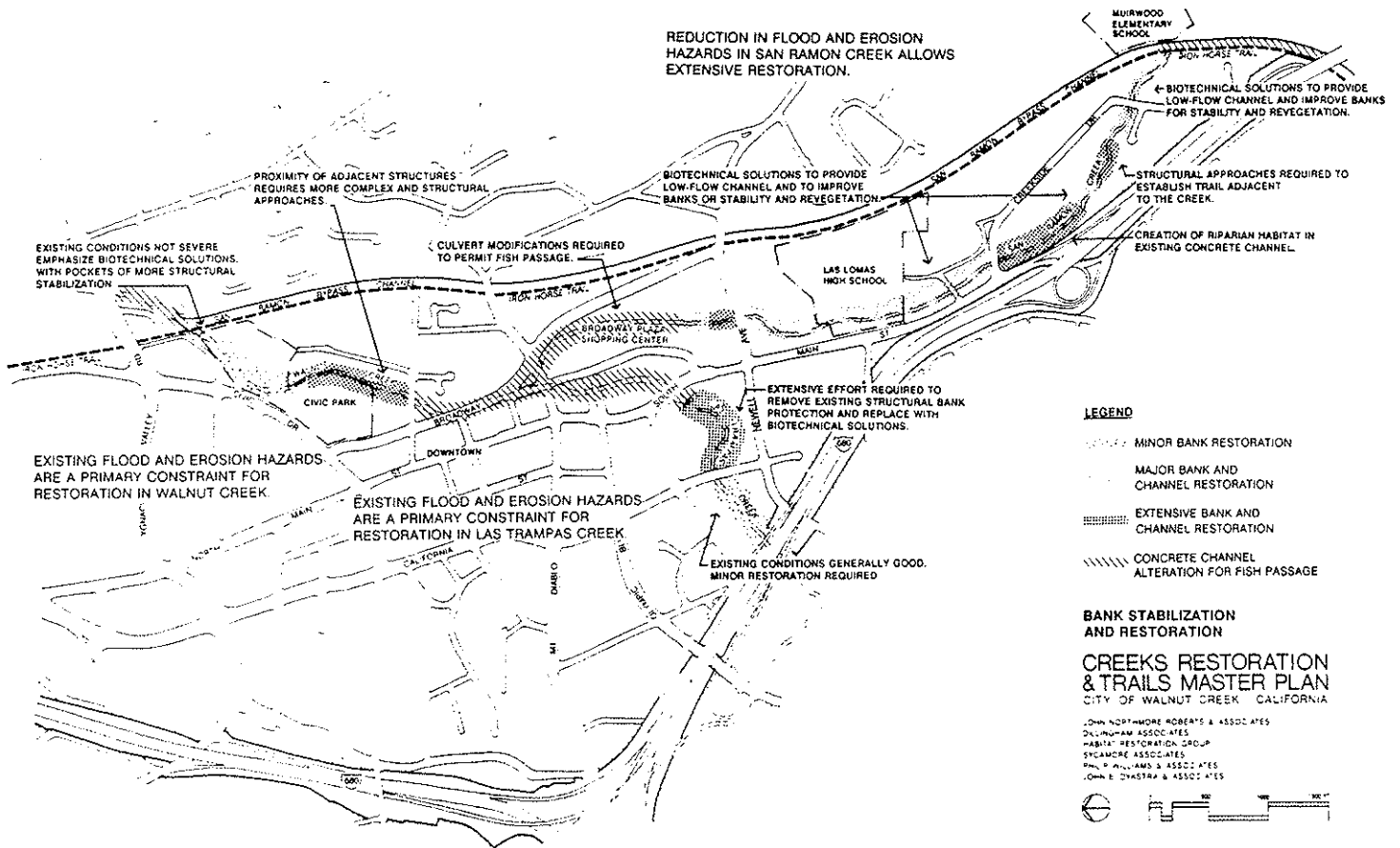


Figure 28

maximize the restored or enhanced habitat in each reach. The intent is to create the conditions for improved habitat with appropriately stabilized banks and either unchanged or improved flood conditions. The proposed treatments are also designed to accommodate a trail in those instances where it must drop into the channel. The treatment approaches are summarized in Figure 28: **BANK STABILIZATION AND RESTORATION**. In instances where the channel banks and existing riparian habitat are generally in good shape, minor bank restoration treatments are proposed in order to supplement or enhance the vegetation.

Extensive alteration of the existing channel is required in select reaches of each creek which are particularly degraded in order to create an appropriate condition for riparian habitat restoration. In Walnut Creek, this includes the area of severe encroachment from adjacent buildings, with a wide variety of existing bank stabilization treatments, requiring more complex and structural approaches than other reaches. In Las Trampas Creek, the bare trapezoidal channel, drop structure and most other structural bank protection must be replaced with biotechnical solutions in order to create a viable habitat. Major bank and channel restoration is required throughout most of San Ramon Creek in order to improve and stabilize the banks, provide a low-flow channel consistent with the new flood regime and to revegetate. In San Ramon Creek, the diverted flood flows will allow the creation of significant new habitat within the existing concrete lined channel and other severely degraded reaches by a combination of biotechnical and structural approaches.

In contrast to the open channels with treatments designed to expand the riparian habitat, the existing concrete culvert under Broadway and Broadway Plaza Shopping Center must be designed to enable fish passage from one open channel to the next. A similar treatment will be required to create a low-flow channel within the existing concrete channels upstream and downstream of the study area.

### **Channel Stabilization / Fish Habitat Restoration**

The restoration of viable fish habitat within the greenway and passage to spawning and rearing habitat upstream and downstream of the study area are important goals of the Master Plan. The Master Plan recommends the restoration and enhancement of fish habitat throughout the open portions of the study area whether or not the fish passage obstacles are overcome within the study area or in the downstream and upstream reaches. Improvements benefitting migratory salmon and steelhead would also benefit most other aquatic species, as well as contribute to a generally healthy environment. If the two drop structures and lengths of concrete channel downstream of the study area are altered to enable salmon and steelhead migration from San Francisco Bay into the study area, good upstream spawning, rearing and resting habitat will be available for them within the greenway. Recommended improvements include the creation of riffles and pools; boulder placement for cover, protection and current deflection; low check dams; spawning gravels; low-flow channels and the planting of vegetation to cool the water and support the production of fish food. A special set of riffles, chutes and pools with boulders placed across the entire channel and a waterfall-pool complex will be created in the vicinity of Civic Park to aid in the interpretation of the fish habitat resources. These recommendations are diagrammed in Figure 29: CHANNEL STABILIZATION / FISH HABITAT RESTORATION.

Fish passage devices are designed to overcome migration obstacles within the study area in addition to those downstream. The major obstacles include the large concrete culverts beneath Broadway Plaza Shopping Center, two drop structures, the open rectangular concrete channel and the low-flow bypass pipe that connects to the upstream reaches of San Ramon Creek. In order to restore the historic migration capability of the anadromous fish that once populated the waters of the creeks in the greenway, the Master Plan recommends the construction of fish passage devices.

However, very little data exists on the ability of anadromous species to migrate successfully through such long sections of modified constructed obstacles. The uncertainty also applies to the upstream and downstream reaches.

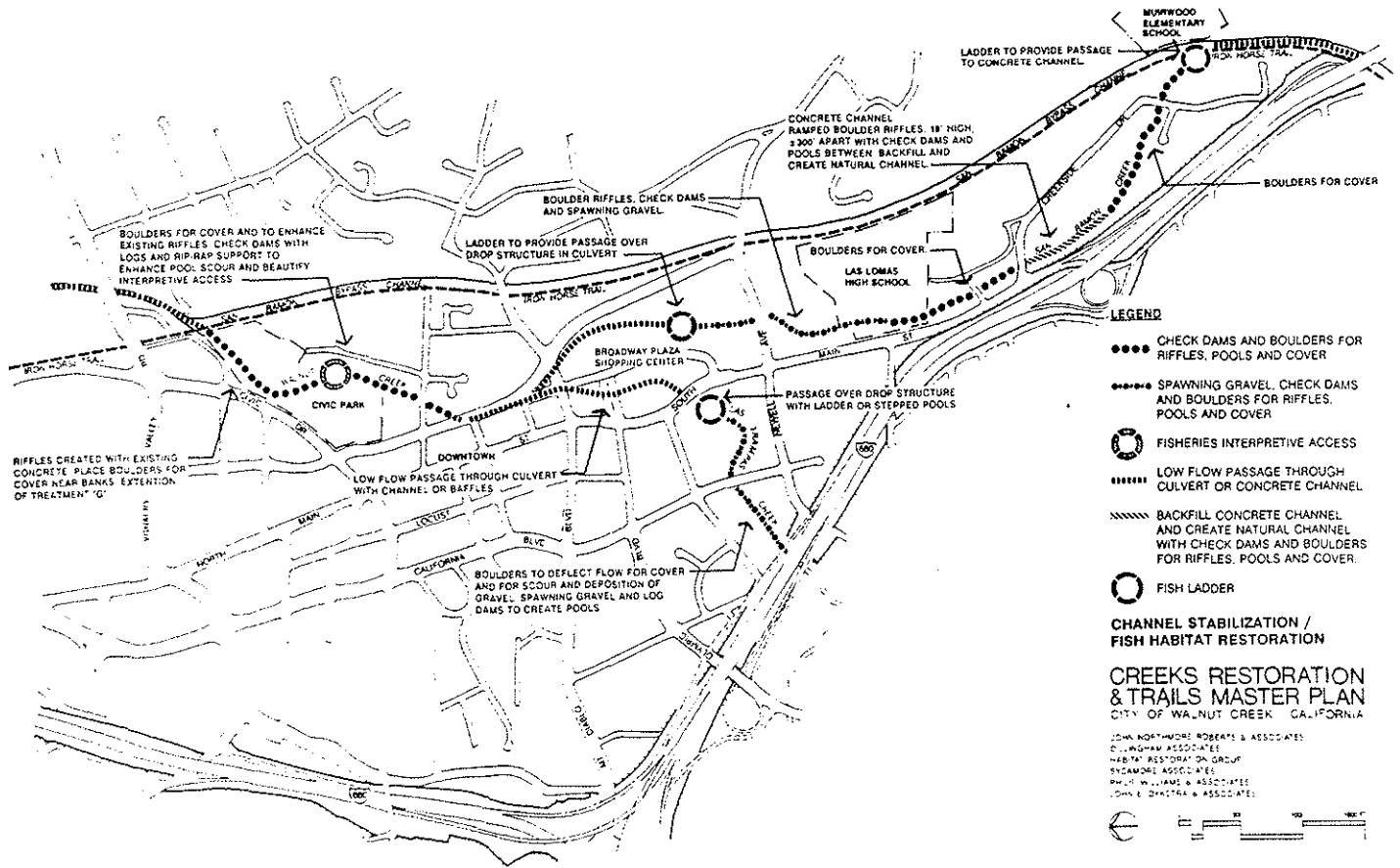


Figure 29

Obstacles to fish migration are not confined to the Walnut Creek basin alone. They are common to all altered channels. Efforts must be made to find realistic and transferable solutions. In this project, there is the potential to increase the pool of knowledge about this important area of restoration technology. The fish passage design proposals are experimental in nature, but address the key issues of the need for adequate low-flow channels, the need for resting areas and the need for adequate water depth. The passage program should begin in the downstream reaches and proceed upstream, incrementally capitalizing on the successes as the program advances.

### **Proposed Creek and Trail Connections**

The Master Plan recommends the creation of a continuous Creekside Trail system for pedestrians and recreational bicyclists. The trail will be located primarily at the top of the bank where it will be relatively easy to construct, will present relatively little conflict with the riparian habitat and will be highly visible from the adjacent areas. The Creekside Trail will provide a direct link to the regional Iron Horse Trail at each end of the study area where the regional trail intersects with Walnut and San Ramon Creeks. A separate spur of the Creekside Trail will continue along Las Trampas Creek. It is strongly recommended that the future extension of the Las Trampas segment beyond the limits of the study area be built to connect to the regional Lafayette/Moraga Trail which presently ends at Pleasant Hill Road in Lafayette. The creek trail and its connections are shown diagrammatically in Figure 30: PROPOSED CREEK TRAIL AND CONNECTIONS.

The Creekside Trail is largely an off-road system, but at certain points it must intersect with existing streets. At these intersections, additional linkages with regional and city bikeways can be created. Four such linkages between the Iron Horse Trail and the downtown portions of the main creek trail can be created along (1) Lincoln Ave., (2) Mt. Diablo Blvd., (3) Newell Ave., and (4) in the vicinity of the old train station. The proposed connections, which are not presently included in the City's General Plan, may require some alterations to the roadways or parking in order to safely accommodate bicycles. Additional connections to the City's existing bikeways along California Blvd. and Ygnacio Valley Road can be made by implementing the bikeways currently proposed in the General Plan along Newell Ave., California Blvd. and Olympic Blvd.

The Creekside Trail system is conceived as a scenic combined pedestrian and recreational bike system which meets all accessibility standards. The proposed combined trail will have an eight foot paved portion with at least two feet of flat gravel or grassy shoulders on each side. The clearances meet all standards for safe multiple use of the trail by bikes, pedestrians and wheelchairs as well as by service and security vehicles, while appearing only slightly wider than a common park path in a natural setting. Signage and striping will aid

## Proposed Trail Destinations

The creekside greenway is designed to link together a number of important cultural, recreational and commercial destinations within the City via a beautiful and enjoyable off-road trail system. The destinations will become easily accessible to walkers and bicyclists, thus creating a real alternative to the vehicular based circulation system that presently dominates Walnut Creek. Along the trail, the traveller will pass through both sides of Civic Park; the periphery of the old downtown; a mini-park at the confluence of the two creeks which form Walnut Creek; the heart of the Broadway Plaza Shopping Center; the Newell/South Main commercial area; the shopping areas bounded by South Main, Newell and Botelho on both sides of California; Las Lomas High School; a neighborhood park with a natural sandstone rock outcrop and waterfall below Near Court; and Murwood Elementary School. As summarized in Figure 31: PROPOSED TRAIL DESTINATIONS, the proposed trail system will integrate a continuum of experiences ranging from wild and nature dominated to urban and full of human activities.

Once into the downtown area, the walkers and bicyclists will be able to move freely throughout the commercial and cultural core of the City to other destinations not directly on the trail. Similarly, once the people who live nearby walk from their front or back doors along the Creekside Trail to the regional trails which tie into it, they will have direct, non-vehicular access to all the open spaces and urban destinations of the surrounding communities served by the trails.

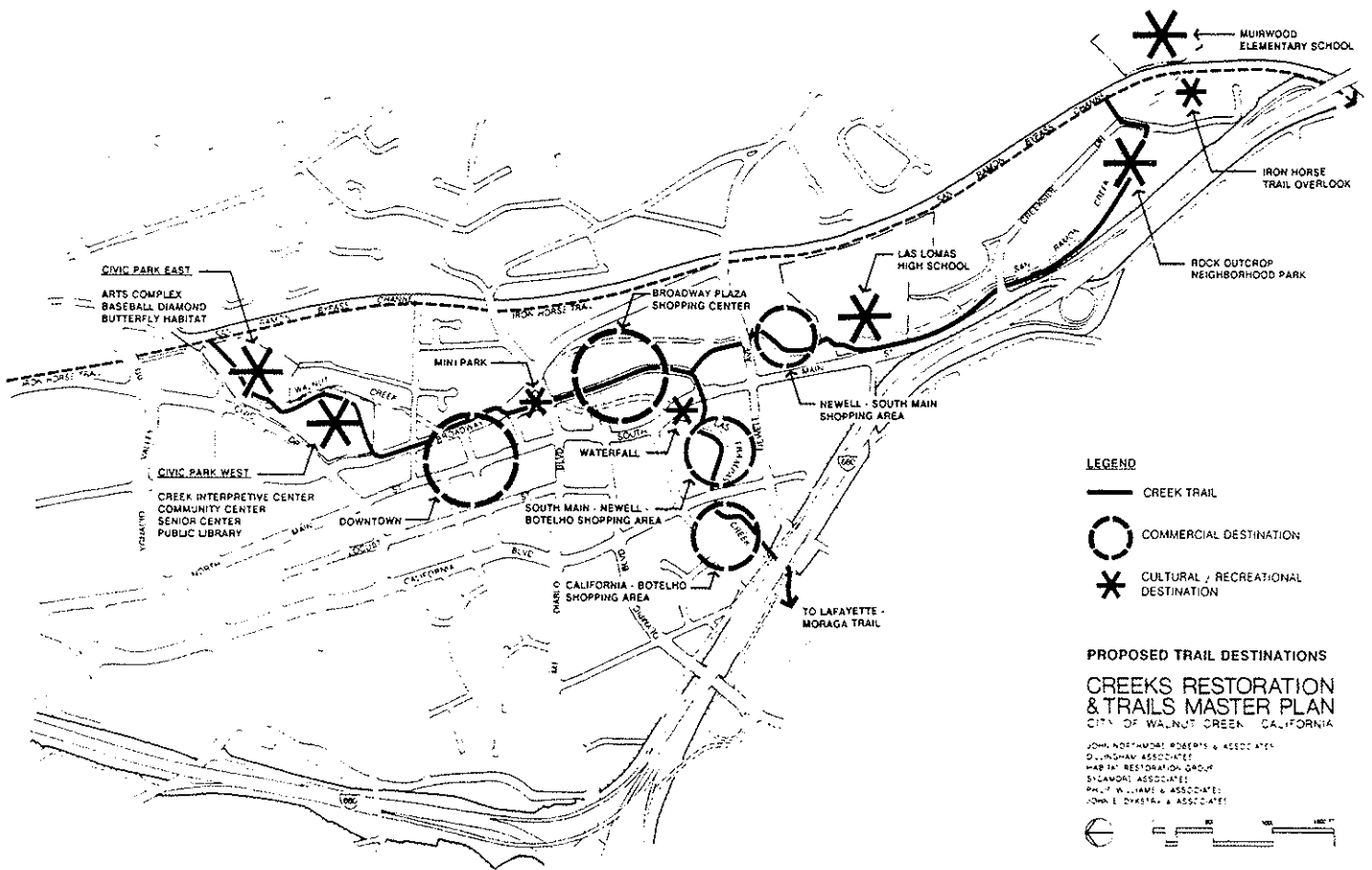


Figure 31

## Creek Access

The Creekside Trail is designed principally as a bank-top trail system, but a variety of different creek access facilities are also proposed at selected locations. Occasionally the main trail must dive down into the channel from the bank top in order to avoid dangerous non-signalized, mid-block crossings of roads. The Master Plan recommends four such in-channel trails which safely cross under road bridges and take advantage of creek banks in need of restoration: along San Ramon Creek (1) beneath Newell Ave. and (2) at Creekside Drive; along Las Trampas Creek (3) beneath California Blvd. and (4) under Highway I-680. At each of these points, except for Highway I-680, stairways to the trail from street level sidewalks are also proposed. The in-channel trails drop to a level that is near to the creek, running along it for a short distance before rising back up to the top of the channel. These short segments within the channel help create a varied and safe landscape experience along the trail. Figure 32: CREEK ACCESS, diagrams the trail/creek relationship.

Approximately 1,700 linear feet, out of a total main trail length of approximately 12,100 linear feet, are proposed within the channels. Limited water contact, interpretation and fishing would be possible in some areas along these trail segments, although the trails are mostly designed to be above the creek flood levels. In Las Trampas Creek, the trail and low bridge may be flooded with an estimated 5-10 year storm. The bridge would be designed to minimize flood flow restrictions and maintenance requirements. The final design would also accommodate an overlook which would be attractive for fishing. Along San Ramon Creek near the High School, the main trail passes near a rock outcrop and waterfall, which would become accessible as an interpretive area.

In addition to this linear access along the main trail, separate interpretive access points are proposed in Walnut Creek at Civic Park, and in San Ramon Creek. In Civic Park, a narrow disabled-accessible interpretive path with an overlook deck, and two additional stairways and overlook decks are proposed to complement the new Interpretive Center in the park. These specific access points plus the upstream interpretive areas within the channel will be developed and managed as unique parts of the system-wide interpretive and water access

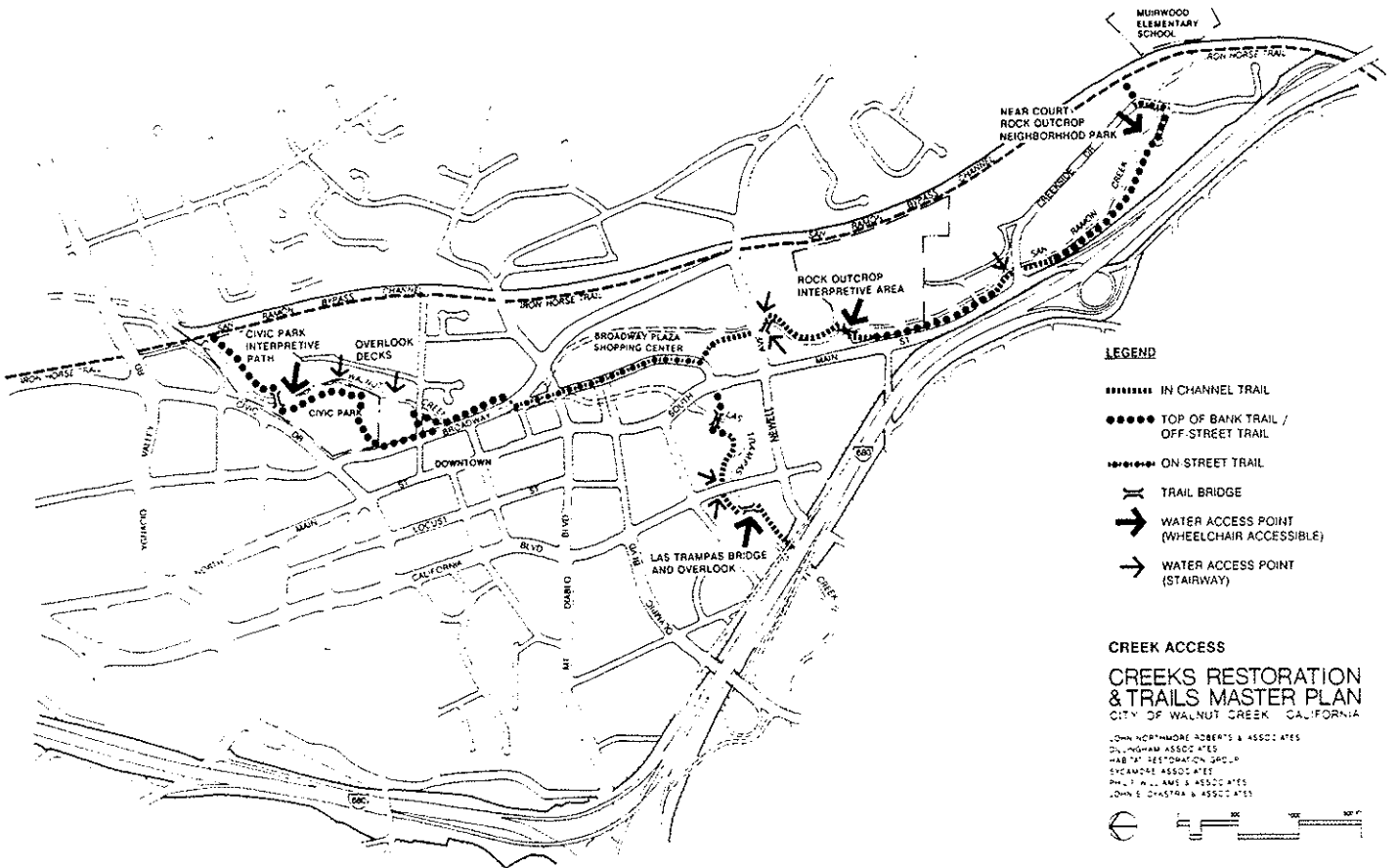


Figure 32

program. Each offers distinctly different experiences and can expose different aspects of creek restoration and riparian ecology.

On San Ramon Creek, the rock outcrop and waterfall at Near Court would be incorporated into a new neighborhood park. The minimal improvements envisioned include a whole access stairway to the waterfall, an upper level overlook along the main trail, vehicular and bicycle access control and restoration planting on the denuded banks above the sandstone outcroppings. This site will be developed for its interpretive potential, but its primary function along the trail system will be as a passive recreational creek access point.

### **Existing Adjacent Land Uses**

The proposed Creekside Trail system flows through public and private property which contain a variety of types of land uses as shown in Figure 33: **EXISTING ADJACENT LAND USES**. Most of the property adjacent to the trail contains commercial uses, both office and retail. There is also a considerable amount of public land including parks, schools and parking lots. Residential uses also abut the trail, but to a lesser degree than either the commercial or public uses.

The trail system is conceived to serve the adjacent uses with minimal conflict. Ease of access to the trail is provided for the adjacent properties without compromising the privacy and security of the owners and tenants. The trail is aligned to avoid conflicts altogether (for instance, by locating the trail across the creek away from private property on public land) or, by creating a significant grade separation and planting buffer, to mitigate the rare unavoidable conflicts. In the case of many of the existing commercial and public uses, attracting people on to the property is desirable. In these instances, the trail is aligned to satisfy the desire for additional access by new, non-vehicular means. In the future, the adjacent commercial and public uses that will benefit from trail access onto their property will be encouraged to adjust their developments to respond to the trail uses.

Restoration of the creek habitats and protection of the creek banks will occur on all properties that abut the creeks, not just those directly served by a trail. The restoration treatments are conceived to complement the existing uses and to work with the bank stabilization treatments appropriate to each parcel.

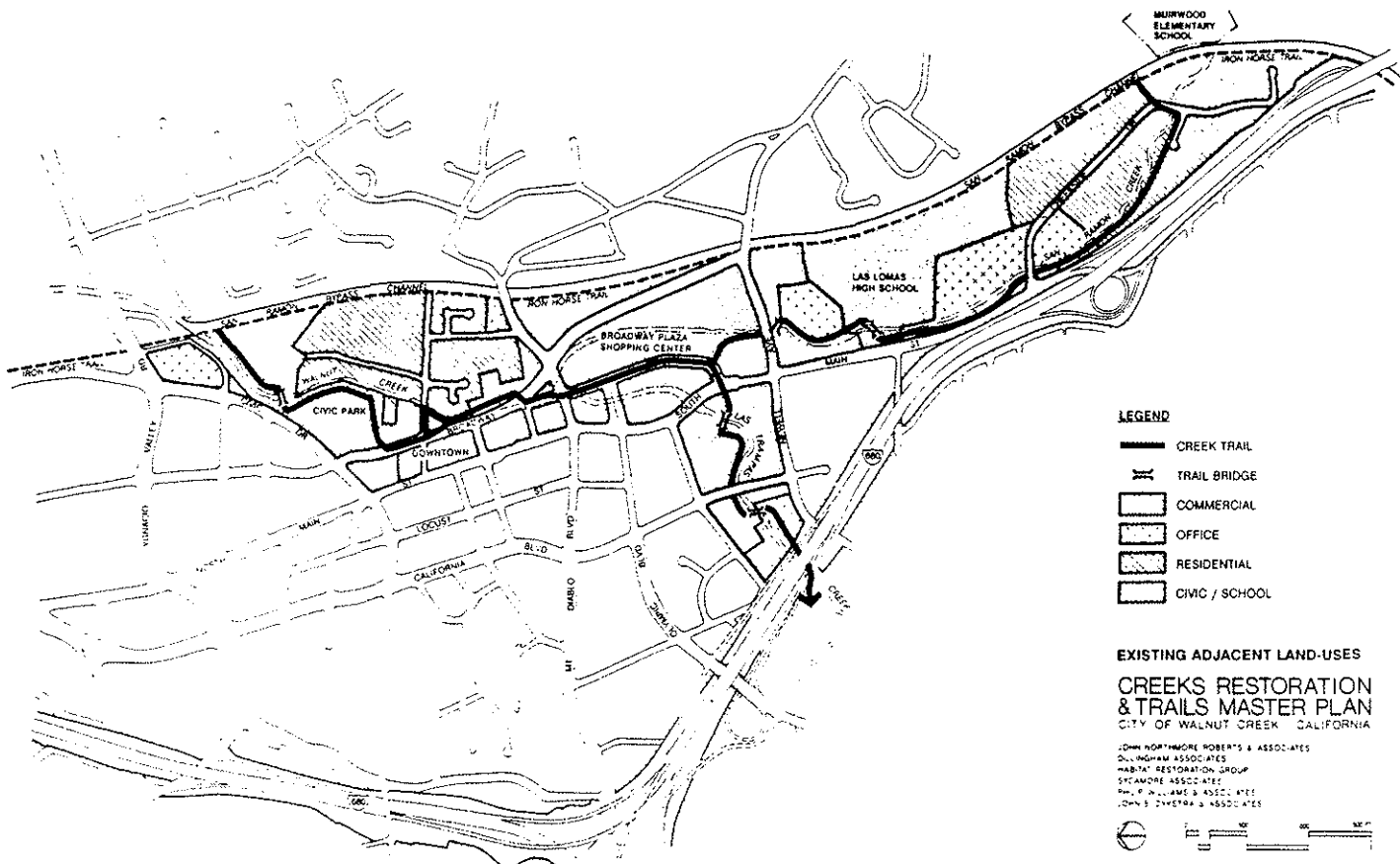


Figure 33

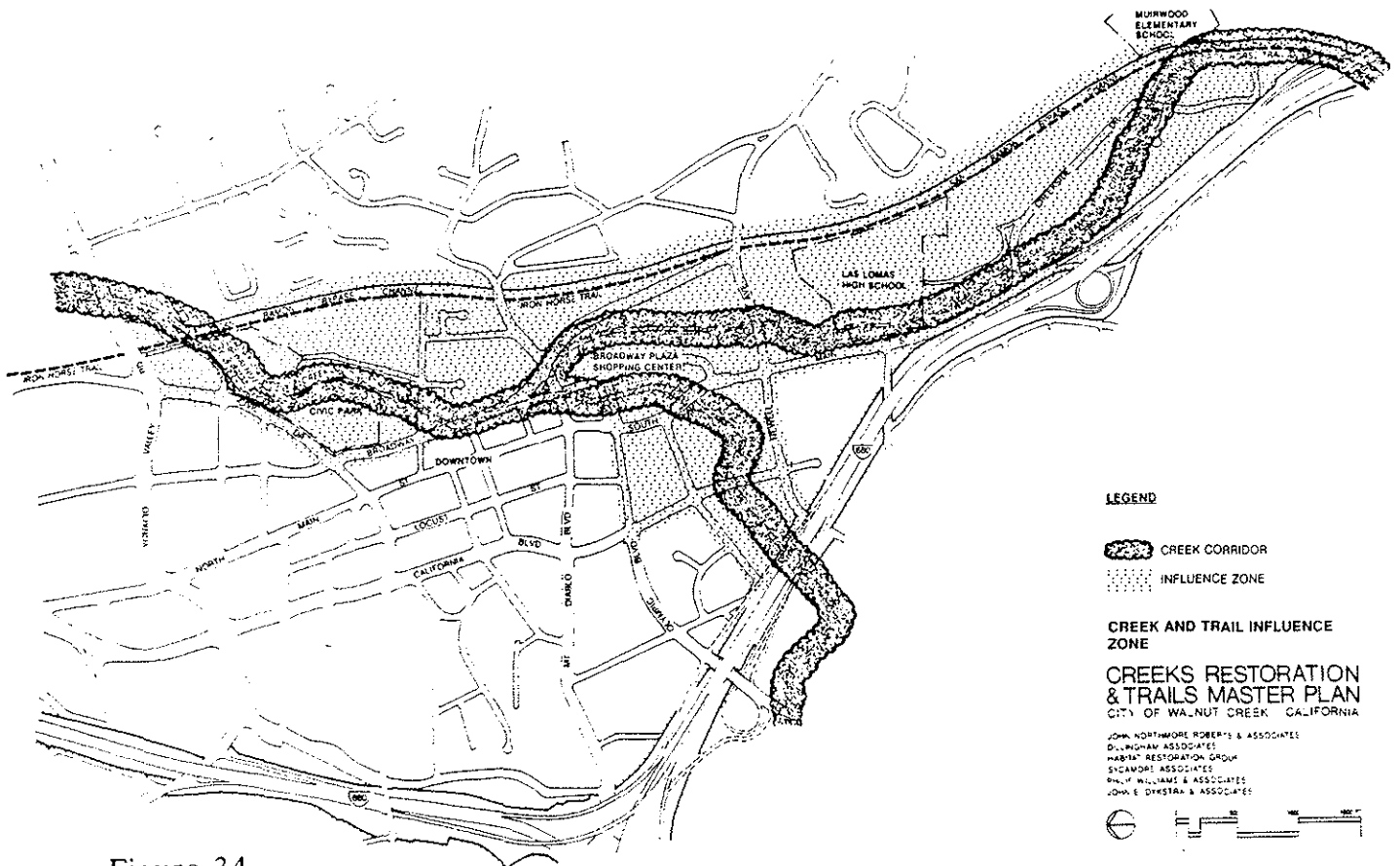


Figure 34

### Creek and Trail Influence Zone

The creeks form a continuous corridor through the City and they are a critical component of the flooding, drainage, freshwater supply, water quality control, landscape and biotic systems of the area within their watershed. In the past the creeks nourished the human communities that historically developed along their banks. But the creeks are now largely inaccessible, shoved into ever narrower spaces with incompatible uses perched at their edges. Now, they are primarily maintained for the limited purpose of moving water efficiently to the Bay. Gaps within and at the periphery of this rich biological ribbon limit its viability as a living fresh water resource and as a connecting link to the surrounding ecosystems.

A fundamental purpose of this Master Plan is to alter the role that creeks currently play in the City and to restore their multiple uses in a way that contributes significantly to the quality and health of the Walnut Creek environment.

In order to accomplish this, the Master Plan recommends that the Creek Corridor be restored in a manner respectful of the natural systems and once again be made accessible. Ordinances or other public policy tools will have to be created or modified to insure that the intentions of the Master Plan are carried out. The approved Master Plan will become the basis for the actions to be taken within the Creek Corridor itself.

Actions taken adjacent to the channel or on property near the Corridor or on property that drains into the creeks will have an effect on the health, maintenance and sustainability of the greenway. Similarly, actions taken within the Creek Corridor will potentially have important influences on the adjacent properties. Development guidelines and ordinances will be necessary not only to insure that the Creek Corridor is protected, but also that developments within the Creek Influence Zone are compatible with the greenway. Creek protection guidelines for property within the Influence Zone might address such issues as minimum setbacks from the top of bank, appropriate uses, acceptable drainage standards, greenway access, appropriate vegetation and others.

The development of such ordinances and guidelines is part of the necessary work following the creation of the Master Plan in order to fully acknowledge the role that the creeks can play in this community. In order to assist the community consideration of this next step, a map entitled CREEK AND TRAIL INFLUENCE ZONE (Figure 34) has been created. This map shows the Creek Corridor diagrammatically and suggests the limits of an area to be considered for the Influence Zone. The specific limits of the two areas can be resolved at a later time after further analysis and discussion. The Creek Corridor, for instance, could be defined as the area between the tops of the banks plus the Creekside Trail and other banktop public open spaces that are related to the trail. On the other hand, the Creek Corridor could be defined as all property within a minimum setback from the top of bank (30-50 feet, for instance). Within the Creek Corridor, there may be portions that are owned and controlled outright by the public and others that remain in private ownership subject to the adopted ordinances or guidelines. Similarly, within the Influence Zone, the properties directly adjacent to the creek may have more stringent creek related development standards than those further away.

The intent of this map is to indicate that there are various levels of control the City will need to exert over the greenway and its neighbors in order to nurture and protect the resource. The greatest level of control would be within the Creek Corridor itself with lesser levels as the distance from the creek increases. A combination of the various controls will be necessary in order to transform the role of the creeks and to create a viable greenway through the city.

# PHASING AND IMPLEMENTATION

## PHASING AND IMPLEMENTATION

### Phasing

The Master Plan developments can be phased incrementally over a number of years as funding becomes available and the opportunities present themselves. There are segments of the project area which are publicly owned with no significant impediments to the start of work. Other areas will require the acquisition of rights-of-way which will take some time to accomplish. Some segments will require additional planning and design before significant implementation measures can actually begin. Implementation of certain features may also require actions by other agencies outside the control of the City, thus making the time frame less predictable. In addition to these considerations, the City will want to begin its implementation process in a manner that builds upon successes that people can see and use. Therefore, the creek has been divided into discrete increments which can be built independently of each other.

The project has also been divided into two tiers. **Tier 1** reflects basic creek restoration and trail improvements which can be completed within a relatively short period of time and require routine interaction with regulatory agencies and private interests. **Tier 1** includes: creek restoration of all open channels, trail improvements and new trails, amenities along open channels, and fishery improvements within the open channels. **Tier 2** reflects long-range proposals which require significant triggering action by outside agencies, building acquisitions, or special coordination with downtown property owners. **Tier 2** includes: acquisition of buildings; final trail alignments and related improvements through these properties; improvements within areas requiring coordinated efforts such as Civic Park West and downtown parks; fishery improvements within culverts and the concrete lined channel connections to the Bypass Structure.

The following describes the recommended phasing for the project in order of priority. The recommended phases are shown graphically in FIGURE 35: PHASING. While this represents the desires of the Task Force at this particular time, it is assumed that there will be flexibility to take advantage of opportunities as they arise.

Tier 1:

Phase 1. Civic Park East (A) and Civic Park West (B)

Phase 2. San Ramon Creek South A, B and San Ramon Creek North C.

Phase 3. San Ramon Creek North A and B, including the segment at the Emporium.

Phase 4. Las Trampas Creek East and West

Phase 5. Broadway/Broadway Plaza surface improvements

Tier 2:

- Phase 6. • Acquisition of (2) commercial properties and (1) residential property and associated trail alignment
- Fisheries improvements in channelized sections, underground culverts and drop structure
  - Creation/expansion of (3) creek-related parks in downtown

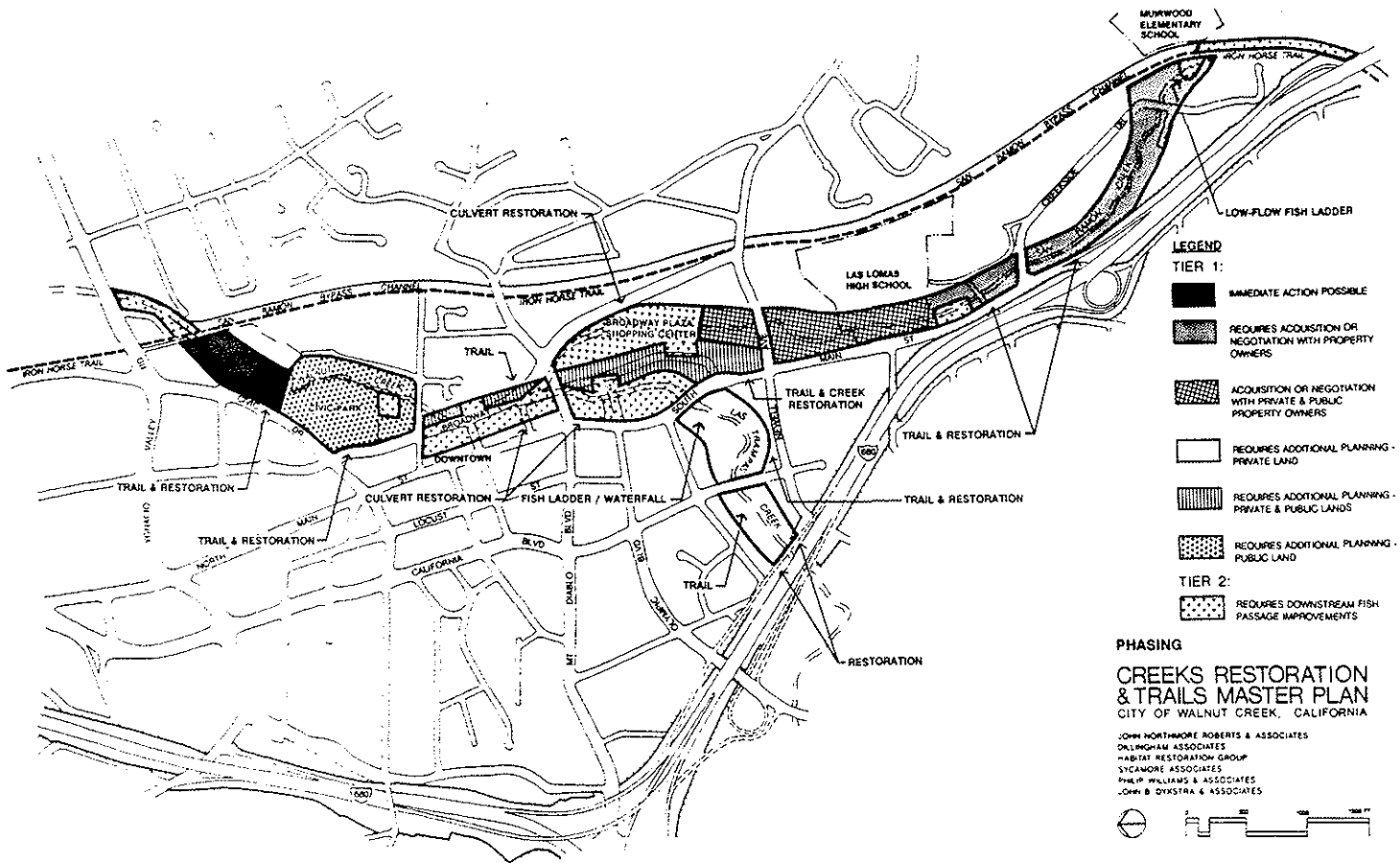


Figure 35

## Implementation

Full implementation of the Tier 1 Creeks Restoration and Trails Master Plan will require public and private funding of approximately \$12.4 million. Tier 2 implementation will occur as the City is able to take advantage of unique opportunities when they arise. costs will vary depending upon the time taken to fully implement the plan.

A detailed description of the costs, broken down by creek/trail segment, and the implementation strategies are included in *Volume 4: Implementation Plan*. The following is a summary of the principal considerations for the implementation of this plan, followed by cost summaries organized by creek segment and by cost categories.

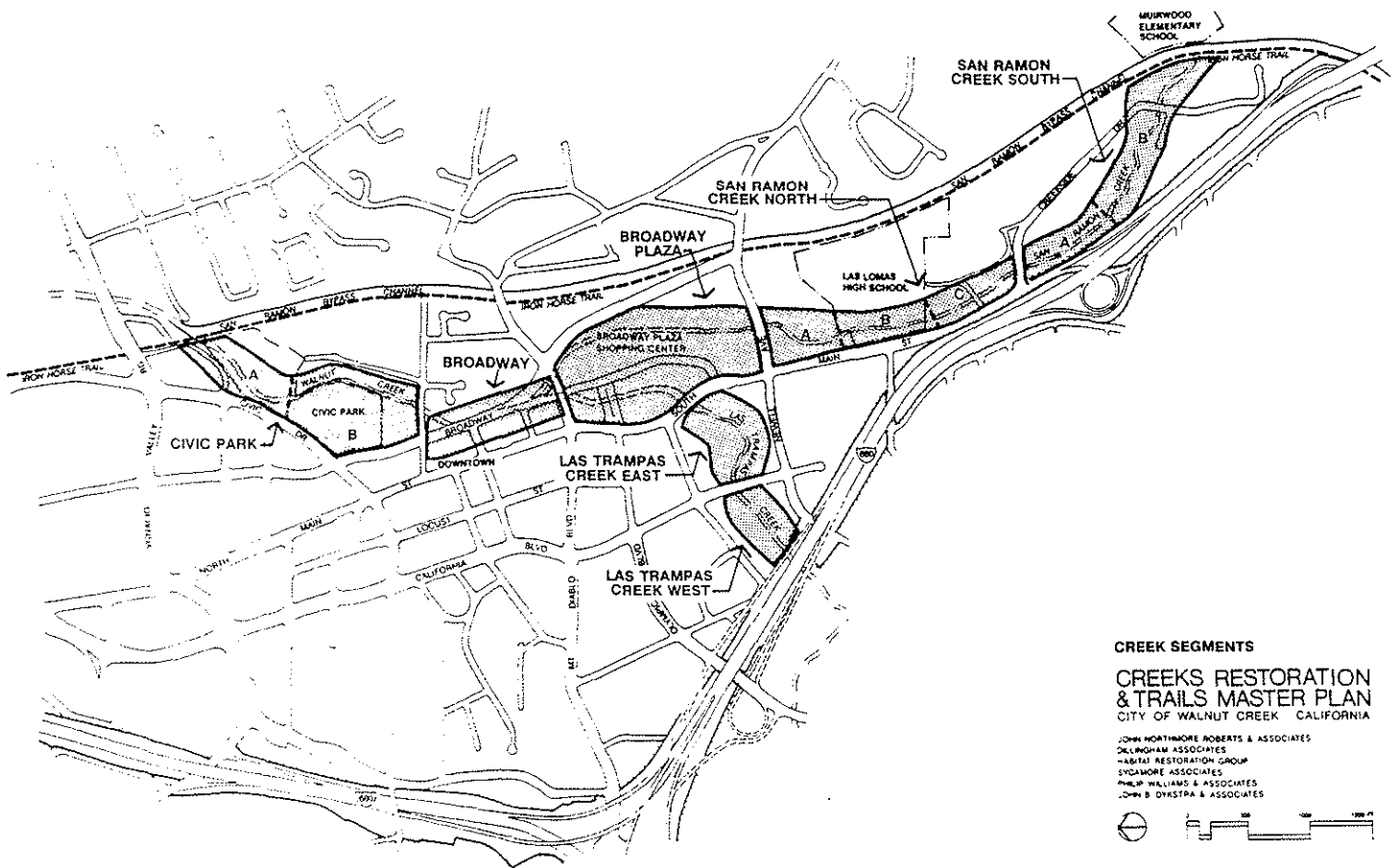


Figure 36

Ultimately, the vision of the restored greenway will be achieved through the enlightened perseverance of the committed citizens and staff. Opportunities will arise and hurdles will develop that can be negotiated by keeping a clear focus on the goals of the Plan. A community of "creek keepers" must emerge to oversee the creation of the greenway and to keep the developments on course over the years.

### Cost Components

The major cost components that will need to be funded for this Master Plan include:

1. The cost of acquiring property rights sufficient to permit creek restoration activities and trail construction (typically, fee ownership, easements or right of entry).

Table 1

PRELIMINARY COST ESTIMATE SUMMARY  
 INDIVIDUAL CREEK\TRAIL SEGMENTS  
 (TIER 1 IMPROVEMENTS)\*

<u>Creek/Trail Segment</u>	<u>Total Estimated Cost</u>
1: Civic Park "A"	\$646,312
2: Civic Park "B"	\$1,255,731
3: Broadway	\$267,477
4: Broadway Plaza	\$618,682
5: Las Trampas East	\$3,757,860
6: Las Trampas West	\$674,708
7: San Ramon North "A"	\$1,173,120
8: San Ramon North "B"	\$1,067,385
9: San Ramon North "C"	\$581,317
10: San Ramon South "A"	\$1,077,193
11: San Ramon South "B"	<u>\$1,337,790</u>
<b>Total Estimated Cost</b>	<b>\$12,457,575</b>

\* Tier 2 improvements are not included in this summary due to the uncertainty of implementation timing. See Table 2.

Source: John B. Dykstra & Associates based in part upon information supplied by John Northmore Roberts & Associates, Philip Williams & Associates, Ltd., Sycamore Associates, and The Habitat Restoration Group.

Table 2

PRELIMINARY COST ESTIMATE  
TOTAL PROGRAM

	<u>Tier 1</u>	<u>Tier 2</u>
<b>Site Delivery Costs</b>		
Acquisition <sup>1</sup> :	\$1,666,873	\$2,495,250
Relocation <sup>2</sup> :	0	120,000
<u>Demolition<sup>3</sup>:</u>	<u>0</u>	
Subtotal:	\$1,666,873	
<b>Construction Costs</b>		
Bio-Engineering/ Restoration <sup>4</sup> :	\$5,484,955	
Trail Construction <sup>5</sup> :	1,618,940	\$986,908
Fishery Channel <sup>6</sup> :	<u>905,750</u>	1,708,000
Subtotal:	\$8,009,645	
<b>Related Development Costs</b>		
Professional Fees <sup>7</sup>	\$961,157	\$323,389
<u>City Project Administration<sup>8</sup>:</u>	<u>195,000</u>	
Subtotal:	\$1,156,157	
<b>Contingency</b>		
Project Contingency Allowance <sup>9</sup> :	\$1,624,900	\$845,032
<b>TOTAL ESTIMATED COSTS: (TIER 1)</b>	<b>\$12,457,575</b>	

- <sup>1</sup> Estimated costs include fee ownership or easement for trails and heavy restoration. Damages to remaining property estimated as necessary.
- <sup>2</sup> Allocation for residential and business relocation.
- <sup>3</sup> All demolition (if any), including demolition or relocation of major structures, has been included under the costs for Trail Construction shown below.
- <sup>4</sup> Source: Philip Williams & Associates, Ltd. and Sycamore Associates.
- <sup>5</sup> Source: John Northmore Roberts & Associates and Dillingham Associates.
- <sup>6</sup> Source: The Habitat Restoration Group.
- <sup>7</sup> Estimated at 12 percent of total construction cost.
- <sup>8</sup> Allocates estimated city project administration costs over a 10-year period. Cannot be estimated for Tier 2.
- <sup>9</sup> Estimated at 15 percent of total site delivery, construction, and related development costs.

Note: All sources John B. Dykstra & Associates unless otherwise noted.

2. The cost of trail construction including bridges, supporting structures (such as retaining walls), grading, paving, railings, lighting, benches, creek restoration necessary for trail construction, trail route striping in public streets, directional signage and other trail related amenities.
3. The cost of creek restoration including bio-engineering and other structural work for bank stabilization, channel bottom treatments, removal of exotic vegetation, planting of new native vegetation, irrigation, and other related treatments both heavy and light.
4. The cost of professional services associated with the design and implementation of the project (design, engineering, surveying, legal, title, etc.).
5. The cost of City administration.

### **Recommended Levels of Public Action**

Varying levels of public control will be required over the various parts of the Creeks Restoration and Trails Master Plan program. In some instances, it will be desirable for the City to have the right to regular and routine access for construction and maintenance. In other instances, only temporary access may be required for installation and maintenance. The following describe the levels of access recommended for implementation of the various components of the Plan.

1. Trail and Amenities: In the areas specifically required for the trail and its related amenities, such as the paved trail, shoulders, walls, steps, overlooks, decks, bridges, picnic areas and related open spaces, a public right of way will be required. Fee ownership or an easement is proposed.

2. Restoration Required for Trail: Most of the trail system is designed to have little or no effect on the creek channel, enabling the trail construction and creek restoration work to proceed independent of one another. In certain areas, however, the trail can be created only if the restoration treatments in those specific areas are completed as well. For instance, a steep slope across which the trail must negotiate will require stabilization in order to construct the trail. Since these several areas are critical for the construction and maintenance of the trail, they will require the same level of control as the trail itself. Fee ownership or an easement is proposed.
3. Heavy Restoration - 1: These are the critical restoration areas (independent of the areas related to the trails) in which heavy equipment will be needed and where the channel or bank will be significantly altered in order to be stabilized. They will need to be fully accessible for construction purposes as well as for long-term public maintenance. These areas occur on existing public lands or on private property outside of the trail right of way where bank or channel stabilization is necessary to protect the safety of the trail and its users. A high level of public control is required for these areas. An easement is recommended.
4. Heavy Restoration - 2: The same type of restoration treatments are required in these areas as in #3 above, but they are not in public property and are not critical for the protection of the safety of the trail and users. Temporary public access into the property for construction will be required as will permission for periodic maintenance access, resulting in the need for less public control. Rights of entry are recommended.
5. Light Restoration: Restoration treatments which require relatively simple construction techniques, generally without heavy equipment and which will not significantly alter the shape of the channel will occur throughout the project area, often in concert with other treatment methods. Where these treatments occur on public property independent of other heavy treatments, they will be installed and maintained by the responsible public entity. On private property, there will be a need for temporary access for installation and maintenance. Rights of entry are recommended.



Figure 37: Bedrock Waterfall at Near Court - Recommended for Purchase, Bank Restoration and Access Control in Phase 2

### **Funding Program**

There are a number of possible sources of funding for a complex project of the type proposed in the Master Plan. In general, the funds will come from a single source or from a combination of different sources, depending upon the specific projects to be funded. Because of the interdisciplinary nature of this project, the most viable approach will probably be one which makes use of a variety of funding packages, requiring alert, opportunistic and talented overseers of the implementation.

The Single Source Funding Program: A single source funding program could be used to implement the Creeks Restoration and Trails Master Plan. A general obligation bond issue, which would be supported by the full faith and credit of the City, is the least expensive means of borrowing money. However, it does require a 2/3 favorable vote for approval. A very high level of community support would be required for passage of a single issue of general bonds for one or more segments of the program or the inclusion of part of the program in a larger issue (such as a citywide parks and recreation bond measure).

Funding Packages: Since the entire program will be implemented over a number of years, a series of individually tailored funding packages is likely to provide a funding source more viable than a single general obligation bond issue. Such packages could include private contributions, developer fees (including exactions), outside grants (local, state and federal), general funds and, possibly, proceeds from a general obligation bond issue.

# RECOMMENDED ACTION

Following approval of the Creeks Restoration and Trails Master Plan, a process will be set into motion in which a number of additional steps will need to be taken by the staff and the City Council. The following is a preliminary list of actions recommended by the Task Force that can currently be anticipated. These may change as time goes on and as additional steps are made, revealing new demands.

1. Prepare the necessary General Plan policies and programs to support implementation of the Creeks Restoration and Trails Master Plan. Prepare creek preservation and/or setback ordinances, including protection of the ecology of the creeks. New ordinances governing the Master Plan project area should include at least the following:

Water Quality

Dumpster placement, setback and enclosure requirements

Creek discharge/pollution control

Creek setback requirements for buildings, fences and roads

Dedication of trail ROW with new development

Guidelines for expanding native vegetation within the Creek Corridor and in the adjacent Creek Influence Zone

Guidelines for bio-engineering for channel bank stabilization

2. Establish the limits of the Creek Corridor and the adjacent Creek Influence Zone as recommended in the Master Plan.
3. Prepare design guidelines and policies to insure appropriate development within the Creek Corridor and the adjacent Creek Influence Zone consistent with the Master Plan (i.e. compatibility with creeks in scale, setback, orientation, access, uses and character) and the Tree Preservation Ordinance.

4. Create a detailed greenway design package for signs, furniture, construction materials, lights, railings, bridges, etc. The design program should include beautification and signage to enhance recognition of the creeks, and should explore design antecedents from Walnut Creek's past. The project should include enhancement of roadways where they bridge over the creeks and the construction of fountains where the creek is underground.
5. Develop engineering studies and plans for the creek restructuring, including the waterfall/cascade at the Las Trampas Creek drop structure, and secure the approvals of the regulatory agencies for their installation.
6. Determine the feasibility of creating viable salmonid populations in the upstream reaches of the creek prior to the underground channel improvements for fish passage.
7. Create educational materials for private property owners on recommended ways to maintain their creek frontage, to stabilize their banks, to remove undesirable vegetation, to replant native vegetation on their property, and other maintenance information.
8. Encourage programs to build support for creek restoration. Create interpretive programs and materials for the creeks, including educational materials for use by educational institutions and guided and self-guided nature walks.
9. Encourage commercial property owners to voluntarily create passive, landscaped areas in relation to the creeks for use by their employees or by the invited public.
10. Provide City support for new and existing water quality improvement programs such as the National Pollution Discharge elimination System (storm water clean-up) and Lindsay Museum Non-Point Source programs. Coordinate programs with other cities in the Walnut Creek watershed.



Figure 38: Las Trampas Creek  
Future Linkage to Lafayette/Moraga  
Regional Trail

11. Encourage the prompt completion of the Civic Park Master Plan. Protection and enhancement of the creek greenway and the associated adjacent area should be emphasized as called for in the Master Plan. The creek should be identified in the Civic Park Master Plan as a focal point for the park.
12. Actively pursue the extension of the Lafayette/Moraga Regional Trail connection to the Las Trampas Creek Trail.
13. Develop a program to secure trail and greenway right-of-way.
14. Strongly pursue a satisfactory solution to the San Ramon Creek culvert inlet blockage that occurs during storms. Encourage the County Flood Control District to refuse acceptance of the project from the Corps of Engineers until the problem has been resolved.
15. Develop monitoring programs in conjunction with volunteer organizations to monitor water quality, fish, birds, terrestrial wildlife and vegetation.

# C R E D I T S

This report was prepared in partial fulfillment of the requirements of the contract between the City of Walnut Creek and John Northmore Roberts & Associates dated September 5, 1990 for the Creeks Restoration and Trails Master Plan.

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