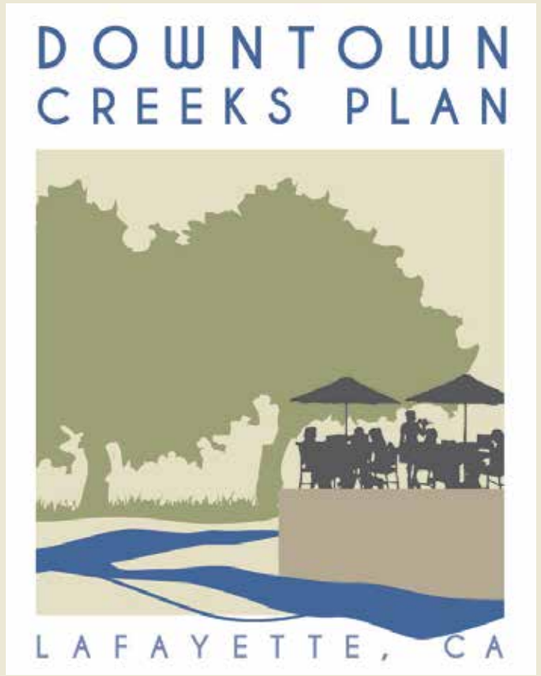

DOWNTOWN CREEKS
PRESERVATION, RESTORATION AND DEVELOPMENT PLAN

LAFAYETTE, CALIFORNIA

ADOPTED OCTOBER 23, 2017

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ACKNOWLEDGEMENTS

CITY OF LAFAYETTE

Mike Anderson	Mayor
Don Tatzin	Vice Mayor
Mark Mitchell	Council Member
Cameron Burkes	Council Member
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EXECUTIVE SUMMARY

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During public hearings for the 2012 City of Lafayette Downtown Specific Plan (DSP), Lafayette's citizens expressed a strong desire to take advantage of the creeks as an amenity for the downtown area. As such, significant creek corridors were identified in the DSP (see Figure E-1), which called for creation of this plan, the Lafayette Downtown Creeks Preservation, Restoration and Development Plan ("Downtown Creeks Plan"). This plan further develops Goal 15 of the DSP, which calls for the protection and enhancement of Lafayette's downtown creeks. In 2014, the City adopted the Downtown Design Guidelines (DDG), which provided more detailed direction and guidance for development in the downtown area and along its creeks. The Downtown Creeks Plan now takes the intent set forth in the DSP and the DDG one step further by evaluating creek resources and firmly establishing a long-term, 20- to 30-year vision and implementation strategy for improvements along the downtown creeks.

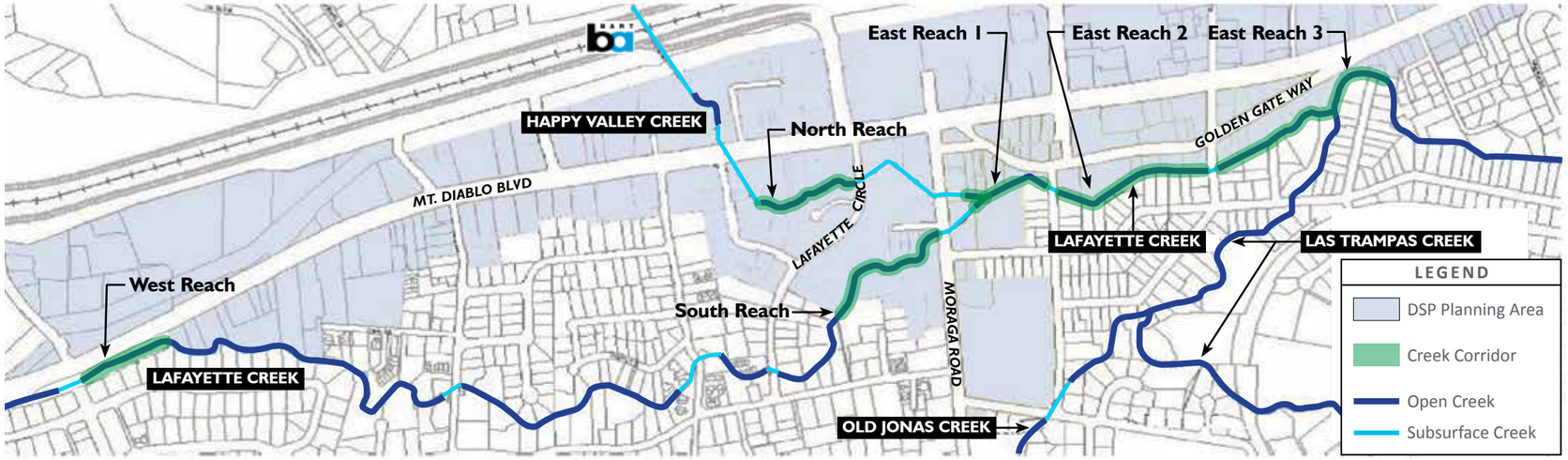

Figure E-1: Creek corridors identified in the City of Lafayette Downtown Specific Plan

The Downtown Creeks Plan is intended to be used to provide a broad vision for the future of the downtown creeks. It should not be considered a precise prescription of how the improvements along the creeks should look or unfold over the coming decades. These intentions are driven by several factors. Foremost, the planning area largely lies on private property. Thus, creek improvements will mostly occur when properties are redeveloped over the life of the Downtown Creeks Plan. Changes in preferred aesthetics, vehicle circulation patterns, parking needs, and land use may occur over this planning horizon. The Downtown Creeks Plan allows flexibility to adapt to the changes that may occur over its implementation period. Property owners are also allowed some flexibility in the way they implement creek improvements as they redevelop or improve their properties.

Because these creek improvements may occur opportunistically over a long period of time, the vision provided by the Downtown Creeks Plan is intended to promote a more unified look and feel along the creek segments as improvements are made, enhancing natural resources and overall aesthetics and pedestrian circulation along the creeks and reducing the potential for a disjointed appearance. The major unifying elements to the improvements identified in the Downtown Creeks Plan include restoration of riparian habitat using a native riparian plant palette, stabilization of creek banks, and improvement of water quality through low impact development (LID) techniques. These will be required elements of any development project along a downtown creek. Coherence between improvement projects and added infrastructure will be enforced by branding of creek access points with a creek icon (to be developed by the City), and consistency in railings, other furnishings, and interpretive signage.

The Downtown Creeks Plan defines several types of improvements to be made at one or more locations along creeks in the downtown area:

- bulb-outs along roads that incorporate rain gardens;
- public viewing areas and patios adjacent to the creeks;
- creekside trails;
- pedestrian bridges across creeks;
- daylighting of culverted creek sections;
- interpretive and wayfinding signage; and
- public art displays.

Where these improvements affect private property, their implementation would be voluntary unless they are drawn from other City plans and procedures. In these cases, requiring construction or dedication of property for these improvements can be a condition for new development or expansion. Such requirements must meet legal tests such as "rational nexus" (a logical connection between the type of dedication required and the type of development proposed) and "rough proportionality" (the required value of the dedication must be reasonably related to the scale of development proposed). Certain creek side park proposals drawn from the Downtown Specific Plan will require public/private partnerships. The City does not intend to use eminent domain to acquire properties for park use.

The Downtown Creeks Plan largely relies on existing codes, ordinances, plans and guidelines to implement the vision for downtown creeks identified herein, and suggests a number of small changes or amendments to these existing documents to enforce and guide implementation. Modifications are proposed for the Downtown Design Guidelines, Trails Master Plan, Tree Protection Ordinance, Flood Damage Prevention Ordinance, and Stormwater Management and Discharge Control Ordinance (See Appendix D for these modifications).

As funding becomes available for specific creek projects identified in the Downtown Creeks Plan, further planning and design will be necessary to create shovel-ready projects that will allow permitting by the City and other agencies, as required. As such, all projects will receive further review by city advisory boards and staff for adherence to city planning documents, guidelines and ordinances. Issues such as mitigation for potential parking losses, public safety, nuisance abatement, funding for ongoing maintenance costs, and any need for hydraulic studies will be addressed during this review, which will include a public participation process as well.

The Downtown Creeks Plan identifies a number of projects on public property, where improvements may be possible in the near future, contingent on funding and further project development and review. A list of these improvements and their priority and rough cost is found in Table E-1. (See Figure Appendix C for details on cost estimates, and see E-4 for location of numbered projects.)

The project descriptions are conceptual and their implementation priorities should be interpreted flexibly as conditions change, new opportunities arise, and unanticipated resources become available. It's important for the City to seek opportunities for "quick wins" after Plan adoption to demonstrate the benefits of enhancing our downtown creeks and to help stimulate private investment in creek improvements.

In addition to projects at specific locations, the Downtown Creeks Plan calls for the near-term development of a creek icon to be used at all downtown creek access points, and a riparian vegetation restoration manual that would provide guidance for property owners.

One near-term project is the West Reach Catalyst Project, which is located along Mount Diablo Boulevard just east of Village Center Drive (see Figures E-2 and E-3). This project anchors the west end of the creek improvements at an important gateway into the downtown. Securing funding and implementing the West Reach Catalyst Project will demonstrate how creek improvements can improve their character, provide public access and education opportunities, clean stormwater runoff, and restore riparian vegetation. This project may also allow the development of a streamlined permitting process for property owners that want to redevelop along a creek in the future.

Finally, a central feature of the Downtown Creeks Plan is the addition of several new trails to the Trails Master Plan. These new trails and their connecting sidewalks will eventually create a downtown creeks trail spanning the extent of the proposed improvements from Village Center Drive to the Gazebo at the east end of Golden Gate Way. (See Figure E-4.)

Figure E-3: Creek treatment with planned access along Mount Diablo Boulevard

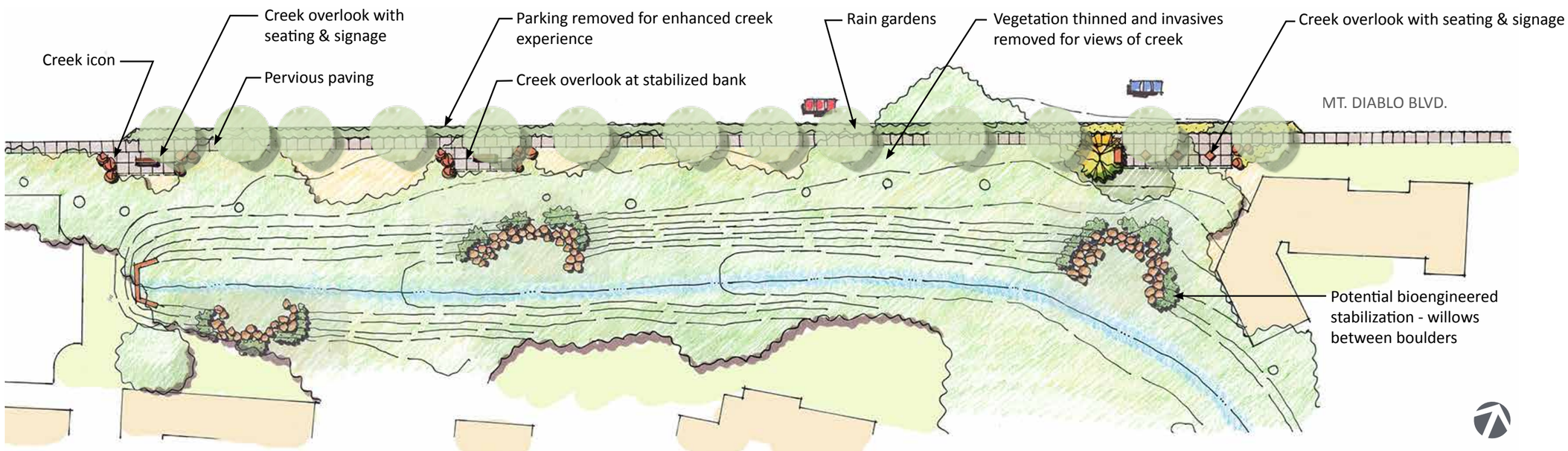

Figure E-2: Plan view - Creek overlooks, rain gardens and pervious paving along Mount Diablo Boulevard

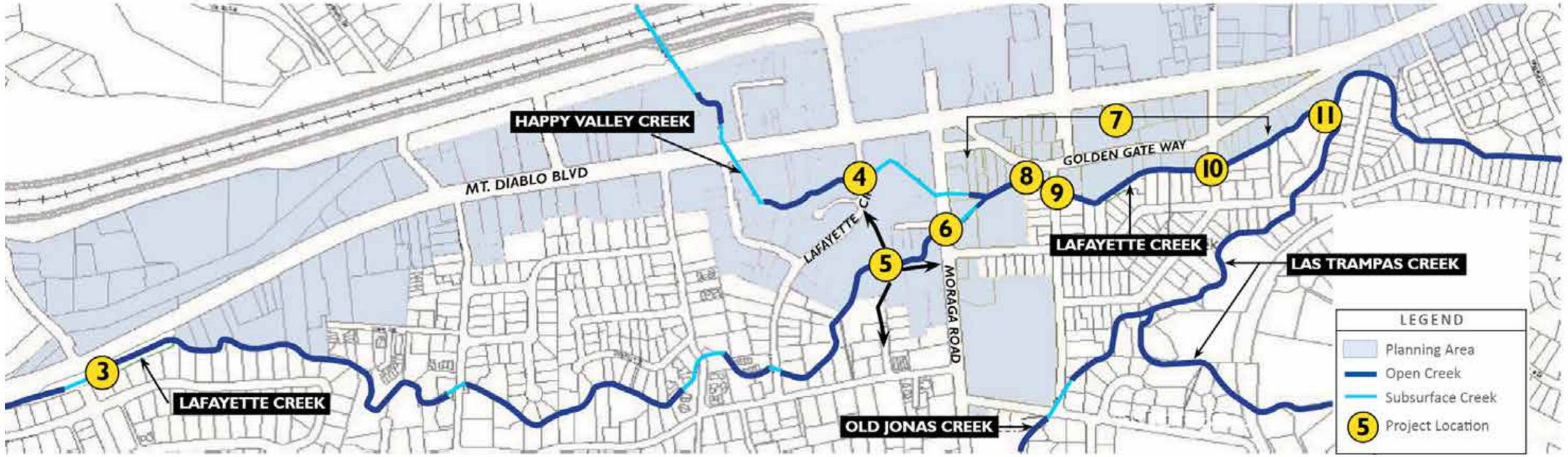

Figure E-4: Creek Improvements

PROJECT	COST	IMPLEMENTATION PRIORITIES		
		NEAR TERM	MID TERM	LONG TERM
1. Creek Icon Project (locate at overlooks)	$50,000	●		
2. Riparian Vegetation Restoration Manual (applies to all creek reaches)	$50,000	●		
3. West Reach: Catalyst Project	$750,000	●		
4. North Reach: Lafayette Circle Overlook	$60,000	●		
5. South Reach: East St / Lafayette Circle / Moraga Rd Trail	TBD		●	
6. South Reach: Moraga Road Overlook	$120,000		●	
7. East Reaches 1&2: Channel Enhancements	$750,000		●	●
8. East Reach 1: Creek Connections	$300,000		●	
9. East Reach 1: First Street Overlooks	$135,000	●		
10. East Reach 2: Second Street Overlooks	$135,000	●		
11. East Reach 3: Gazebo Park - Creek Terrace	$200,000			●

Table E-1: Project list for City-sponsored creek improvements

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CHAPTER 1: INTRODUCTION

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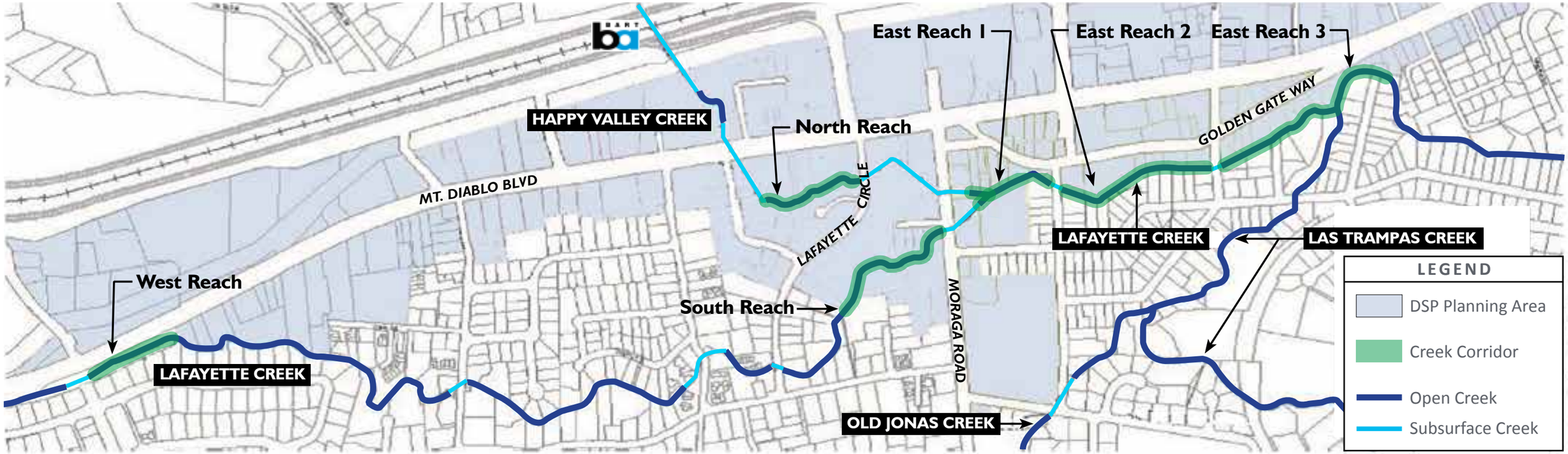

Figure 1-1: Creek corridors identified in the City of Lafayette Downtown Specific Plan

PROJECT BACKGROUND

The purpose of the Lafayette Downtown Creeks Preservation, Restoration and Development Plan ("Downtown Creeks Plan") is to further the goal of protecting and enhancing Lafayette's downtown creeks. This goal (Goal 15) was established by the City of Lafayette in 2012 when it adopted the Downtown Specific Plan (DSP). The DSP articulates a vision to preserve and enhance its small town character while guiding change that will occur over the next 20-plus years. In addition, the City adopted the Downtown Design Guidelines in 2014 to provide more detailed guidance to direct development in the downtown area and to more fully develop the vision and goals for the downtown creeks. The Downtown Creeks Plan will establish a long-term strategy for achieving the vision set forth in the Downtown Specific Plan and Design Guidelines for downtown creeks.

Using the DSP's creek policies as guidance, the City issued a Request for Proposals for creation of a plan that would:

- Preserve the natural resource value of the creeks[1]
- Evaluate projects and actions within and adjacent to the creek corridors based on the following priorities (in priority order)[2]
    - Flood protection
    - Preservation of riparian habitat
    - Visual access
    - Opportunities for education about the creek's riparian resources
    - Physical access to the top of creek banks
- Preserve creeks as a significant contributor to the downtown character.[3]

The Downtown Creeks Plan was prepared by the consultant team of Gates + Associates, ENGEO, and Environmental Collaborative. It was overseen by Lafayette's Creeks Committee, whose mission is to encourage beautification of Lafayette's more than 16-miles of creeks and improve residents' awareness of creek maintenance and pollution prevention policies.

The significant downtown creeks identified in the Downtown Specific Plan are shown on the map above (Figure 1-1).

1. Downtown Specific Plan, 2012, Policy 15.1
2. Downtown Specific Plan, 2012, Program 15.1.1
3. Downtown Specific Plan, 2012, Policy 15.2

PROJECT GOALS

Goals of the Downtown Creeks Plan include:[4]

- Identifying creek preservation and restoration opportunities;
- Clarifying creek setback requirements for the downtown;
- Developing standards for how new developments should relate to adjacent creeks;
- Producing strategies and methods for creek improvements and stewardship;
- Developing opportunities for public access and pathways;
- Preventing property damage by creek processes (flooding, erosion); and
- Identifying public safety and environmental concerns.

Additionally, the Plan builds on existing documents and efforts to:

- Create public spaces that invite people to experience, engage with, enjoy, and learn about the creeks
- Celebrate Community and the Identity of Lafayette

4 Downtown Specific Plan, 2012, Program 15.2.1

DOCUMENT ORGANIZATION

The Downtown Creeks Plan describes potential improvements in the six specific reaches of Lafayette's creeks identified in Figure 1-2. The Plan first addresses improvements that could occur on public properties, which projects could be undertaken directly by the City of Lafayette. It then addresses potential improvements that could occur on private properties. The latter improvements, depending on their purpose, scope and location, may require the cooperation of the owners of the affected properties.

The Downtown Creeks Plan also describes creek protection and restoration activities that could occur throughout the downtown area, including restoration of riparian habitat, stabilization of creek banks, and improvement of water quality in the creeks. Materials and furnishings appropriate to projects along the creek corridors are described and illustrated.

History, existing conditions and context related to Lafayette's downtown creeks are provided as background for the proposed improvements.

The Plan documents the extensive public outreach that was undertaken to engage the community and stakeholders. The public outreach process was used to identify potential improvements, and to refine and prioritize desired improvements.

Finally, the Plan describes implementing actions to be taken in order to accomplish the recommended improvements to Lafayette's downtown creeks.

Figure 1-2: Creek reaches and study area key map

CHAPTER 2:
HISTORY, EXISTING CONDITIONS AND CONTEXT

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BRIEF SITE HISTORY AND SETTLEMENT

The creeks of Lafayette and their banks have served as a cultural center for hundreds of years. Originally settled by a Miwok sub-group more than 10,000 years ago, archaeological artifacts of Native American settlements have been found as recently as the 1970's along Lafayette Creek.

Subsequent to Native American habitation, the Mexican government established land grants in the area. In the American Period, the 3,329-acre Rancho Acalanes land grant was purchased in 1847 by the pioneer Elam Brown, who built his home along Happy Valley Creek near what is now 32 Lafayette Circle. Today, Lafayette encompasses nearly all of this land grant site.

Through the early 1900's, farming was the primary occupation in Lafayette. Common crops included vineyards, pear orchards and various grains. Farming conditions could be challenging due to dry conditions in the summer months, and severe winter flooding from the creeks.

The use and development of the land naturally expanded on or near the creek corridors as there was a pragmatic need to appropriate riparian water or more easily accessible ground water adjacent to creek corridors. Some of this development occurred on the edge of creek channel banks and within adjacent flood plains. Elam Brown constructed a grist mill on Lafayette Creek near First Street in 1853.

The uses and improvements within creek corridors and flood plains did not abate over time, but rather further intensified and increased in value and these properties became the early commercial and residential core of Lafayette. Some structures, before appropriate land use restrictions for the public health, safety and welfare, were built at the very edge of creek banks or even with their foundations or walls at the base or toes of a creek bed.

URBANIZATION OF THE CREEKS

Creek bank stabilization, erosion and flooding were concerns early in the development of Lafayette's history. To address these concerns, portions of the creeks were culverted or channelized with a concrete U-Channel. The culverts and channels were constructed to convey water under roadways, and to prevent flooding and creek bank erosion. The storm drain system outflows into the creeks. A concrete drop structure was constructed downstream of the confluence of Lafayette Creek and Las Trampas Creek, in East Reach 3. The segments of Lafayette Creek included in East Reach 1 and East Reach 2 were channelized in 1955.

From the historic aerial photograph in the top right (Figure 2-1), one can see the natural course of Lafayette, Happy Valley and Las Trampas Creeks around 1940. The aerial below (Figure 2-2) shows the effects of urbanization of central Lafayette on the watershed. Today, the creeks have a combination of conditions that range from channelized sections with concrete beds and walls, to areas that have natural creek conditions and habitat areas. Even though the creek beds and corridors have been in some instances severely impacted and altered by public and private activity, they are still considered protected riparian corridors under the Lafayette General Plan, the California Fish and Game Code, and other State and Federal laws.

The urbanization of Lafayette and its watershed has increased the areas of paved and impervious surfaces, reducing the pervious surface area available to allow water to percolate through the soils. The lower percentage of pervious surface area has created two problems for Lafayette's creeks and riparian areas. First, water quality of the creeks is reduced since impervious surfaces such as asphalt and concrete enable pollutants to enter the creeks in higher concentrations. Second, the higher percentage of impervious surfaces increases runoff during storm events, which can increase erosion in the creek channels and raise the risk of flooding.

Figure 2-1: Aerial showing Lafayette Creeks study area around 1940 (Source: USGS)

Figure 2-2: Aerial of study area in early 2000's (Source: USGS)

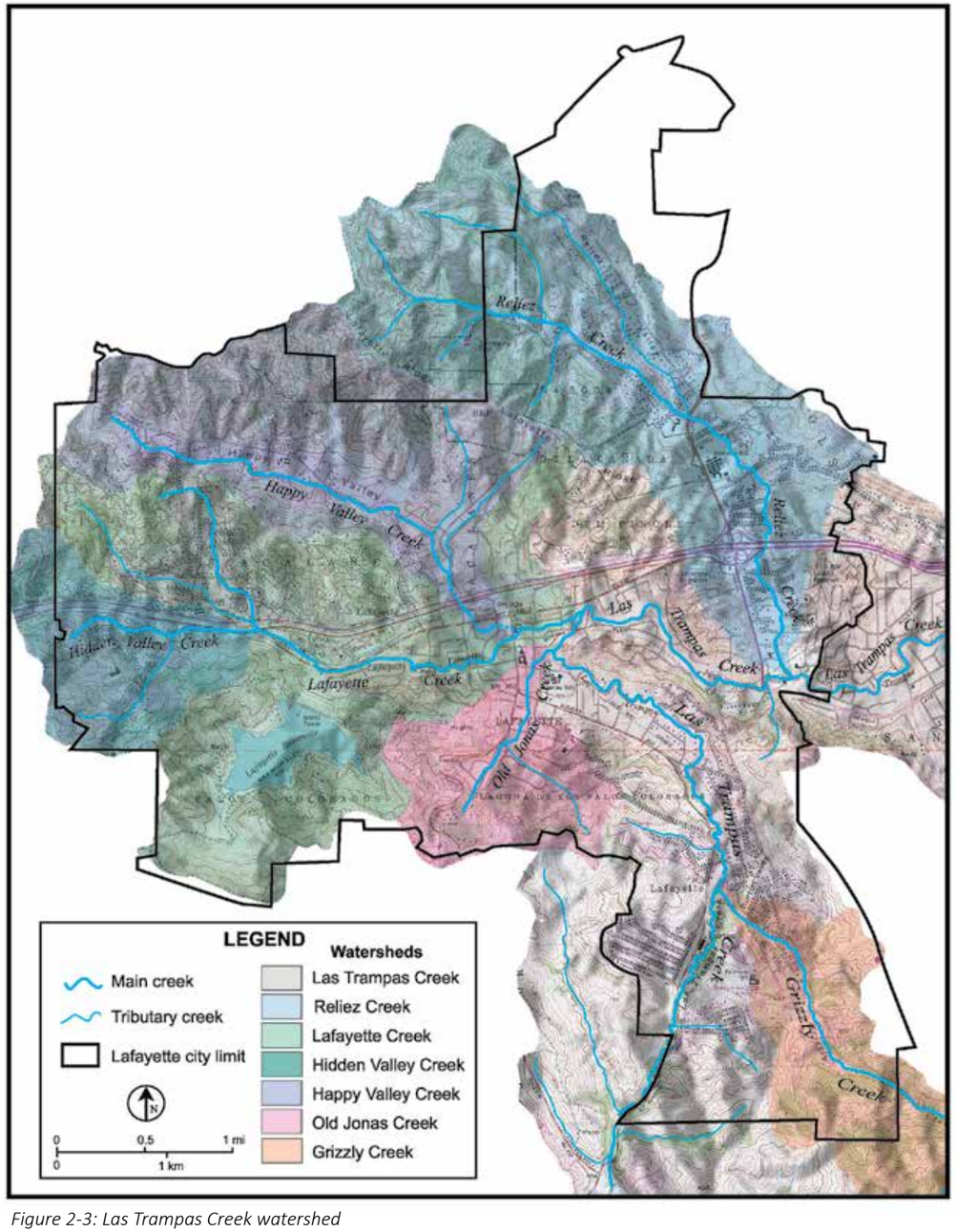

Figure 2-3: Las Trampas Creek watershed
(Source: Lafayette Creeks Committee)

HYDROLOGY AND GEOLOGY

The largely Miocene sediments underlying the creeks in Lafayette contain both hard sandstone beds that tend to resist erosion and form ridgelines, and relatively soft mudstone beds that form many valley areas. The mudstone and alluvial sediments along the creeks are more susceptible to erosion than the sandstone during high velocity flows and in locations where the soil is exposed without erosion control measures in place. As the urbanization of the area has increased flow volumes and velocity, it is important to monitor erosion along the creek banks to understand and reduce the risk of bank failure. In addition, the high turbidity exacerbated by urbanization, as well as the introduction of pollutants from stormwater runoff during rain events, are detrimental to aquatic life in the creeks.

The creeks that are discussed in this report are within the Las Trampas Creek watershed (Figure 2-3), which, in turn, is part of the larger Walnut Creek watershed. Happy Valley Creek joins Lafayette Creek at the western end of East Reach 1. Lafayette Creek's confluence with Las Trampas Creek is located slightly farther downstream, in East Reach 3. The 2003 Contra Costa County Watershed Atlas lists Las Trampas Creek watershed size as 17,238 acres, with an average annual rainfall of 26 inches, a mean daily flow of 15.4 cubic feet per second (cfs), and an estimated 25% impervious surface. The State of California lists Walnut Creek and all its upstream tributaries, including Lafayette Creek and Happy Valley Creek, as impaired by the pollutant diazinon (an agricultural insecticide).

Lafayette Creek and Happy Valley Creek are both perennial streams with flow rates and volumes that vary widely based on the season and precipitation events. Both creeks are supplied by surface runoff from the local watershed. Lafayette Creek is also fed by Lafayette Reservoir, which holds imported water from the Mokelumne Aqueduct as an emergency water supply. The reservoir receives drainage from a small area (860 acres) and water can be discharged to Lafayette Creek through an ungated spillway at a maximum rate of 160 cfs. All of the reaches assessed are surrounded by low- to moderate- density housing or commercial buildings.

Lafayette Creek and Happy Valley Creek both contain relatively stable creek beds due to anthropomorphic (human) interventions that have occurred over the last 100 years intended to stabilize and harden the channels due to their proximity to urban areas. Most of the original fluvial geomorphic characteristics of the channels, including historic overbank floodplain areas, have been lost. As in many areas of the San Francisco East Bay, urbanization of the watershed area flowing into the creeks has likely led to declining water quality through the introduction of urban stormwater runoff constituents such as heavy metals, hydrocarbons, nutrients and pesticides, among other pollutants. Also, urbanization tends to increase runoff volumes and peak flows in storm events by increasing watershed imperviousness. If unmitigated, these storm events can create erosional responses in downstream areas receiving water, often referred to as "hydromodification," which has likely happened in channels of both creeks. Although the creeks in the study area are relatively stable as erosion or scour potential related to hydromodification is minimized in the reaches studied due to construction of concrete and steel culverts, channelization of banks and other bank armoring, erosion remains a problem (see below for details).

The most effective strategy for improving the water quality of urban runoff discharging into urban creeks is the installation of bioretention areas (or other biotreatment post-construction stormwater best management practices such as use of bioswales or pervious pavement) between urban stormwater runoff sources and the creeks. Typically, bioretention areas are placed curbside, replacing conventional drainage inlets. They collect urban stormwater runoff during rain events at points of drainage concentration, treat stormwater runoff through percolation through a substrate and then link into the creek system. This solution also reduces the peak discharge of water entering the creek system during storm events, reducing flooding. Additionally, removing concrete and introduced rock from the creek bed and replacing

it with native riparian vegetation could also improve water quality, though it would probably have little effect on creek flooding.

The majority of the creeks are highly incised (the creek bed has been eroded downward), having high banks, with little to no floodplain within the banks. The only exceptions are Happy Valley Creek within the Shield Block (North Reach) and the portion of Lafayette Creek after the concrete channel and just prior to the drop structure, where the creek is only moderately incised (East Reach 3). After the drop structure it returns to the condition of having highly incised channels.

Several factors have contributed to creek bank instability and erosion issues. Most of the creek reaches have steep banks, with no floodplain areas within the banks to accommodate and slow flood water and ameliorate erosion impacts. Urbanization has increased peak stormwater flows, causing downcutting in soft bedrock and alluvial deposits to cause the dramatically incised channels with undercut banks that we see today. Furthermore, the invasion of English ivy (*Hedera helix*) and other exotic ivys has displaced deep rooted native riparian vegetation that would have provided significantly stronger bank protection. The shallow root system of English ivy has compromised the stability of the banks. Additionally, not all buildings along the creeks conform to current setback requirements, further increasing slope stability risk issues.

As discussed in the Assessment Report (Appendix A), urbanization and undersized culverts have elevated the risks presented by potential flooding in the area. The flood hazard map shown as Figure 2-4 indicates the areas within the downtown that may be inundated by 100-year and 500-year floods. Flood protection is a priority consideration when assessing potential improvement measures to the downtown creeks.

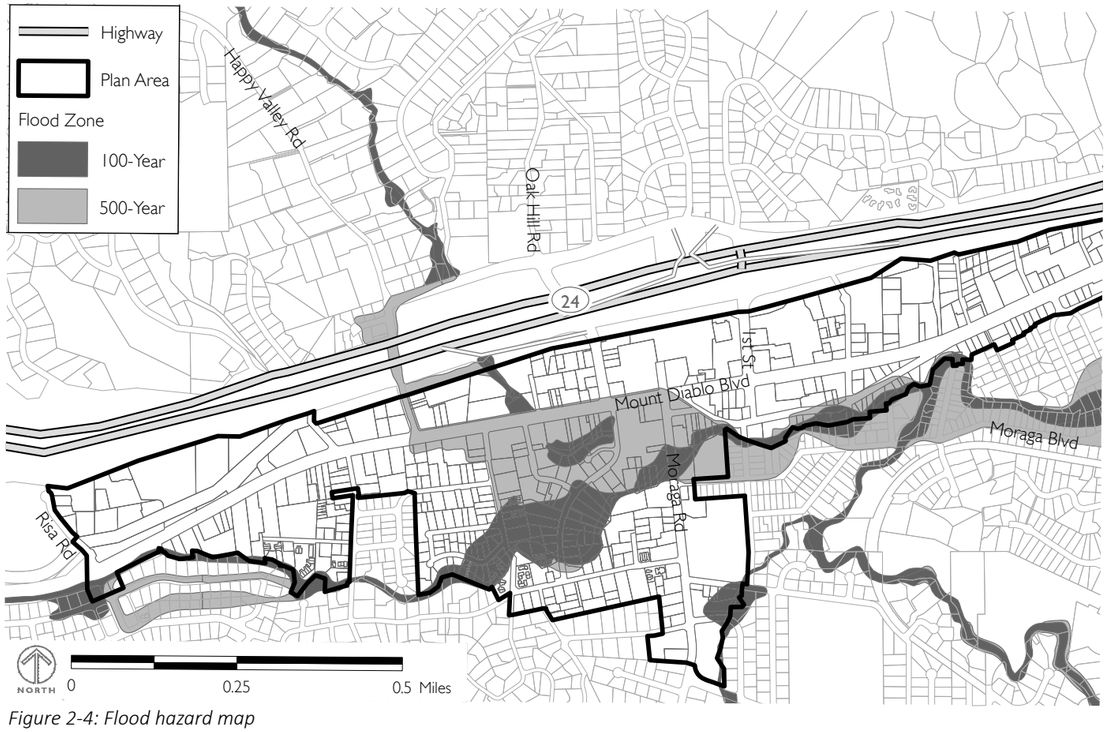

Figure 2-4: Flood hazard map
(Source: FEMA)

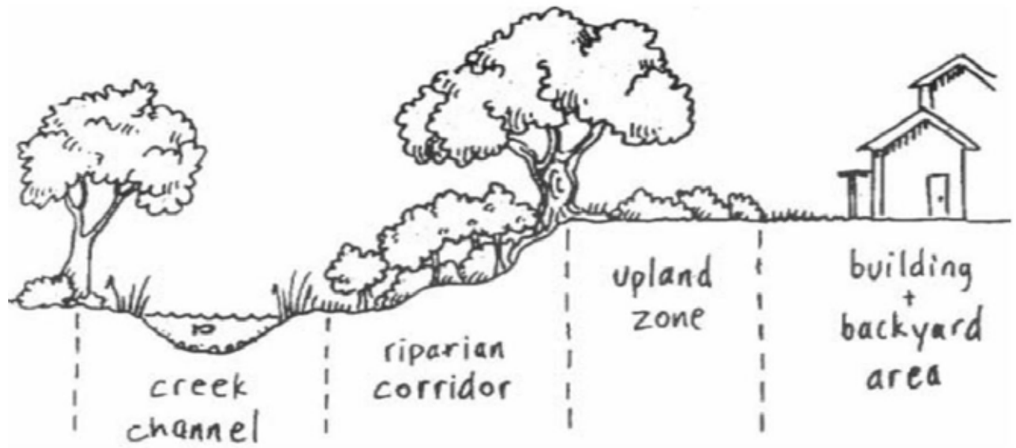

Figure 2-5: Creek zones
(Source: City of Lafayette)

NATURAL HISTORY AND ECOLOGY

The Planning Area is dominated by a cover of suburban landscape, traversed by a band of riparian woodland and scrub along Lafayette Creek and tributary drainages. Most of the valley floor and lower hillsides through the downtown Lafayette area have been developed with urban and suburban uses, with primarily ornamental landscaping where vegetative cover remains. Mature native Valley Oaks (*Quercus lobata*) and Coast Live Oaks (*Quercus agrifolia*) occur in scattered locations throughout the developed valley floor, particularly along the creek corridors. But the majority of the area away from the remaining open creek channels has been developed with roadways, parking lots and structures, bordered by ornamental landscaping.

The condition of vegetative cover along the creek corridors in the Planning Area varies greatly, but continues to provide high quality riparian habitat where native cover remains. Some reaches of the creeks remain intact, with a well-developed canopy of native trees and shrubs. Dominant cover in these reaches includes: Valley Oak, Coast Live Oak, California Bay Laurel (*Umbellularia californica*), California Buckeye (*Aesculus californica*), and Willows (*Salix spp.*), with several other tree, shrub, and vine species contributing to the typically dense cover formed by riparian vegetation. These include: Box Elder (*Acer negundo var. californicum*), Big Leaf Maple (*Acer macrophyllum*), Wild Grape (*Vitus californica*), and Poison Oak (*Toxicodendrom diversilobum*).

Other reaches of Lafayette Creek have been channelized by flood control structures installed in the late 1950s with a concrete bed and vertical walls. Mature native and planted trees remain along what was once the top of bank in the channelized reaches, and continue to provide habitat for birds and shade the creek channel. But the channelization has greatly reduced the habitat value of the creek and now limits opportunities for movement by native wildlife which typically use creeks as movement corridors.
Highly invasive, non-native English Ivy (*Hedera helix*), Himalayan Blackberry (*Rubus discolor*), and Giant Reed (*Arundo donax*) often form impenetrable thickets along segments of the creek corridors, even where intact canopy cover remains. These invasive species are replacing native riparian vegetation and reducing habitat values along much of the creek corridors. In some locations, the ivy and blackberry vines are so

thick that they now preclude any other groundcover and are choking the canopy of some mature native trees. And invasive tree species such as Tree-of-Heaven (*Ailanthus altissima*), Green Wattle (*Acacia decurrens*), and Blackwood Acacia (*Acacia melanoxylon*) have also become established in many locations along the creek corridors and are compromising their habitat values.

Riparian corridors tend to serve as critical linkages for aquatic and terrestrial wildlife movement. Surface water is available for aquatic-dependent organisms, and as a source of drinking water for terrestrial mammals and birds. Where barriers do not obstruct movement, the creeks serve as movement corridors for aquatic and terrestrial species that use the protective cover found along the creeks. Resident trout and other native and non-native fish species most likely continue to occupy perennial segments of Lafayette, Las Trampas, and Happy Valley Creeks. Pacific tree frog, California newt, western toad, ensatina salamanders, and other amphibians are dependent on the perennial and seasonal source of water for breeding, foraging, and dispersal. The aquatic habitat also supports large numbers of invertebrates, which serve as an important source of food for resident fish, amphibians, and wading birds. Terrestrial wildlife dependent on the cover provided by segments of the remaining well-developed riparian woodland and scrub in the Planning Area include: dusky-footed woodrat, deer mouse, eastern fox squirrel, red and grey fox, rufous-sided towhee, scrub jay, flycatchers, woodpeckers and warblers, common gopher snake, garter snake, and ringneck snake. Dense riparian growth provides essential cover utilized by larger mammals, such as striped skunk, raccoon, opossum, and occasionally black-tailed deer. And mature trees provide nesting and foraging opportunities for numerous species of birds, including raptors (birds-of-prey). Chinook salmon, steelhead, and other native fish species were historically known to migrate within the Las Trampas Creek watershed, but major downstream barriers now prevent successful migration into the Planning Area, including an approximately 15-foot vertical drop structure at the downstream end of the Planning Area.

PLANNING CONTEXT

The Downtown Creeks Plan is being developed within the context of a number of planning documents adopted by the City of Lafayette. These documents include:

City of Lafayette General Plan:
The General Plan, adopted in 2002, addresses the City's creeks in both its Open Space and Conservation Chapter, and its Safety Chapter. Most of the General Plan guidance has been incorporated into the goals and policies of the Downtown Specific Plan. The following programs provide some additional guidance for the Downtown Creeks Plan:

Program OS-5.1.3
In cooperation with the Contra Costa County Flood Control District and the California Department of Fish and Game, develop a long-term management plan for addressing creek bank stability on Las Trampas Creek, Grizzly Creek, and other creeks with bank slumping problems. This plan should identify the location of problem areas and develop a strategy for addressing these problems on a watershed basis. Since responsibility for many problem areas rests with private owners, the City should assist owners in addressing these problems by:

1) Compiling a list of stability management practices recommended for the particular stretch of creek.
2) Compiling a list of possible contractors available to do the work.
3) Investigating potential funding sources including public and non-profit agencies and foundations.
4) Expediting the permitting process so that an owner does not need to submit studies and data to local, State, and Federal agencies to obtain separate permits.

Program S-3.4.3
Periodically assess the need to establish improvement districts and other financing mechanisms to fund necessary storm drainage and watercourse improvements to minimize flood hazards and creek erosion.

Downtown Specific Plan:
The downtown creeks are an integral part of the Downtown Specific Plan (DSP), adopted in 2012. As part of its discussion of the Public Realm, as well as proposing three parks (Library Park, Town Green and Gazebo Park) adjacent to the downtown creeks, the DSP includes the following pertaining specifically to the downtown creeks.

Goal 15 Public Realm – Creeks.
Protect and enhance downtown creeks.

Policy 15.1
Preserve the natural resource value of the creeks.

Policy 15.2
Preserve creeks as a significant contributor to the downtown character.

This Downtown Creeks Plan implements those Policies by carrying out the actions described in Programs 15.1.1 (see Page 3) and 15.2.1 (see Page 4).

The DSP also includes circulation policies that helped guide recommendations for pedestrian access along downtown creeks. The Lafayette Circulation Commission will oversee the implementation of specific pedestrian projects within the Planning Area for their consistency with these circulation policies.

Figure 2-6: Downtown Specific Plan showing creek trail and crossings in Shield Block

Downtown Design Guidelines:
Adopted in 2014, these guidelines (DDG) include the following goals and guidelines pertaining to the downtown creeks and preservation of trees.

Goal:
Development design should embrace the creeks and connect the public to them.

Guidelines:
1. Maintain and restore native riparian areas.
2. Provide views of the creek through window placement, decks, balconies, and outdoor spaces.
3. Orient development to take advantage of the creek for walkways, dining, and outdoor space.
4. Maintain an open character by deemphasizing property lines and reinforcing the continuity of the creek.
5. Transition landscaping toward and along the creek corridor for a consistent native riparian plant palette.
6. Provide public creek crossings to link neighborhoods to the downtown.
7. Preserve downtown trees by designing development around existing trees and minimizing encroachment within the dripline of the trees.

Appendix D of the Downtown Creeks Plan includes some amendments to the DDG to promote the creek enhancements envisioned by this plan. The Lafayette Design Review Commission will oversee the implementation of specific development projects for their consistency with the DDG.

Trails Master Plan:
Adopted in 2006, this document identifies the Shield Block Creek Trail as a planned trail facility. (See Figure 2-6). Appendix D of the Downtown Creeks Plan recommends adding two creek-side trails to the Trails Master Plan. The Lafayette Parks, Trails & Recreation Commission will oversee implementation of specific trail projects in the Planning Area for their consistency with the Trails Master Plan.

Public Art Master Plan:
Downtown creeks and adjacent pathways and public spaces can be ideal settings for public art. The Public Art Master Plan, adopted in February 2013, promotes public art in downtown parks and public spaces.

Program:
Introduce interactive public art in downtown parks and other public spaces, particularly artworks that can be used by children for play.

The Downtown Creeks Plan contains recommendations for incorporating public art into creek enhancement projects. The Public Art Committee oversees the City's public art program which includes incorporating public art in both private and public projects.

50-Year Plan
In 2009, the Contra Costa County Flood Control District (Flood Control District) adopted The 50-Year Plan: From Channels to Creeks (50-Year Plan) to convert its first generation infrastructure, such as the concrete flood control channel located in East Reach 1 and East Reach 2, to second generation facilities consisting of more natural creek conditions. The remaining service life of these first generation facilities is 30 to 50 years, and the objective of the Flood Control District is to begin the planning process to replace this essential infrastructure. Implementation of The 50-Year Plan is contingent on support of the affected jurisdictions and property owners and sufficient funding.

CODES AND ORDINANCES

The Lafayette Municipal Code controls land uses and establishes development standards. It also regulates flood damage prevention, including creek setbacks.

Flood Damage Prevention Ordinance:
Lafayette Municipal Code Chapter 6-18 contains regulations and provisions created to promote the public health, safety and general welfare, and to minimize public and private losses due to flood conditions. Among its provisions it provides in Article 4, Standards for Flood Hazard Reduction applicable to all areas of special flood hazards. Article 4 sets forth standards for anchoring, construction materials and methods, elevation and flood-proofing, materials and equipment storage, utilities, subdivisions, manufactured homes and recreational vehicles, floodways and flood-related erosion-prone areas. The Ordinance includes detailed guidelines and procedures for obtaining an exception from its requirements.

Creek Setback Requirements:
For purposes of the Downtown Creeks Plan, Article 5, the existing Creek Setback Requirements, are of primary importance and are fully set forth below. Examples of these setbacks are illustrated in Figure 2-7.

6-1841 Structure setback.
(a) As defined by Section 6-312 and Section 6-355, buildings and structures shall be set back from an unimproved creek channel as follows:

(1) Channel Depth of Zero through 21 Feet. If the side slopes of the channel are steeper than 2:1 (horizontal:vertical), the width of the structure setback is determined by a line measured from the toe of the slope a distance of twice the channel depth plus the appropriate top-of-bank setback as follows:

Channel Depth (Feet)	Top of Bank Setback Minimum Width (Feet)
0 — 6	12 each side
6 — 12	15 each side
12 — 18	18 each side
18 — 21	21 each side

If the side slopes of the channel are flatter than 2:1 (horizontal:vertical), the structure setback is the appropriate setback indicated in the table above, measured from the top of the bank.

(2) Channel Depth Exceeding 21 Feet. If the depth of a channel exceeds 21 feet, the width of the structure setback is determined by measuring from the toe of the slope a distance of three times the channel depth.

(b) If a parcel is subject to subdivision easements or setback requirements under Contra Costa County Ordinance Code Sections 914-14.002 through 14.014 that are inconsistent with Section 6-1841(a), those subdivision requirements control.

(c) No permanent structure other than fences and drainage and erosion protection improvements may be constructed within the setback area. Landscaping (including trees and shrubs) is permitted within the setback area.

6-1842 Exception.
(a) The city engineer may approve exceptions to the requirements of Section 6-1841 to allow construction of structures within the setback area if:

(1) The submitted materials under Section 6-1842(c) are complete and adequate; and
(2) The property owner agrees to enter into and record an agreement holding the city and other public agencies harmless in the event of flood or erosion damage. The agreement shall bind successors in interest and be in a form acceptable to the city attorney.

(b) In approving an exception, the city engineer may impose conditions deemed necessary for creekside erosion protection and on-site drainage.

(c) A person requesting an exception under this section shall submit to the city engineer:
(1) A topographical survey of the lot precisely showing the creek bottom, sides, top of bank and proposed and existing structures;
(2) A soils report prepared by a licensed civil engineer specializing in soils analysis which describes the soils condition for the proposed structure and analyzes and makes recommendations as to the creek bank stability and erosion hazard; and
(3) Certification signed by the engineer who prepares the soils report that in the professional opinion of the engineer there is no likelihood of a hazard to persons or property resulting from the proposed construction.

(d) The decision of the city engineer may be appealed to the city council as provided in Section 6-1852(b).

Tree Protection Ordinance:
Municipal Code Chapter 6-17 addresses protection of Lafayette's trees. The ordinance supports the City's policies to protect existing woodlands and their associated vegetation, protect native trees, preserve riparian habitat, encourage the planting of native species, and avoid the cutting of mature trees. All trees in the Planning Area are considered "Protected Trees" under Item 8 of the ordinance, and subject to regulation.

Off-Street Parking Ordinance:
Municipal Code Chapter 6-6 addresses off-street parking requirements for new development, re-development, or changes in use or occupancy. In some cases, expanding access to the downtown creeks may impact property owners' ability to meet the parking requirements without an exception or variance.

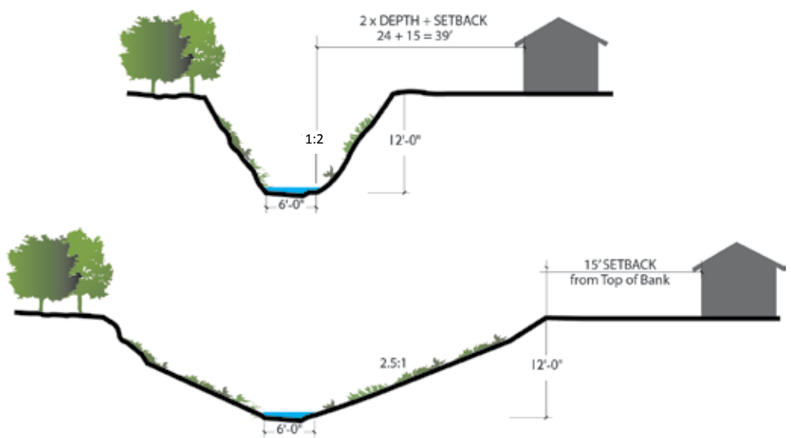

Figure 2-7: Examples of setbacks for buildings and structures, per Lafayette Municipal Code

Stormwater Management and Discharge Control Ordinance:
Lafayette Municipal Code Chapter 6-18, Stormwater Management and Discharge Control Ordinance No. 628, implements the urban stormwater runoff pollution provisions of Federal Clean Water Act, which is described more fully in the following overview of Federal and State regulations.

FEDERAL AND STATE REGULATORY OVERVIEW

Human activities have disrupted natural processes and past planning decisions have impacted ecosystems. Federal and State laws have been enacted to mitigate these impacts to our waters and habitats.

The Downtown Creeks Plan includes areas that are subject to protection by State and Federal agencies and governed by regulatory Acts. Agencies with jurisdiction over creek-related projects include, but are not limited to: 1) the United States Army Corps of Engineers (Corps), 2) the California Department of Fish and Wildlife (CDFW), and 3) the Regional Water Quality Control Board (RWQCB). Regulatory Acts that may apply to creek projects in this area include the Clean Water Act, the Porter-Cologne Act, State Fish and Game Code, as well as the Migratory Bird Treaty Act, the California Environmental Quality Act (CEQA), and possibly the Endangered Species Act.

Various levels of permitting may be required depending on the level of improvements proposed. Routine maintenance and some habitat enhancement may be possible with only agency consultation. Other works such as bank stabilization may require more extensive permitting, depending on the particulars of the project. Ongoing coordination with the regulatory agencies may result in a palette of improvements that the agencies are likely to approve, or more clearly defined project criteria, reducing uncertainty for property owners. This comprehensive Downtown Creeks Plan may result in reduced permitting requirements, facilitated permitting, or reduced fees for individual property owners if agencies approve and permit specific actions described in this plan with the City or a special district taking the role of permitee, or the City completes required studies or inventories.

REGULATORY AGENCY JURISDICTION

In addition to local plans, policies and ordinances, State and Federal regulations provide for the protection and management of sensitive biological and wetland resources, including creek corridors found in the Planning Area. Modifications to the creek corridors are regulated by the Corps, the RWQCB and the CDFW. The regulations pertaining to resource protection and management activities in the Planning Area are summarized below.

WATERS OF THE UNITED STATES

The Corps regulates "Waters of the United States (U.S.)" under Section 404 of the Clean Water Act. "Waters of the U.S." are defined broadly as waters susceptible to use in commerce, including interstate waters and wetlands, all other waters (intrastate waterbodies, including wetlands) and their tributaries. The placement of fill material into "waters of the U.S." (including wetlands and unvegetated other waters) generally requires an individual or nationwide permit from the Corps under Section 404 of the Clean Water Act. The Corps regulatory authority through most of the Planning Area is limited to the portion of the creek bed and lower bank below the ordinary high water mark (OHWM). This varies in height through the Planning Area, but the OHWM generally falls at or below a foot or two above the creek bed, and is characterized by evidence of past flows, eroded banks, and accumulated debris. The width between the OHWM varies widely through the Planning Area from about 10 to 30 feet across the bottom of the channel, depending on the steepness of the banks, location in the watershed, and other variables.

WATERS OF THE STATE

The term "Waters of the State" is defined by the Porter-Cologne Water Quality Control Act as "any surface water or groundwater, including saline waters, within the boundaries of the State." The RWQCB protects all waters in its regulatory scope, but has special responsibility for wetlands, riparian areas, and headwaters. These water bodies have high resource value, are vulnerable to filling, and are not systematically protected by other programs. RWQCB jurisdiction includes "isolated" wetlands and waters that may not be regulated by the Corps under Section 404. "Waters of the State" are regulated by the RWQCB under the State Water Quality Certification Program, which regulates discharges of fill and dredged material under Section 401 of the Clean Water Act and the Porter-Cologne Act. Projects that require a Corps permit, or fall under other Federal jurisdiction, and have the potential to impact "Waters of the State," are required to comply with the terms of the State Water Quality Certification determination. If a proposed project does not require a Federal permit, but does involve dredge or fill activities that may result in a discharge to "Waters of the State", the RWQCB has the option to regulate the dredge and fill activities under its State authority in the form of Waste Discharge Requirements.

Jurisdictional waters of the State regulated by the RWQCB extend to the top of bank and outer edge of woody riparian vegetation where present along creeks in the Planning Area. Distinguishing the edge of woody riparian vegetation beyond the top of bank is difficult in some locations in the Planning Area, given that the riparian woodlands can integrate with the surrounding upland oak and bay woodlands, and that some of the dominant tree species found in the riparian woodlands along the creek corridors are found in non-riparian uplands as well, such as Valley Oak, Coast Live Oak, California Bay, and California Buckeye. Native Willows, Alders, and Box Elder are typically restricted to riparian conditions and can be used to distinguish between the limits of riparian habitat and where it continues as non-regulated oak woodlands.

STREAMS, LAKES AND RIPARIAN HABITAT

Streams and lakes, as habitat for fish and wildlife species, are subject to jurisdiction by the CDFW under Sections 1600-1616 of the State Fish and Game Code. Alterations to or work within or adjacent to streambeds or lakes generally require a 1602 Lake and Streambed Alteration Agreement. The term stream, which includes creeks and rivers, is defined in the California Code of Regulations (CCR) as: "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other wildlife. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation". In addition, the term stream can include ephemeral streams, dry washes, watercourses with subsurface flows, canals, aqueducts, irrigation ditches, and other means of water conveyance if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife. Riparian is defined by the CDFW as "on, or pertaining to, the banks of a stream," and riparian vegetation is defined as, "vegetation which occurs in and/or adjacent to a stream and is dependent on, and occurs because of, the stream itself". Removal of riparian vegetation also requires a Section 1602 Lake and Streambed Alteration Agreement from CDFW, even where it extends beyond the top of bank.

Like the State waters regulated by the RWQCB, jurisdictional waters regulated by the CDFW extend to the top of bank and outer edge of woody riparian vegetation where present along creeks in the Planning Area. This includes riparian vegetation found along the Lafayette Creek flood control channel.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

Municipal Regional Stormwater Permit, Provision C.3:
The Federal Clean Water Act addresses urban stormwater runoff pollution through the National Pollutant Discharge Elimination System (NPDES) stormwater program. The San Francisco Bay Regional Water Quality Control Board administers this program under the Municipal Regional Stormwater Permit (MRP), which regulates both the quality and quantity of stormwater discharges. The effective date of the most recent MRP is January 1, 2016, and the City of Lafayette as a Permittee is covered under this MRP. The provisions of this permit are implemented through Lafayette Municipal Code Chapter 6-18, Stormwater Management and Discharge Control Ordinance No. 628.

Generally speaking, Provision C.3 of the MRP applies to new development and redevelopment projects (including road projects) which create and/or replace 10,000 square feet or more of impervious surface, as well as to several types of projects (auto service facilities, gas stations, restaurants, and uncovered parking lots) which create and/or replace 5,000 square feet or more of impervious surface. Site design requirements apply to all development projects of

2,500 – 10,000 square feet and detached single-family home projects. The goal of Provision C.3 is to address stormwater runoff pollutant discharges and prevent increases in runoff flows, primarily through the implementation of low impact development (LID) techniques.

LID techniques are intended to reduce runoff and mimic a site's predevelopment hydrology by minimizing disturbed areas and impervious cover and then infiltrating, storing, detaining, evapotranspiring, and/or biotreating stormwater runoff close to its source. LID practices include measures such as rain barrels and cisterns, green roofs, permeable pavement, preserving undeveloped open space, and biotreatment through rain gardens, bioretention units, bioswales, and planter/tree boxes.

Provision C.3 also requires Lafayette to develop a Green Infrastructure Plan, which will expand the use of LID on a larger scale. The Green Infrastructure Plan would be implemented over the 2020 – 2040 time period.

It is the intent of the Downtown Creeks Plan to identify opportunities to integrate the MRP's stormwater treatment strategies into its recommendations for creek enhancements.

SPECIAL-STATUS SPECIES

Special-status species include those plants and wildlife species that have been formally listed, are proposed as endangered or threatened, or are candidates for such listing under the Federal Endangered Species Act (ESA) or California Endangered Species Act (CESA). These Acts afford protection to both listed and proposed species. In addition, CDFW Species of Special Concern and the National Marine Fisheries Service (NMFS) Species of Concern, which are species that face extirpation if current population and habitat trends continue, U.S. Fish and Wildlife Service (USFWS) Birds of Conservation Concern, sensitive species included in USFWS Recovery Plans, and CDFW special-status invertebrates are all considered special-status species. Although CDFW Species of Special Concern generally have no special legal status, they are given special consideration under the California Environmental Quality Act (CEQA). In addition to regulation for special-status species, most birds in the United States, including birds that are not special-status species, are protected by the Migratory Bird Treaty Act of 1918. Under this legislation, destroying active nests, eggs, and young is illegal. Plants species on California Native Plant Society (CNPS) Lists 1 and 2, and possibly List 3 when of local concern, are also considered special-status plant species. Impacts to these species must be considered under CEQA.

A search of records maintained by the California Natural Diversity Data Base (CNDDB), together with other relevant information, indicate that occurrences of numerous plant and animal species with special status have been recorded from or are suspected to occur in central Contra Costa County and the Lafayette vicinity. Only a general occurrence record of pallid bat (*Antrozous pallidus*) extends over the Planning Area, based on an occurrence record from 1907. Numerous other occurrences have been reported from the surrounding area, primarily from undeveloped lands, but suitable habitat for these species is generally absent in the Planning Area. Below is a summary of the special-status plant and animal species known from central Contra Costa County and Lafayette vicinity, and conclusions regarding possible presence in the Planning Area.

Plant Species. A number of plant species with special status have been reported from the vicinity of the Planning Area, and based on recorded geographic range and preferred habitat, numerous other species may potentially occur in the central Contra Costa County vicinity. These have varied status, and many are considered rare (list 1B) by the CNPS and would be considered of special-status under CEQA regulations. However, none have actually been reported from the Planning Area, with six species have been reported within 2 miles. Existing urbanization on the valley floor greatly limits the likelihood of continued occurrence of any populations of special-status plant species within the Planning Area. Any occurrences of big tarplant (*Blepharizonia plumosa)*, Contra Costa goldfield (*Lasthenia conjugens*), and Congdon's tarplant (*Hemizonia parryi ssp. congdonii)*, which were once known from valley floors east of the Planning Area, are presumed extirpated as a result of urbanization. Many of the special-status plant occurrences in the protected open space lands north, south, and west of the Planning Area remain, including occurrences of Diablo Helianthella (*Helianthela castanea*), Bent-flowered Fiddleneck (*Amsinckia lunaris*), and Mt. Diablo Fairy-lantern *(Calochortus pulchellus*). California Black Walnut *(Juglans hindsii*) occurs in the riparian woodlands along Lafayette Creek and other drainages in the Planning Area, but these are most likely originated from the root stock of the commercial English Walnut once grown in the area, and are presumably not indigenous.

Animal Species. A number of bird, mammal, reptile, fish, and invertebrate species with special-status are known or suspected to possibly occur in the central Contra Costa County vicinity. Only pallid bat has actually been reported from the Planning Area by the CNDDB. This occurrence was part of a vague record from 1907 which extends over the southern Lafayette area. An estimated 12 additional species are either known from or have occurrence reports within 2 miles of the Planning Area. These include: Cooper's hawk (*Accipiter cooperi*), sharp-shinned hawk (*Accipiter striatus*), golden eagle *(Aquila chrysaetos*), white-tailed kite (*Elanus caeruleus*), prairie falcon (*Falco mexicanus*), loggerhead shrike (*Lanius ludovicianus*), yellow warbler (*Dendroica petechia)*, northwestern pond turtle (*Actinemys marmorata)*, Alameda whipsnake (*Masticophis lateralis euryxanthus*), California red-legged frog (*Rana aurora draytonii)*, Berkeley kangaroo rat (*Dipodemys hermanni berkeleyenis*), and mountain lion (*Felis concolor*). Many non-listed special-status species are not monitored by the CNDDB, and occurrence data are therefore not available.

Most of the special-status animal species known or suspected to occur within the Planning Area are bird species which forage in the remaining undeveloped habitats and natural habitats along the creek corridors. These include: Cooper's hawk, sharp-shinned hawk, white-tailed kite, prairie falcon, loggerhead shrike, and yellow warbler. The primary habitat available to these species occurs in areas of well-developed riparian woodland and scrub along the creeks through the Planning Area. No nesting locations have been identified by the CNDDB in the Planning Area, but suitable nesting substrate occurs in the mature trees for these and other species of birds, including more common raptors such as great horned owl, red-tailed hawk, and American kestrel. Golden eagle may occasionally pass over the Planning Area, along with other special-status bird species such as American peregrine falcon, but suitable nesting and foraging habitat is absent for these species that tend to be more sensitive to human activity. Nests of most bird species are protected under the Migratory Bird Treaty Act when in active use, and nests of raptors (birds- of-prey) are also protected under State Fish and Game Code when in active use.

Regarding special-status amphibians and reptiles, California red-legged frog and Alameda whipsnake are known from areas with suitable habitat to the south and north of the Planning Area. However, suitable habitat for these species is generally absent in the Planning Area itself, and neither of these species are currently suspected to occur within the Planning Area. Alameda whipsnake is typically associated with dense chaparral and adjacent grassland and riparian habitat. Existing development on the valley floor precludes dispersal of Alameda whipsnake into the Planning Area. Occurrences of California red-legged frog have been reported from the undeveloped hillsides about 1.5 miles south of the Planning Area. This species is typically associated with ponds and creeks, utilizing the surrounding grasslands and woodland habitats for foraging and seasonal dispersal. Because the creek corridors on the valley floor have been fragmented and adjacent habitat has been impacted by urbanization, populations of California red-legged frog are not expected to occur within the Planning Area, although there is a remote potential for individuals to be washed down or occasionally disperse through some reaches where protective cover remains. But predation by raccoons and other predators limits the potential for permanent occupation in the Planning Area. Deeper pools within the Planning Area could provide suitable retreat habitat for northwestern pond turtle, which may disperse along the creek corridors when conditions are appropriate.

SENSITIVE BIOLOGICAL COMMUNITIES

Sensitive natural communities include habitat that fulfill special functions or have special values, such as wetlands, stream and riparian habitat, or are considered rare enough by the State to receive consideration under CEQA. State and Federal waters are regulated as described above. Natural communities considered sensitive are those identified in local or regional plans, policies, and regulations, or by the CDFW. CDFW monitors sensitive natural communities as part of the CNDDB, and are ranked with a high inventory priority in the List of California Natural Communities. Impacts to sensitive natural communities must be considered under CEQA.

The riparian scrub and woodlands along the creek corridors in the Planning Area are considered a sensitive natural community type where they continue to be dominated by native species. While reaches supporting a tree cover of naturalized Coast Redwood and other non-indigenous species still provide important shade and foraging opportunities for birds and other wildlife, they do not qualify as a sensitive natural community type.

BASELINE ASSESSMENT OF EXISTING CONDITIONS

An initial task in the planning process for the Downtown Creeks Plan was to survey existing conditions in the Planning Area. These conditions included creek conditions, land use, property boundaries, biological conditions, outdoor and pedestrian spaces, and opportunities for public access and habitat restoration. This survey is included in Appendix A - Assessment Report: Existing Conditions, Land Use and Enhancement Opportunities, and provides a foundation for the recommendations and creek enhancement concepts described in the following chapters.

CHAPTER 3: PUBLIC PROPERTY IMPROVEMENTS

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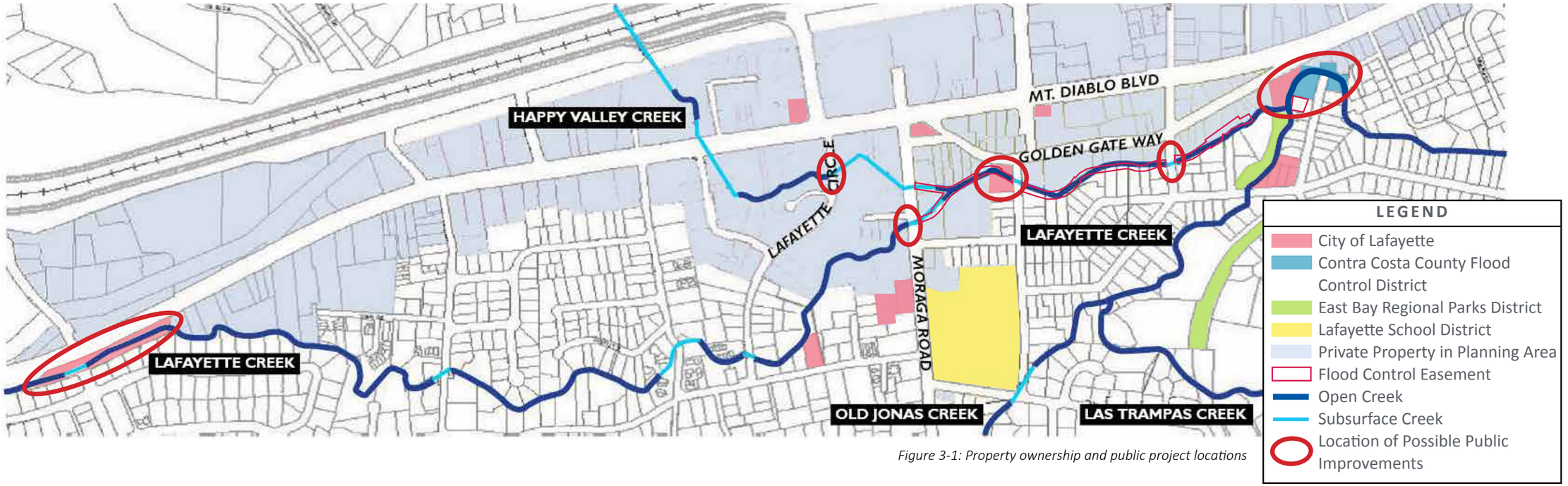


Figure 3-1: Property ownership and public project locations

INTRODUCTION

The majority of Lafayette's downtown creeks are located on private property. The creek reaches at either end of the study area, the West Reach and East Reach 3, are on publicly owned land. Additionally, the creeks are visible from several public rights-of-way in other reaches where they pass under streets such as Moraga Road or Lafayette Circle, or where they run adjacent to streets, such as along Mt. Diablo Boulevard. across from the Veterans' Memorial Center. In these areas, the City of Lafayette can initiate creek improvement projects without dependence on private property owner involvement.

Several of the locations for possible public improvements have high public visibility and good accessibility. The West Reach of Lafayette Creek, in particular, is highly visible and is an area of increasing pedestrian activity. Figure 3-1, above, shows publicly owned lands in the downtown area. Roadways also generally fall within this category. Locations for the projects described in this chapter are shown on the map.

In some instances, a proposed creek enhancement project involves improvements on both public and private property. These projects are described in both this chapter on Public Property Improvements and the following chapter on Private Property Improvements. The areas of public property and private property are distinguished in the graphics and the descriptions. For projects involving both public and private property, the elements of the project may be undertaken in phases, or a partnership agreement between the City and the private property owners may be crafted that accomplishes the project as a whole. The Downtown Specific Plan supports the use of public/private partnerships to implement downtown improvements.

The photosimulations and illustrative site plans for these public property improvements are conceptual. Details on aesthetics, materials, and arrangement and dimensions of proposed features will be determined for each project during their design phase.

WEST REACH CATALYST PROJECT:

Creek bank erosion control and restoration, paths, signage, seating and overlooks. Parking to be replaced with rain gardens.

Public ownership of this segment of the creek provides a unique opportunity to create a model for creek restoration, exemplifying the benefits of creek restoration to the public, and providing a blueprint for restoration of other areas of Lafayette's creeks in the Planning Area. Private land owners could leverage this information to restore segments of the creek which they own.

The improvements at this location would also create a gateway to Lafayette's downtown for those traveling from the west, emphasizing the importance of the creeks to Lafayette and the downtown.

The West Reach is located in an area that the Downtown Design Guidelines refer to as the West End District. The design intent for this district is to maintain an open character with generous landscaping and setbacks. There should be an emphasis on native plants for landscaping as the area transitions from the downtown core to the more rural area to the west of the district. Safe and continuous pedestrian access is a priority as this district connects the downtown with the Lafayette Reservoir.

Habitat Restoration and Bank Stabilization

The natural creek conditions that exist along the West Reach have suffered extensively from non-native invasive plant species. Removing the non-native vegetation, and re-vegetating with native riparian plants, would be an important component of restoring this area of the creek to more natural conditions. Removing the ivy would also make the creek area and habitat much more open and visible to pedestrians along this heavily traveled route. Oleanders at the top of bank obscure views down to the creek channel, and their removal would further open views to the creek as recommended in the Downtown Street Improvement Master Plan.

Bank erosion

Invasive plants

The creek bank in this area has suffered significant localized erosion. Bioengineering approaches may be used to stabilize these areas. For example, in the case of the erosion which has exposed tree roots near Mt. Diablo Blvd., packing the roots with brush and willow stakes could provide a natural medium what would trap sediment. These live materials would take root and revegetate the bank, providing further stabilization.

Parked cars and crowded vegetation narrow pedestrian path

Pedestrian Enhancements and Bioretention

To improve the pedestrian experience along this segment of Lafayette Creek and provide a visual connection from the road, up to 21 on-street parking spaces on the east bound side of Mt. Diablo Blvd. could be eliminated and replaced with a wider sidewalk (pervious paving), overlooks, and bioretention areas (rain gardens). A bioretention area

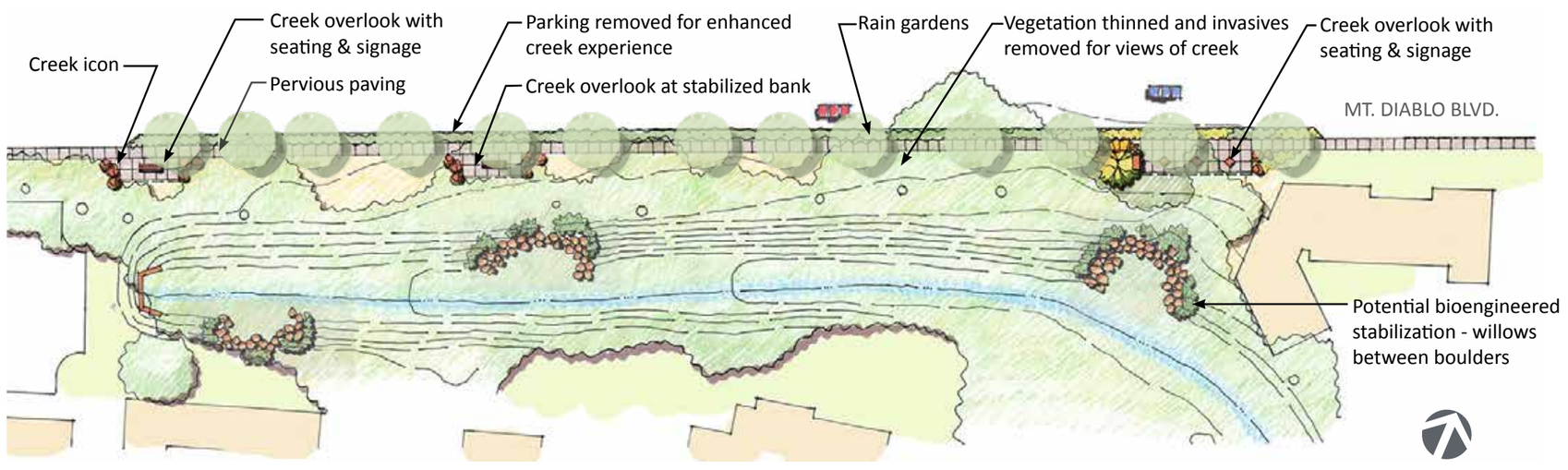
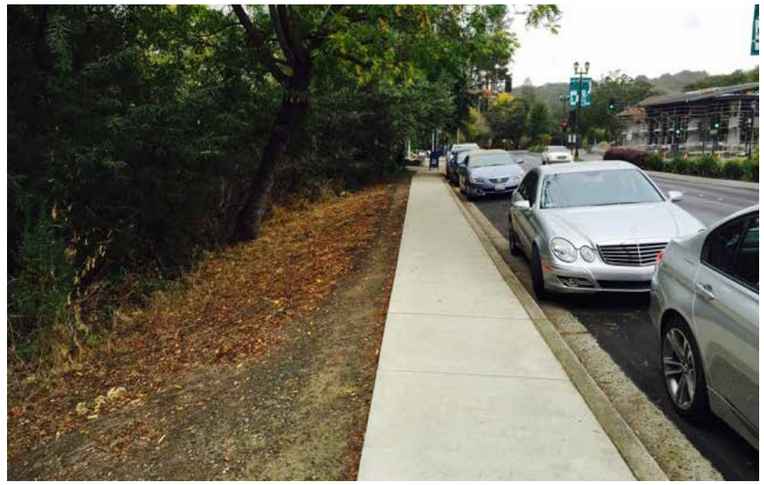


Figure 3-2: Plan view - Creek overlooks, rain gardens and pervious paving



Current View - Mt. Diablo Blvd.

View Map

Pervious paving would connect to sidewalk segment directly to the west of this reach.

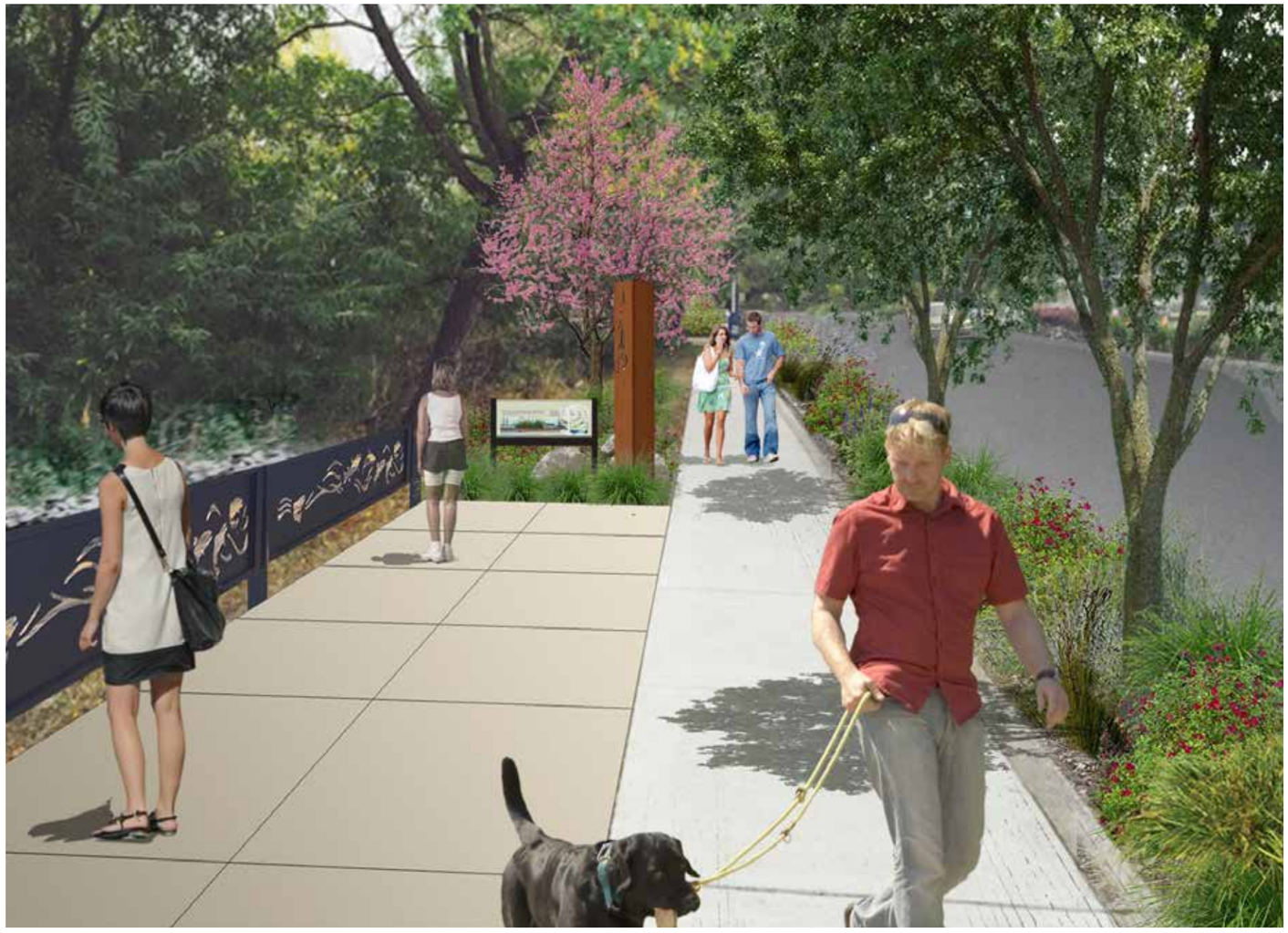


Figure 3-3: Overlook, looking west along Mt. Diablo Blvd.

would serve a dual purpose of buffering pedestrians from busy Mt. Diablo Blvd. and cleansing stormwater runoff before it reaches the creek. The pervious paving at this area would be a continuation of the existing pervious sidewalk west of Village Center Road.

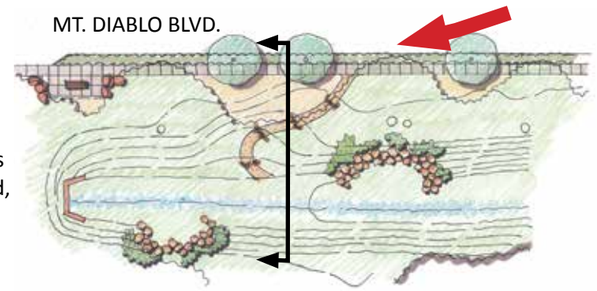
An overlook deck at the area where erosion is threatening to undermine Mt. Diablo Blvd. could serve a dual purpose of increasing visual access to the creek, while being designed to shore up this area of high erosion concern (see Figure 3-3). Additional opportunities lie further east where the bank needs to be stabilized due to erosion issues, and to the west where the creek exits the culvert. Overlooks provide pleasant resting spots for pedestrians as well as the opportunity for interpretive signage to educate about the creek, habitat and watershed. Locating a creek icon at this gateway would introduce people to the concept that the icon signifies the presence of a downtown creek.

The opportunity for planned access to the creek channel could be explored in this location (see Figures 3-4 and 3-5). Currently, an informal path down the bank is exacerbating the erosion problems in this area. The nature trails at the Community Park provide an example where stairs are used to access the Las Trampas Creek channel near its confluence with Grizzly Creek. Regrading and formalizing a pathway could both allow people to have physical access to the creek, and address the erosion caused by the informal path. The feasibility of this access and potential public safety concerns would be addressed during this project's design phase.

Comments were made at Community Workshops regarding the potential for enhanced creek access to bring about increases in public nuisances (e.g. dumping or homeless camps). The Police Chief indicated he finds that such nuisances occur in secluded locations away from pedestrian activity or vehicular traffic. Removing overgrown vegetation, providing lighting and adding public uses is likely to discourage, rather than attract, dumping or homeless camps. Before creek enhancements are implemented, care will be taken to locate and design public access features in a manner the minimizes the potential for undesirable activities.

The West Reach Catalyst Project could potentially be phased. Phase 1 would include invasive plant removal, vegetation thinning, revegetation with native riparian plants, stabilizing the creek bank under the California buckeye tree where erosion damage is most severe, a creek overlook deck, and a formal path to the creek channel. A separate Phase 2 project could occur later and include bank stabilization at the other two locations of minor bank erosion, two additional creek overlooks, rain gardens and the gateway feature.

See Figs. 3-5, 3-6



View Map

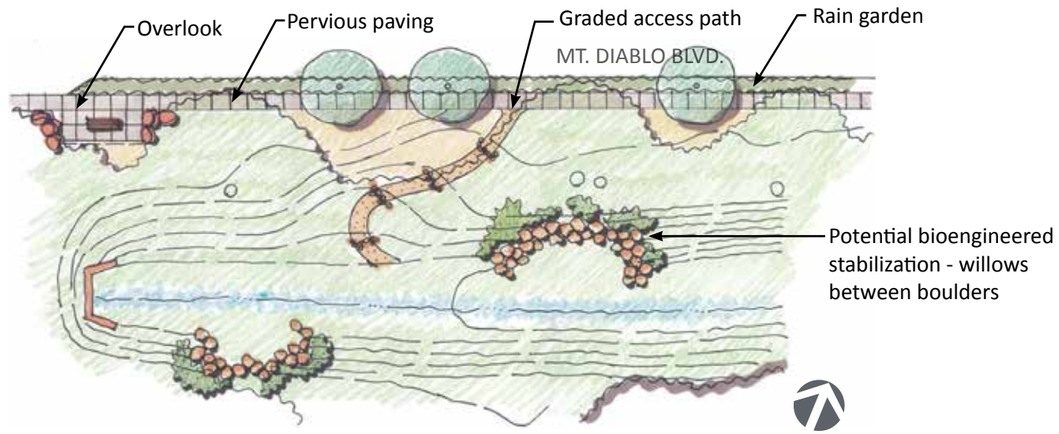


Figure 3-4: Plan View -Alternate treatment with planned creek access

Figure 3-5: Alternate treatment with planned creek access

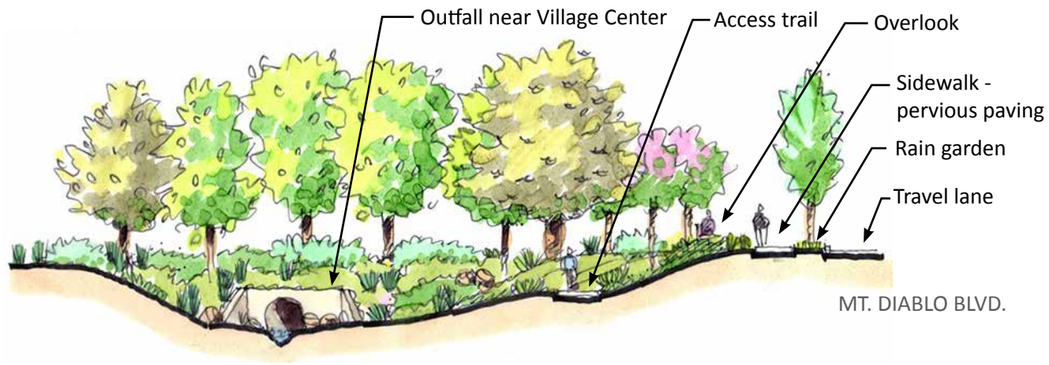


Figure 3-6: Section/elevation showing creek trail and overlook (N.T.S.)

CROSSINGS AND STREET FRONTAGES:

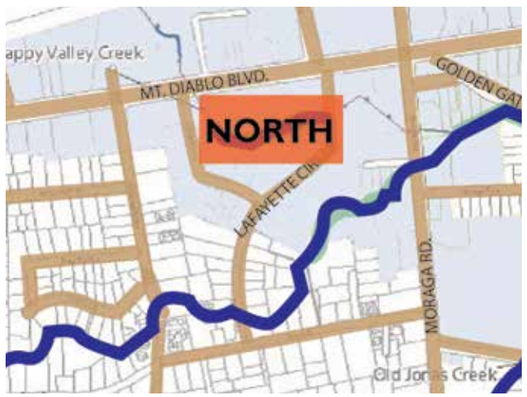
NORTH REACH:

Lafayette Circle overlook, rain garden, decorative fence and signage. Bioretention along Mt. Diablo Blvd.

Although most of the North Reach flows through private property, Happy Valley Creek is quite visible from the public sidewalk at Lafayette Circle. The Master Walkways Plan includes a sidewalk gap closure project for this area. Expanding the sidewalk area where Happy Valley Creek approaches the Lafayette Circle culvert, and marking the creek with a creek icon, interpretive signage and decorative fencing, would raise awareness of the creek at this well-traveled area (see Figure 3-7). Removal of one on-street parking space could allow for creation of rain gardens or other bioretention at the creek crossing.

Lafayette Circle - current view

Figure 3-7: Lafayette Circle - Expanded bulb-out, rain gardens, creek icon



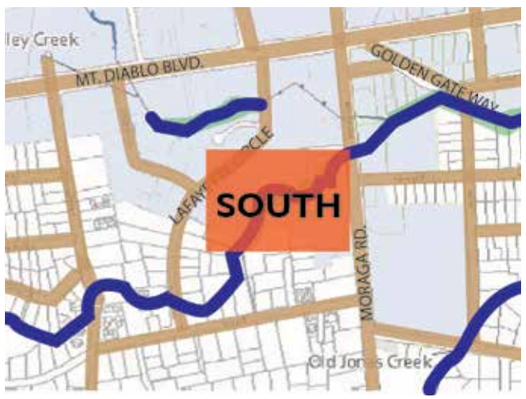
See Fig. 3-7

View Map

SOUTH REACH:

Moraga Road bulb-out, overlook, creek icon, signage, decorative fence, bioretention.

Expanding the sidewalk area where Lafayette Creek approaches the Moraga Road culvert, and marking the creek with a creek icon, interpretive signage and decorative fencing, would raise awareness of the creek at this well-traveled area. Removal of up to four street parking spaces could allow for creation of rain gardens or other bioretention, and create room for seating. The illustrative plan view on this page (see Figure 3-8) shows improvements to both the public property (sidewalk and street) and private property (areas along the creek, to the west of the sidewalk). The addition of a crosswalk across the north leg of the intersection would provide pedestrians with more direct access to future creek enhancements, but the potential for impacts to traffic flow at this heavily traveled intersection requires further study. Although the level of vehicular traffic on Moraga Road creates a sometimes unpleasant noise level, a bulb-out and rain garden could create a buffer between pedestrians on the sidewalk and the passing traffic (see Figure 3-9). Potential private improvements at this location are discussed in the following chapter.



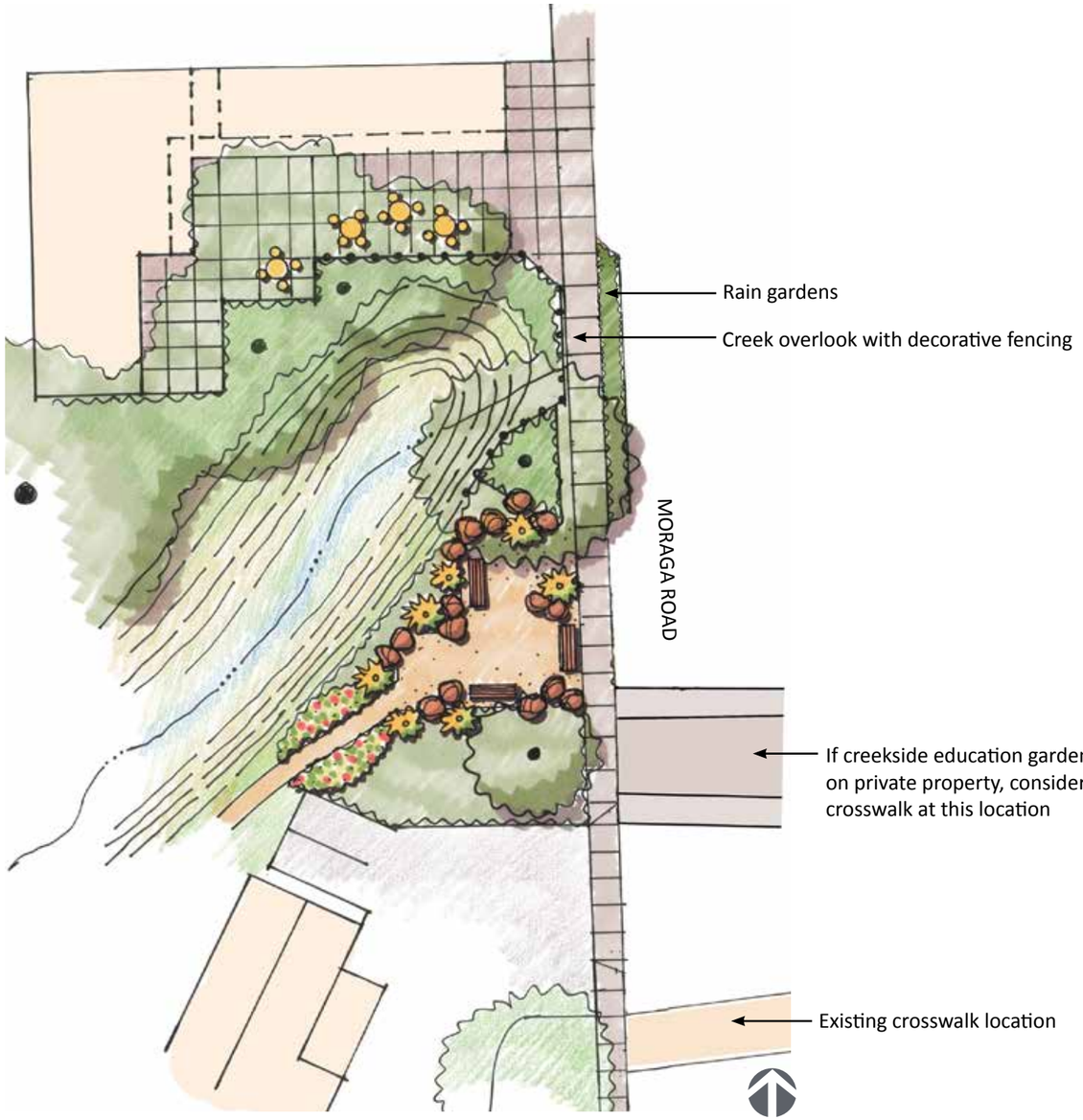
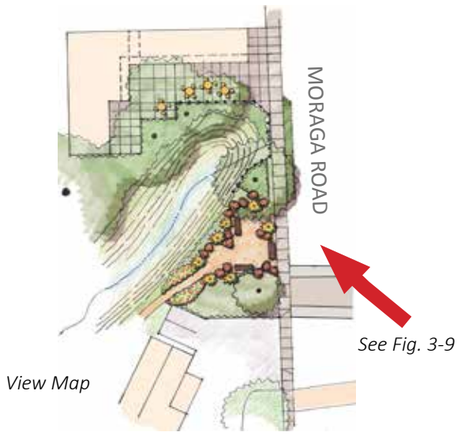


Figure 3-8: Plan View - Sidewalk creek overlook with rain gardens, creek icon, signage and decorative fencing

Figure 3-9: Bulb-out with rain gardens and creek icon



View Map

Current View (South Reach - Moraga Road)

EAST REACHES 1 & 2:

Sidewalk enhancements, creek icons, and bulb-outs with rain gardens.

The channelized portion of Lafayette Creek passes under First and Second Streets (see Figures 3-10 and 3-11), providing the opportunity for public improvements including sidewalk enhancements (or construction of sidewalks where they are lacking), creek icons, and bulb-outs with rain gardens for bioretention in the public right-of-way. Improvements to the sidewalks on First and Second Streets are included in the City's Master Walkways Plan.

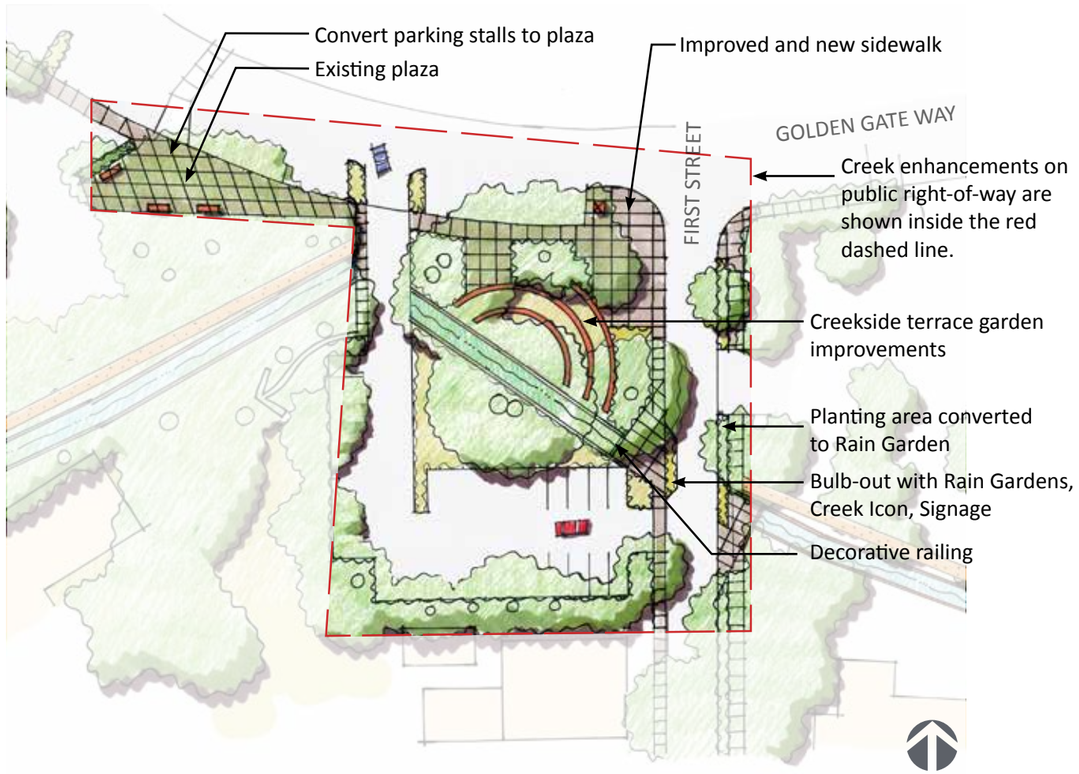


Figure 3-10: Plan View - First Street creek crossing with rain gardens and creek icons, terrace garden and plazas at Golden Gate Way

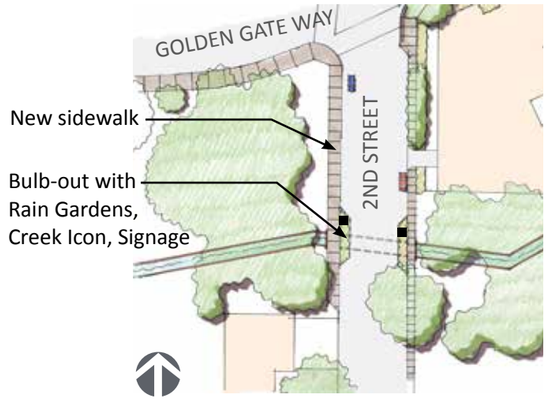


Figure 3-11: Plan View - Second Street bulb-outs with rain gardens and creek icons at creek crossings

First Street, west side - opportunity to improve sidewalk, add bulb-out with rain garden and signage

First Street, east side - opportunity to convert existing planting area to rain garden

Second Street creek crossing, east side - opportunity to open view to creek, add bulb-out with rain garden and signage

Second Street creek crossing, west side - opportunity to add sidewalk and bulb-out with rain garden and signage

Current view

See Fig. 3-12

View map

Figure 3-12: Looking southeast from Golden Gate Way at First Street

Several creekside patio areas can be created between Moraga Road and First Street. East of the bridge access to the parking lot adjacent to Chateau Lafayette, a small creekside terraced seating area could be created on the southwest corner of Golden Gate Way and First Street, which would provide additional outdoor passive use space for the seniors of Chateau Lafayette (see Figure 3-12). A currently vacant area just west of the access bridge could also be improved to serve as passive open space. This patio area would expand on the seating area east of the Park Theater, where a circular bench is located (see Plan View in Figure 3-10).

The Downtown Specific Plan identifies an area at the southeast corner of Golden Gate Way and First Street for a future park ("Library Park"). As a passive park, this location offers possibilities for rest, relaxation and education about the creek. Decorative or thematic fencing along the top of the channel, replacing the chain link and barbed wire, would enhance the character of the creek at this location. A hydraulic study would be necessary to determine the feasibility of altering the channel wall at this location to provide a more naturalized or terraced creek bank at the park site. (See section on page 41 on channel enhancements.)

EAST REACH 3:

Cleanup of invasives. Installation of stairs to access terrace area at confluence of Lafayette & Las Trampas Creeks. Improvement of creek visibility from bridge. Creek-related art installation, creek icon and future "Gazebo Park" to enhance visual connection from Mt. Diablo Blvd. & Golden Gate Way.

East Reach 3 of Lafayette Creek at its confluence with Las Trampas Creek provides the opportunity for another catalyst and gateway project for the downtown creeks. Here, the creeks run through or adjacent to public lands, owned by the City of Lafayette, East Bay Regional Parks District (EBRPD) and the Contra Costa County Flood Control and Water Conservation District (Flood Control District). This area has the broadest creek channel, and here the creeks are most directly accessible. The EBRPD Las Trampas-Briones Trail crosses Lafayette Creek at this point, and a terrace at the confluence of the creeks is large enough to serve as passive recreational space.

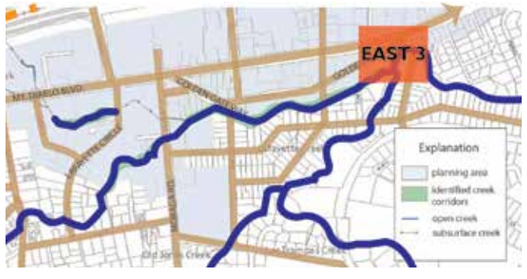
There are few non-native invasive plant species located along East Reach 3. As such, only limited restoration is required in this area, with the exception of the removal of a small area of Himalayan blackberry and selective pruning to improve views. It may be an ideal area for restoring habitat for the western pond turtle and other native wildlife, and reintroducing wildlife species to the area.

The flat floodplain areas in East Reach 3 make it ideal for public use. This feature, combined with natural creek conditions, provide an opportunity to highlight local flora and fauna via interpretive signage and extend pathways along the creek. A controlled access stairway and path could be created to allow the public to safely access the water near the confluence of Lafayette and Las Trampas Creeks (see Figure 3-14 for plan view and Figure 3-15 for photosimulation). Signage and other public safety issues would need to be addressed during the design phase of this project.

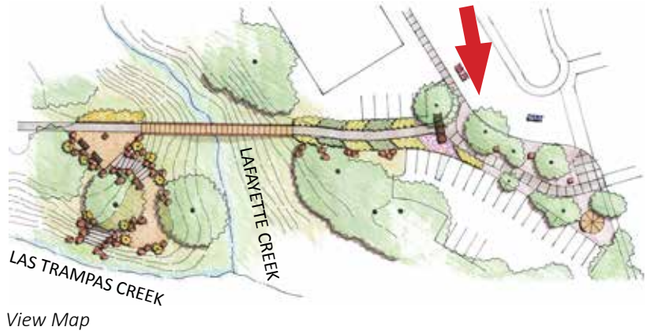
Views of the creek could be enhanced by selectively pruning to open views to the creek. The existing solid bridge sides completely block views of the creek for children or anyone in a wheelchair. Views from the bridge could be greatly improved by replacing the solid bridge sides with decorative railings or another treatment that allows views out. Comments have been made about the bridge's limited ability to accommodate pedestrians and bicyclists simultaneously. EBPRD staff suggests diverting bicyclists to the Second Street crossing if activity on the bridge increases significantly. If the bridge is ever replaced, it should be designed to accommodate bicyclists.

Although the creek is not directly visible from Mt. Diablo Blvd., there is an existing gazebo park that could be enhanced to indicate the presence of the creeks from Mt. Diablo Blvd. The EBRPD trail entry and garden accessible from Golden Gate Way could provide a more visible connection to the creek (see Figure 3-13).

The parking lot area adjacent to the gazebo is proposed as a future park site ("Gazebo Park") with picnic tables and other park facilities, as part of the Downtown Specific Plan. Thematic wayfinding elements and public art could be used to align the park entry to the creek area, the creekside pedestrian path, and the trail from Mt. Diablo Blvd.



See Fig. 3-13



View Map

Current View from Golden Gate Way

Figure 3-13: Art and creek icon to indicate creek presence

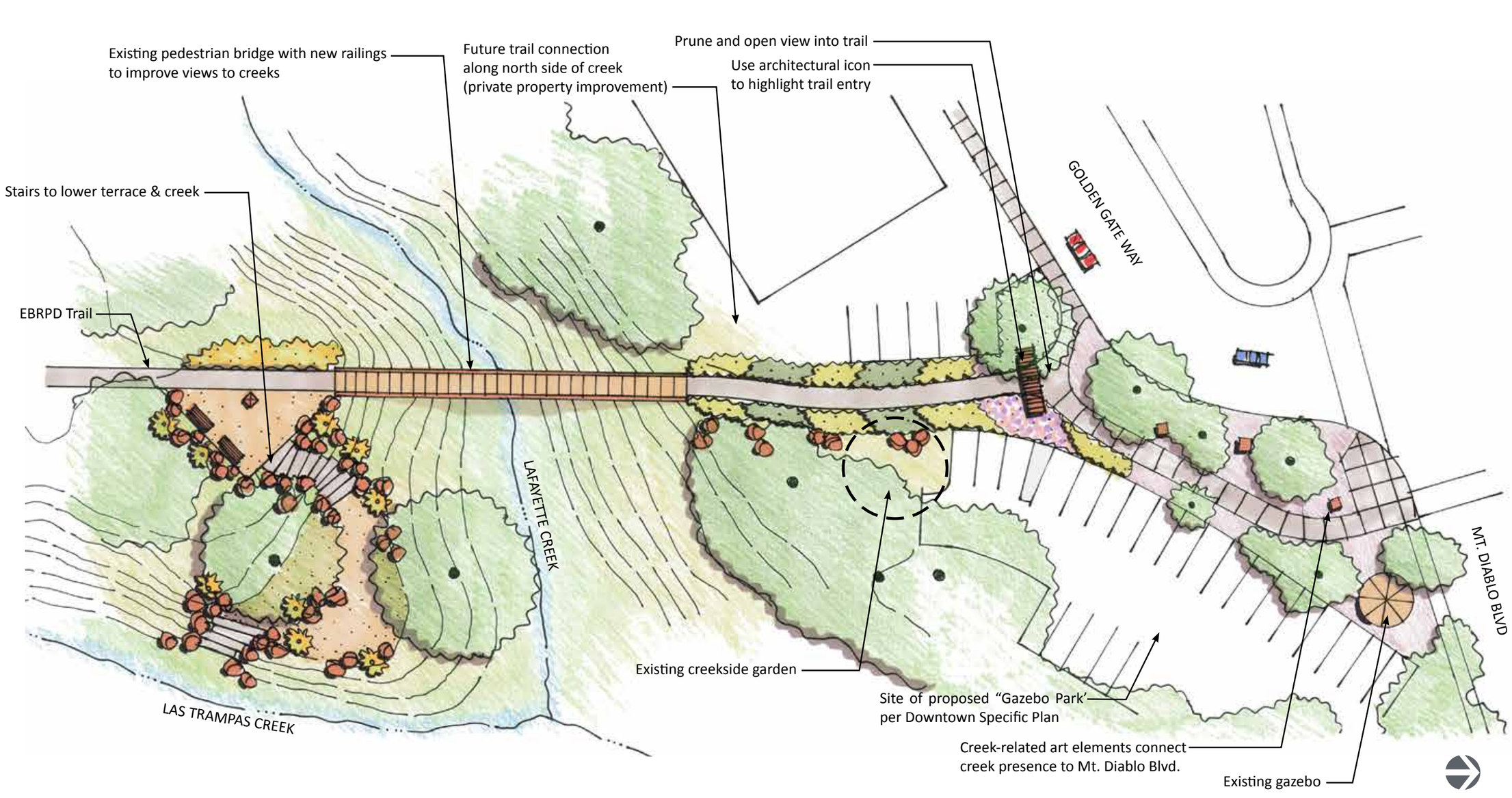
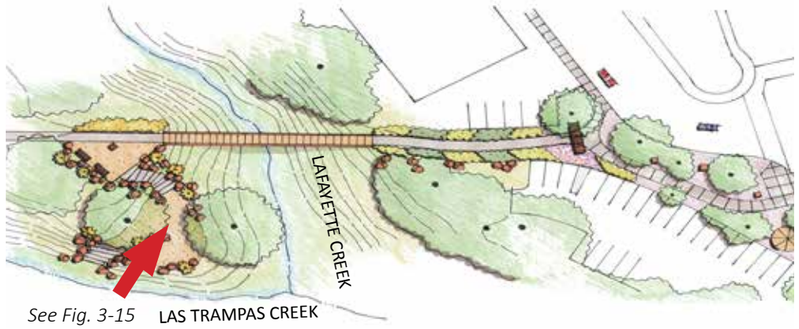


Figure 3-14: Plan View - Visibility improvements and access to creek terrace

Current View



See Fig. 3-15

View Map

Figure 3-15: Stairs to lower terrace at creek confluence

Bridge sides could be more transparent for views to creek.

Example of bridge with full views to creek

CHAPTER 4: PRIVATE PROPERTY IMPROVEMENTS

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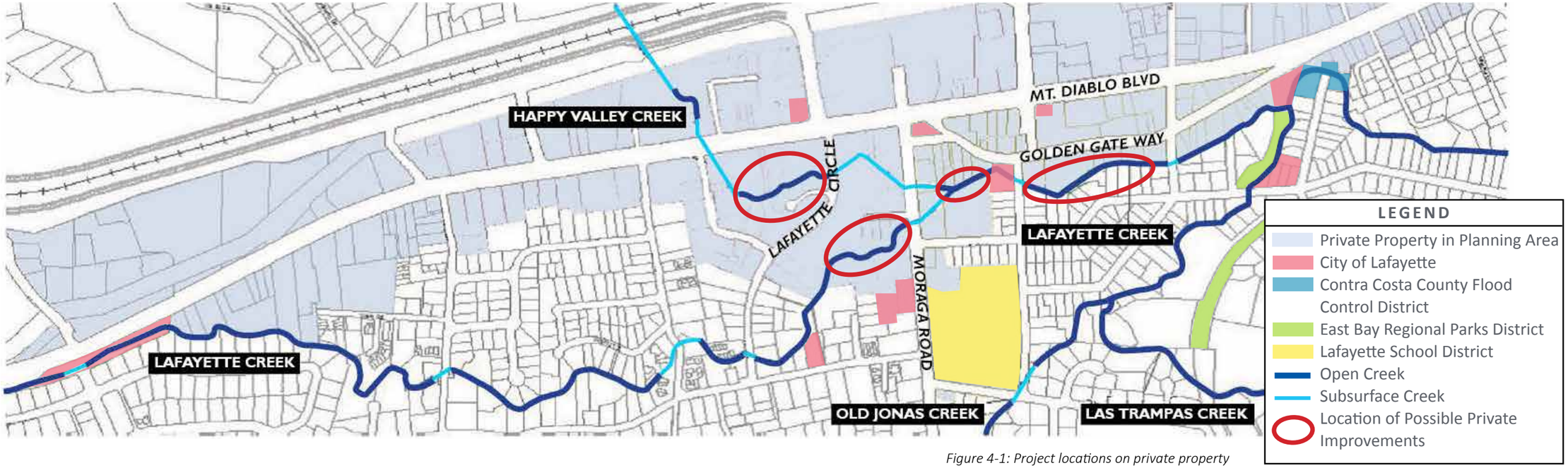


Figure 4-1: Project locations on private property

INTRODUCTION

Most of the creeks in Lafayette's downtown are located on private property. The previous chapter described creek enhancements that could be undertaken on public property. Creek enhancements in the remaining areas, under private control, depending on their purpose, scope and location, may require the cooperation of the owners of the subject properties. While bank stabilization or creekside dining areas directly benefit property owners, enhancements such as trails or open spaces have public benefits as well. Most of the proposed creek enhancements will require permitting, coordination between adjacent owners, and the expense of construction and maintenance. Given these factors, and under appropriate circumstances, consideration may be given to potential benefits that may be offered to property owners in exchange for the community benefits of improvements to the downtown creeks.

This chapter describes potential location-specific improvements to the creeks on private property that can provide public and environmental protection benefits as well as economic benefit to downtown businesses, by making the downtown a more unique and desirable place to walk, linger, dine and shop. As a focal point and amenity, the creeks can make downtown Lafayette a more attractive, pedestrian-friendly destination. Additional creek protection and preservation treatments described in Chapter 5 are applicable to all portions of the Planning Area.

The photosimulations and illustrative site plans are conceptual. In some cases they visualize policies from adopted plans, such as the pedestrian path along the North Reach, which is from the Downtown Specific Plan. In other cases they provide a vision of potential creek enhancements that any creekside property owner might consider, such as an outdoor patio.

Examples of diners enjoying the creekside setting in San Luis Obispo

Examples of channelized creeks that can be an attraction

Figure 4-2: Plan View - North Reach improvements

NORTH REACH

Expansion of pedestrian connections, and potential pedestrian creek crossing. Consolidated parking and auto circulation. Future "Town Green" park/plaza, and creek-oriented commercial use spaces.

The North Reach is located in one of Lafayette's historic areas known as the "Shield Block." As noted in the Downtown Specific Plan, the architecture and passageways of this block provide some of the best examples of Lafayette's pioneering small-town character. Since much of this segment of the creek has natural creek conditions, and it is located in one of Lafayette's most historically significant areas, restoring the riparian habitat and conditions along this reach would further solidify and unify the historic character of the Shield Block.

The City's Trails Master Plan includes creekside trails through the Shield Block for which the City may acquire a trail easement as a condition of approval for development. Improved pedestrian circulation will be paramount to increasing public access to the creek. To achieve this goal, it is important to connect existing east-west oriented paths along the creek bank with new, 5' wide paths of decomposed granite or pervious paving to allow complete mid-block access along the creek. Additionally, north-south pedestrian access across the creek will create a more pedestrian friendly environment, and improve connections between commercial uses and from the adjacent residential neighborhoods to downtown Lafayette's businesses and the BART station. Two locations have been identified in the Downtown Specific Plan as potential sites for a future pedestrian bridge across Happy Valley Creek. One proposed bridge site is located toward the end of Fiesta Lane, crossing to 3565 Mt. Diablo Blvd, (the Postino Property). Postino representatives are supportive of the bridge. The other site is slightly further west, as shown on the plan view. Fewer trees would need to be removed to construct a bridge at this other location, and with more open vantage points, it may provide a better view of the creek in both directions. Improved pedestrian circulation through this area would also provide an easily accessible environmental education opportunity for children and adults. Interpretive signs could be placed

Current view

View Map

Figure 4-3: Expanded improvements at "Town Green," looking south along Lafayette Circle. The bulbout areas are public, but the Town Green is currently privately owned.

Mt. Diablo Blvd. Existing frontage with driveway access to rear parking area and creek

Figure 4-4: Pedestrian pathway to Happy Valley Creek from Mt. Diablo Blvd.

along pedestrian pathways and at creek overlooks. Specific design details will be determined during the design phase for this project.

In the short term, consolidation of the individual parking lots on the north side of the creek could allow for more efficient use of the parking spaces, allow for completion of the east-west path along the top of creek bank, and expand pedestrian access from Mt. Diablo Blvd. by converting some vehicular access to pedestrian access as shown in the Figure 4-4 photosimulation. As stormwater runoff from the parking lots located immediately adjacent to the creek banks is likely reducing creek water quality, reconfiguring and designing the parking lots and pedestrian access through these areas could provide an opportunity to develop bioretention areas at the rear of the parking lots above the creek banks. Completion of the pedestrian path in pervious paving, along with installation of bioretention, would improve water quality as well as allow public access and create a visual enhancement.

Along Mt. Diablo Blvd., existing planters could be converted to bioretention areas (rain gardens) by extending the planters, using appropriate planting and subdrains, and introducing curb cuts to allow stormwater from the street to infiltrate into the planters before entering the storm drain system. Incorporation of rain gardens along Mt. Diablo Blvd. would positively impact the quality of stormwater flowing into Happy Valley Creek, and interpretive signage could explain that these planters cleanse the water that is discharging into the creek. In the example shown in the photosimulation in Figure 4-4, extension of a rain garden across a driveway access point would require partnership with the affected private property owner to change vehicular access to pedestrian only access, and consolidation of the rear parking areas.

In the longer term, acquisition of property for provision of additional off-site parking or improved parking management would allow for a significant reduction of parking at the rear of the businesses on the north side of the creek. This would allow businesses to orient outdoor use spaces such as dining plazas toward the creek. The Downtown Specific Plan also identifies the area north of the creek at Lafayette Circle as a future "Town Green" (see Figure 4-3). A public space in this location would invite pedestrians to enjoy the creekside experience, and businesses could build upon this public space to create a creek-focused dining and shopping destination, as has been done in San Luis Obispo, California, Ashland, Oregon, and other areas.

Some of Lafayette's most mature Valley Oak trees are located in the Shield Block and visible from Lafayette Circle; these trees are remnants of the native riparian vegetation that existed along our downtown creeks and could be highlighted for their historical and ecological significance to the city. Making these trees a focal point in the landscape by adding seating or interpretive signage would emphasize their importance to Lafayette. The mature trees also provide shade in the hot summers, and create an attractive ambiance for lingering.

Happy Valley Creek is visible from Lafayette Circle, and improvements in the public right-of-way are discussed in the previous chapter. Beyond the right-of-way, an overlook with seating adjacent to the sidewalk would provide a gathering spot for visitors, its visibility from the road would increase awareness of the creek, and interpretive signage could be installed to educate visitors on the riparian habitat. Re-imagining the concrete foundation wall along the creek at The Cooperage would provide an element to enhance the character of the downtown. A mural on this wall could integrate images or concepts relevant to a riparian ecosystem, and could also be part of the visual experience from the overlook (see Figure 4-5). Another option would be to install and irrigate plants on the wall face so it becomes a "living green wall."

The majority of improvements proposed for this area could occur incrementally over time, and would be linked to the redevelopment improvement activities on individual properties.

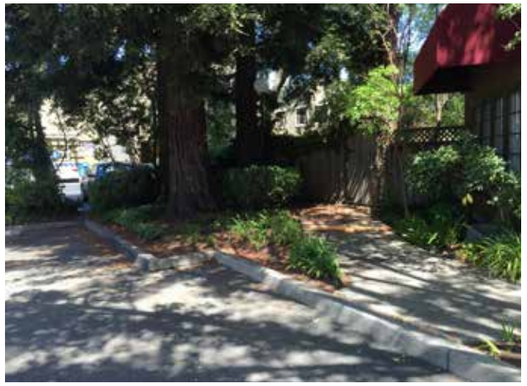
Current View

Figure 4-5: Mural and decorative fencing at The Cooperage

View Map

A living "green wall" could incorporate native species.

Wall treatments with raised elements provide interest.



Current View

See Fig. 4-6

View Map

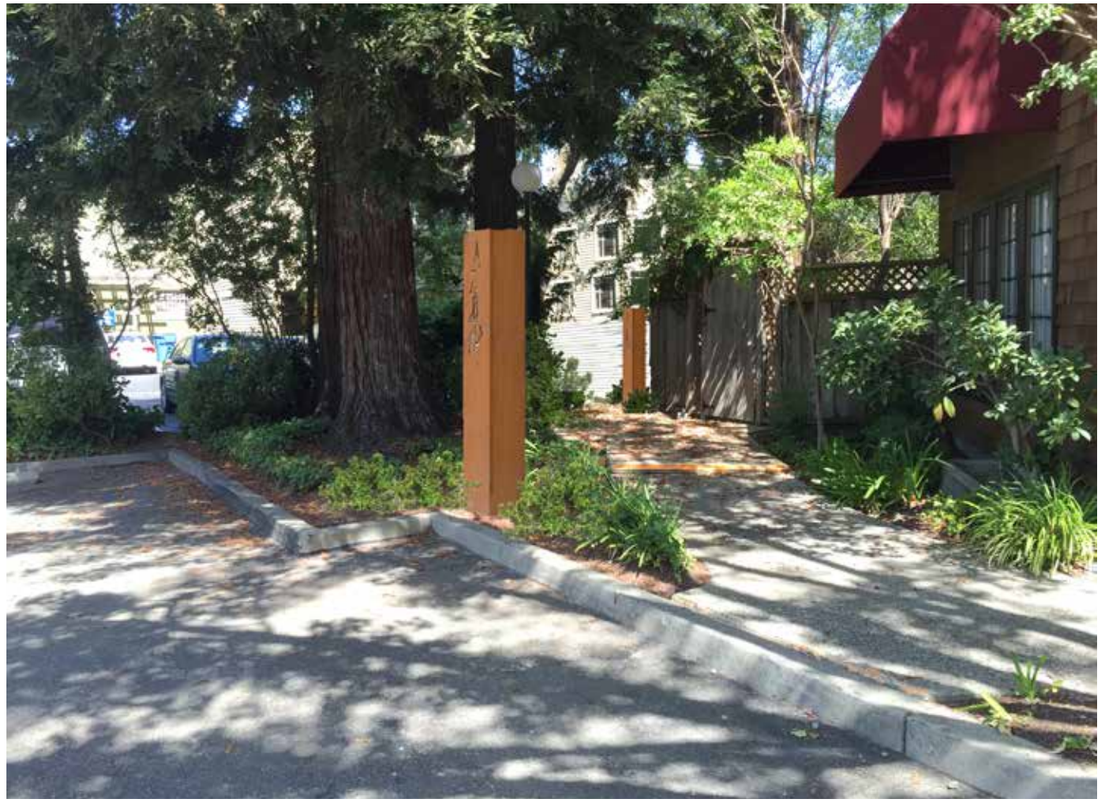


Figure 4-6: North-south pedestrian connection, with creek icons, looking north toward Clock Tower

Trails Master Plan calls for soft surface creekside paths in Shield Block, similar to this path along Foss Creek in Healdsburg.

Figure 4-7: Conceptual Cross Section of Happy Valley Creek (N.T.S.)

SOUTH REACH:

Increase pedestrian connections. Replace culvert with bridge, and restore the creek. Create creek-oriented use areas adjacent to creek at Moraga Road.

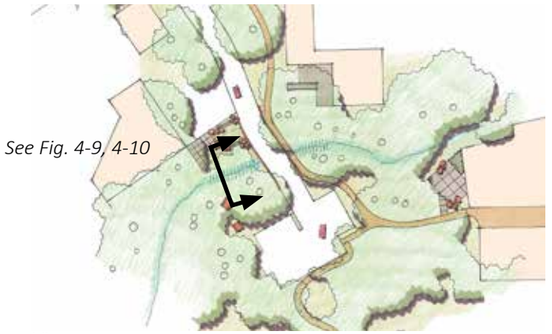
New pedestrian pathways in this segment could create a more cohesive sense of place as well as improve connections between the residential neighborhoods to the south and the downtown. A network of pedestrian pathways in this area would better integrate the riparian corridor into the everyday lives of Lafayette residents. Pathways located further away from busy streets such as Moraga Road would allow pedestrians to enjoy not only views of the creek, but also the pleasant sound of the running waters of the creek. Pathways connecting Lafayette Circle and East Street to the creek would improve north-south pedestrian access (see Figure 4-8). If the City desires to sponsor construction of these pathways, costs would be uncertain due to the necessity of obtaining an easement from the property owners, and the engineering challenges involved in creating an ADA compliant path from East Street.

A major opportunity exists in this area to restore a significant portion of the reach to a natural condition. Approximately 100 feet of Lafayette Creek is culverted beneath a portion of the Methodist Church parking lot (see Figures 4-8 and 4-9). Replacing this culverted access with a bridge, and restoring the creek, could create physical as well as visual access to the creek, in addition to improving habitat value (see Figure 4-10). Either off-site parking, improved parking management or an on-site parking structure would be desirable to mitigate the loss of parking. A parking structure set back into the hillside behind the existing parking could serve the downtown businesses in addition to the church. The hydrological impacts of removing the culvert would need to be carefully studied to ensure the existing potential for flooding is not worsened.

Figure 4-8: Plan View - Restore natural creek by removing culvert under a portion of the parking lot

Creek at existing culvert

Example of bridge over creek



See Fig. 4-9, 4-10

View map

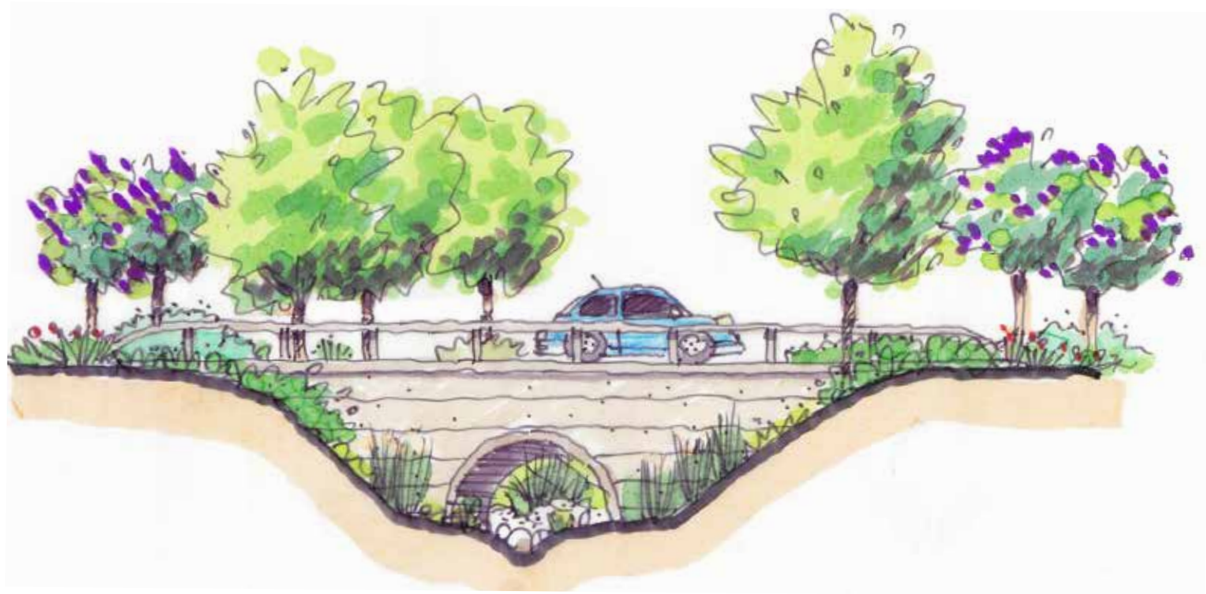


Figure 4-9: Existing culvert under parking and access drive compromises approximately 100 feet of Lafayette Creek. (N.T.S.)

Figure 4-10: Replacing the culvert with a bridge would allow for restoration of the creek channel. (N.T.S.)

A creek overlook and bulb-out at Moraga Road is described in the previous chapter on Public Property Improvements. The natural creek conditions of the South Reach could be optimized to expand the public's interaction with the creek by orienting retail uses toward the creek through expanded outdoor seating or patio areas. (See Figure 4-11 and photo simulations in Figures 4-12 and 4-13 on the next page.)

A positive community impact could be made by converting the small parking lot off Moraga Road to a public outdoor space. The high visibility of this parking lot from Moraga Road, and its proximity to the Church and the Lafayette Elementary School, could be transformative for the community. At this site, the sidewalk could be widened, and a creek overlook could be created. Cleaning up the densely overgrown vegetation opposite Sugi's would create another public space area within a grove of Valley Oaks in an area highly visible from Moraga Road.

These public access areas could also be locations for rain gardens or other bioretention, along with interpretive signage. Traffic noise from Moraga Road may interfere with enjoyment of these street-level spaces, but if the creek channel were widened and terraced in this area and the creekside amenities placed below the level of the road, noise impacts could be reduced, and a wider floodplain could potentially reduce upstream flooding impacts.

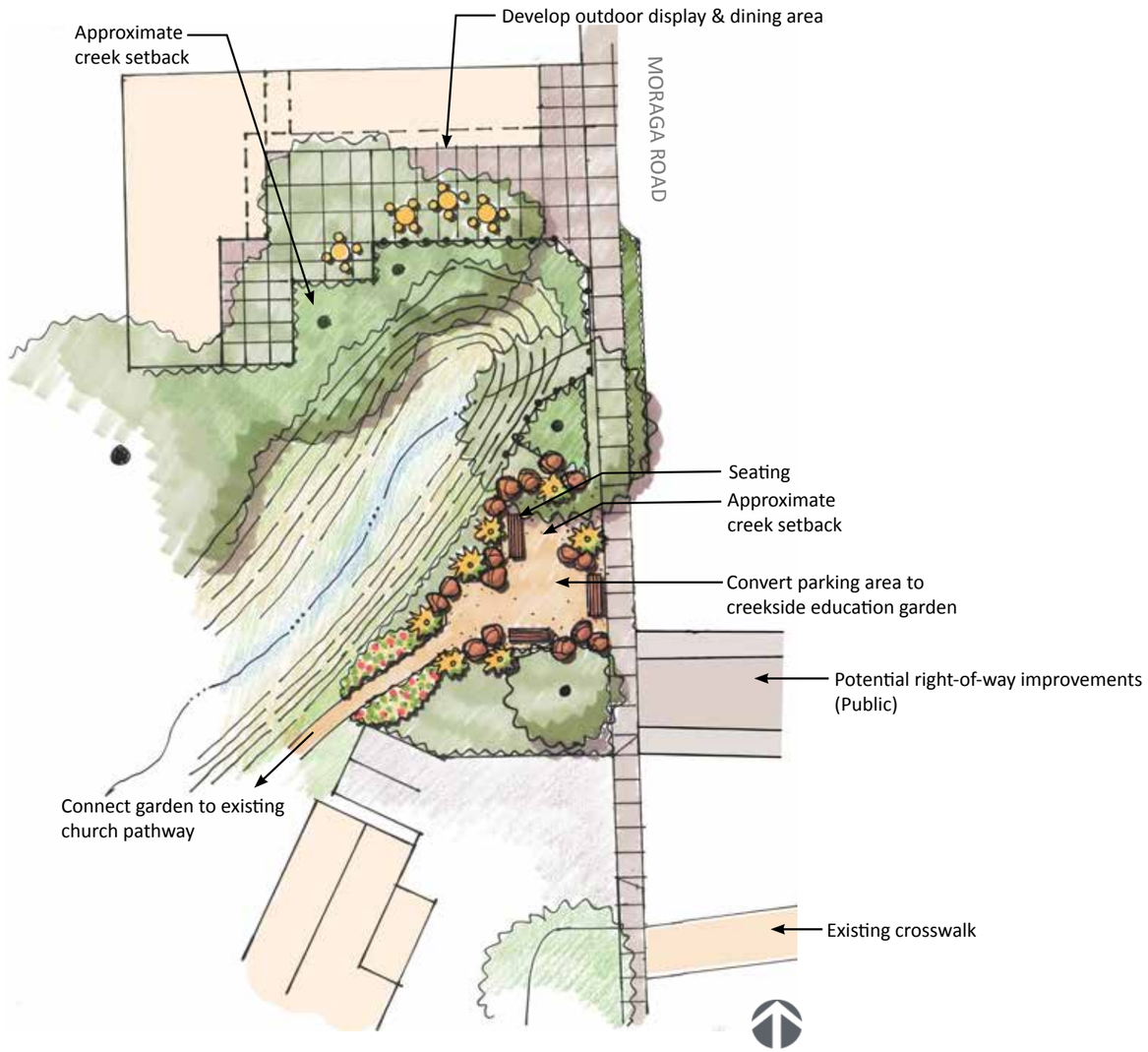
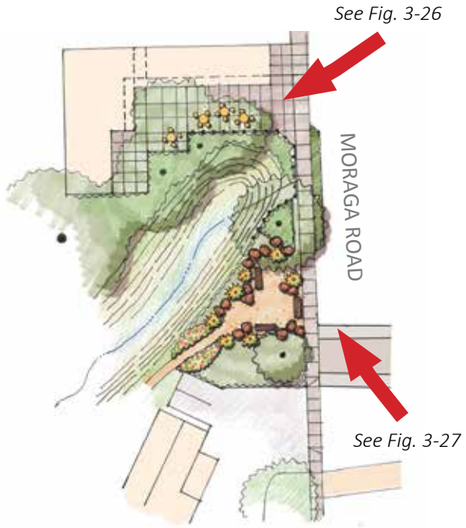


Figure 4-11: Plan View - Creekside gathering and viewing areas along Moraga Road



View Map

Current view north bank

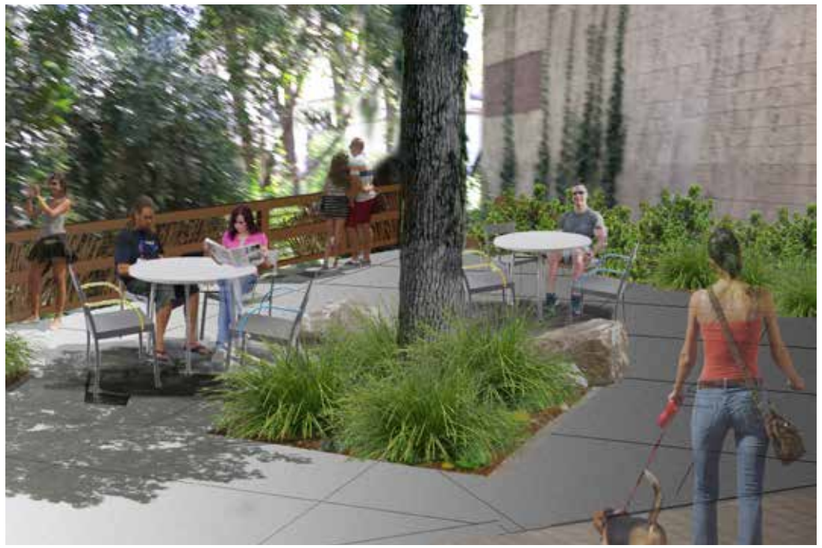


Figure 4-12: Outdoor use space overlooking restored north creek bank

Current view south bank

Figure 4-13: Creekside education garden complements creek overlook on the adjacent public right-of-way.

CHANNELIZED EAST REACH (EAST REACHES 1 AND 2):

Enhance visual and physical connections to creek from Golden Gate Way. Future park at First Street and Golden Gate Way. Top of bank access along north side of channel. Channel enhancements.

There are several opportunities to improve access and make visual connections to the creek in the channelized portion of Lafayette Creek (see Figure 4-14). A trail connection between Moraga Road and Golden Gate Way would provide pedestrian access to this portion of the creek. Although the creek is channelized in this area, mature oaks and the remnant riparian vegetation at the top of bank continue to provide habitat and signify the presence of the creek. Creek icons or wayfinding elements should be incorporated along the sidewalks of Moraga Road and Golden Gate Way to direct pedestrians to the trail, and to visual access points. The Flood Control District would support a pedestrian path along the north side of their channel.

For the creekside parcels east of First Street, the top of bank trail could be extended on the north side of the channel to connect to additional outdoor use areas adjacent to the mixed use retail / residential buildings and potentially to East Reach 3. The existing outdoor use area at the end of the parking lot, where there is now a picnic table next to the creek, could be enhanced by buffering it from the parking lot. The existing pedestrian path along the backside of the buildings could be extended to connect with an unused outdoor space beyond the inner courtyard of the mixed use buildings. Connecting the existing picnic area to the unused outdoor space could create a short greenery-filled walking loop which could be used by business customers and residents.

The quality of water inflows into the creek along East Reach 1 could be improved by creating bioretention areas along the upper banks near the parking lot areas closest to the creek banks. However, further study would be needed to be sure this doesn't impact the stability of the concrete channel wall.

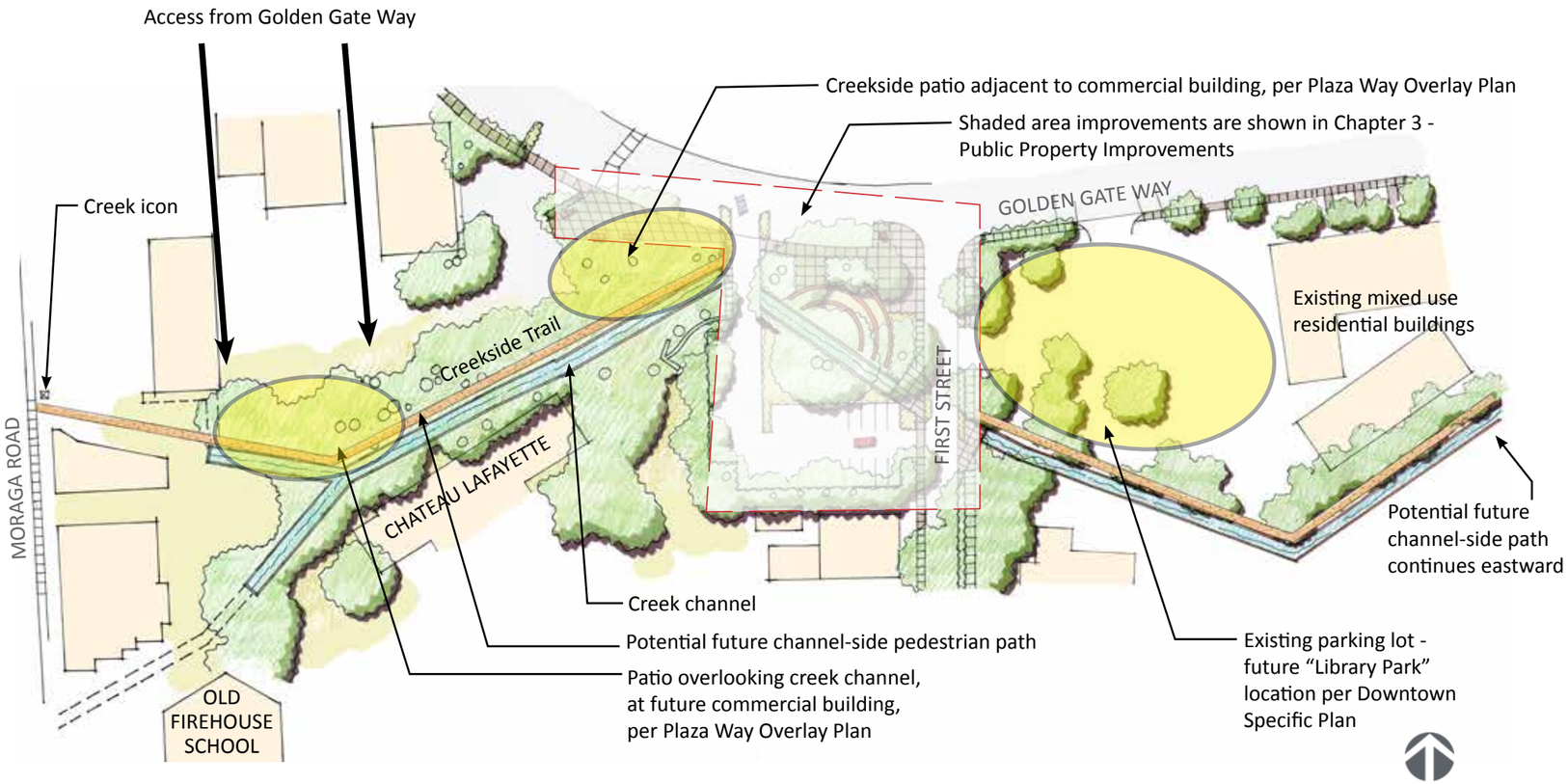


Figure 4-14: Plan View - Enhanced East Reach

Examples of various treatments of channel surfaces and fences

Channel Enhancements

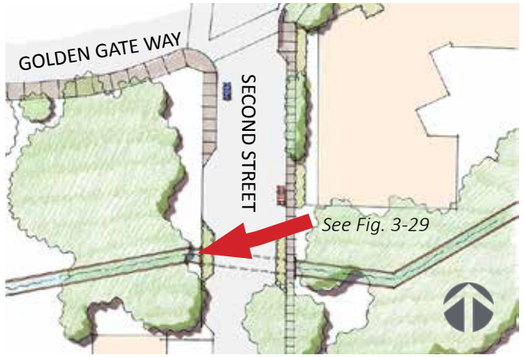
California's flood control systems have gone through many different phases. Prior to World War II, earthen dam levees provided the majority of the flood control measures. In the 1950's through the 1970's, Federal grants were focused on concrete flood control structures. During that time, concrete channels, drop structures and concrete bank stabilization became popular as can be seen on sections of Lafayette and Happy Valley Creeks.

In East Reaches 1 and 2, the natural creek bottom and banks were replaced by a concrete channel designed to prevent erosion and stream meandering, and minimize the impact of flooding. Unfortunately, the concrete channel increases the speed of water in the channel during large storm events, does not provide any habitat, restricts the passage of fish, amphibians and invertebrates, and is unsightly.

The remediation that would restore this portion of the creek to its most natural condition would be to remove the concrete channel and replace it with an engineered natural bed with supporting banks designed to prevent erosion. The costs of such a project would be high, but the benefits to both the private property owners and public could be extraordinary, in particular if public or other grant money could be obtained to implement the channel restoration.

The Flood Control District's 50-Year Plan supports the concept of replacing the channel with a more natural flood protection facility integrated into a redeveloped urban landscape. Such an enhancement plan for the East Reaches 1 and 2 could involve constructing a bypass pipe, upstream detention basins, and/or increased upstream infiltration of storm runoff. Implementation would require an extremely long planning horizon. The Flood Control District has engaged UC Berkeley students to develop concepts for replacing it grey infrastructure with more natural multi-purpose flood control facilities. The Lafayette Creek flood control channel is a potential candidate for these conceptual studies.

Current view



View map

Figure 4-15: Creek icon and decorative fencing and channel enhancements.

A more limited project to enhance the flood control channel would be to remove the bed of the concrete channel and use tie-backs to support the concrete walls. This would allow for a natural bed and create some habitat value. Possible risks to removing the bed include raising the water table and potentially decreasing the geotechnical stability of the underlying soil, undercutting the channel walls, and increasing flooding due to the decreased speed of the water as it flows through the area.

A more economical possibility would be to create an artificial bed that would simulate a natural bed (see Figure 4-15). This could be accomplished by lining the bed with rocks or providing low rise barriers to the water. Channel walls could be enhanced by cascading vegetation or concrete texturing. Though this would provide habitat for fish, amphibians and benthic organisms and create areas for plants to grow, it most likely would decrease flow velocity and may decrease the life span of the underlying concrete. An evaluation would need to be made on the expected life span of such a project.

Any modification to the concrete channel would require a hydraulic study of the creek to determine how the change in the bottom of the channel would affect flow velocity and flooding, and cause other upstream and downstream impacts.

An aesthetic improvement to this channelized reach that would not have hydraulic impacts would be the replacement of the chain link and barbed wire fence on the channel top with a decorative fence.

The channel enhancements are included with the private property improvements because the channel uses an easement which the Flood Control District acquired from the property owners. This easement gives the Flood Control District the right to make improvements and undertake maintenance activities for flood control purposes. Installing decorative fencing and making enhancements to the channel walls and bed would require approval of the Flood Control District. Installing a pedestrian path on the north side would require a partnership with the affected landowners. Construction of channel enhancements would also need to be coordinated among the property owners in phases so as to not compromise the security and operational integrity of the channel.

CHAPTER 5: CREEK PROTECTION, PRESERVATION AND RESTORATION

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NATURAL RESOURCE PROTECTION

An overarching theme of this plan is the protection and enhancement of the natural habitat values of the creek corridors through the downtown area and celebration of these important resources as part of the fabric of Lafayette. An important first step in accomplishing this goal is understanding the limits of regulated habitat (see Regulatory Overview in Chapter 2), identifying and protecting sensitive resources, and coordinating with resource agencies as part of future development proposals and enhancement efforts. Mature native trees and remaining stands of intact native riparian vegetation are essential to maintaining existing habitat values of the creek corridors, providing important shade and protective cover, foraging substrate, and roosting and nesting habitat for local wildlife.

Where work within the creek corridor is necessary, restrictions on timing to avoid disturbance to nesting birds and minimize disruption to aquatic habitat are important considerations. In-channel work should typically be restricted to the dry season when stream flows and the potential for erosion and sedimentation are lowest. Tree removal and other vegetation treatments should preferably be performed outside of the bird nesting season, which typically extends from February through August, unless surveys have confirmed that no nesting activity is present within the affected reach of the creek channel.

Protection and enhancement of the creeks has several aspects, including general clean-up such as trash removal, habitat enhancement such as removal of invasive species and replanting with native riparian species, bank stabilization where erosion is impacting the channel, and improvement of water quality through low impact development techniques.

One of the greatest opportunities for protecting and enhancing the existing habitat values along creeks in the Planning Area is to control invasive plant species and provide for native revegetation, where feasible. The following provides information on the major target invasive species which currently compromise the existing habitat values of creeks in the Planning Area, and suitable species for use in native revegetation efforts.

GENERAL VEGETATION TREATMENTS, INVASIVE PLANT REMOVAL AND CONTROL, NATIVE REVEGETATION

One of the important methods of enhancing the existing habitat values along the creek corridors in the Planning Area is to control or ideally eradicate invasive plant species which currently severely compromise existing habitat values in many areas, and to restore native riparian vegetation where it has been lost or compromised. Of particular concern is the establishment and spread of invasive vines, like English ivy and Himalayan blackberry. English ivy forms solid ground cover and has climbed up trunks and is choking out mature tree canopy in some locations. Stands of Himalayan blackberry have smothered native shrub and groundcover species where dense thickets have become established. Although less problematic, non-native tree species, Giant Reed, and other invasive species have also compromised many reaches of the creek corridors through the Planning Area.

Treatment of invasive plants would serve to control and ideally eliminate this non-native element from the creek corridors and would encourage the further establishment of native riparian woodland and scrub plant communities. Control of the highly invasive species typically requires an effective Integrated Pest Management (IPM) program. An IPM usually involves short-term intense mechanical and possibly chemical eradication efforts, followed by on-going monitoring and maintenance practices that select for native species and less invasive, naturalized species. Ideally, an intensive invasive species removal effort would be included as part of the initial treatment, followed by on-going monitoring and maintenance efforts. This may be the only effective way to control and suppress some of the more aggressive species along the creek corridors in the Planning Area.

Table 5-1 provides major steps in the initial treatment of targeted highly invasive species, disposal of seed, stem, stolon, and root materials, and necessary follow-up activities to ensure successful control and ideally eradication. Keeping the targeted invasive species from becoming re-established or once again dominating reaches of the creek corridors requires on-going concerted efforts. Successful implementation would typically require coordinated efforts by volunteers, routine treatment by City staff and property owners, and possibly occasional use of contractors or specialized non-profit organizations such as the California Conservation Corps. Limited chemical treatment (i.e. herbicide application) may be required to effectively control resprouting of these target species, although non-toxic removal through repeated mechanical methods is generally preferred.

Trained professionals should be used to perform any and all herbicide applications. They should be required to have appropriate certification and licensing as a Pest Control Operator for use of non-restricted materials registered for use in Contra Costa County. Best Management Practices should be used during all herbicide applications, considering the latest standards for products used for target species. Factors to be considered during herbicide application include wind and weather conditions, timing of initial and subsequent treatments, specific product and concentrations, and protection of aquatic habitat and native cover to be preserved or established.

Arundo in creek channel

Invasive vines climbing into overstory

Invasive vines covering creek banks

Notice should be given for treated areas prior to herbicide application through use of temporary signage posted no less than 24 hours in advance of application, identifying product to be used, explaining health risks, and including a contact person and phone number to answer any questions. Signs should be posted along the perimeter of any treatment area as necessary to visibly delineate the boundaries. Herbicide application of Himalayan Blackberry should not occur when this species is in fruit, unless all fruiting stems have been removed and there is no possibility of animals ingesting treated fruits.

The City has also adopted an Integrated Pest Management Policy by resolution that controls the use of fertilizers and pesticides on all parcels in the City. The policy includes reporting requirements on the type and amounts of pesticides used.

Techniques for the treatment of target species along the creek corridors in the Planning Area are listed in **Table 5-1** and summarized below:

• **Periwinkle and English Ivy**. Periwinkle and English Ivy possess extensive root systems, and English Ivy could spread up tree trunks and canopies, and could potentially kill mature trees if not effectively treated. Routine girdling of vines from the trunks of trees and larger shrubs is an effective way of controlling ivy infestations to the ground surface, and a relatively simple and rewarding management practice for volunteers. Hand pulling of vegetative growth and roots, and tarping of infestations are non-toxic approaches to their removal, although foliar spraying prior to tarping may be necessary for effective control. Tarping should begin after the rainy season has ended, and continue until the next rainy season begins. Tarped areas require revegetation with native groundcover and understory species, once the target species have been effectively eliminated.

• **Himalayan blackberry**. The extensive roots of this plant make burning and root removal the most plausible methods for control. As burning is not an appropriate management technique for the relatively urban location of the Planning Area, efforts should focus on root and vegetative removal.

• **Arundo donax or Giant Reed**. *Arundo donax* was introduced to the region to control erosion, but is now known to destabilize streambanks and cause significant degradation to creekside habitats. Techniques for removal of *Arundo donax* include tarping and hand removal.

• **Other Target Species**. A number of invasive tree species occur along the creek corridors in the Planning Area and are also a target for removal. These include: Tree-of-Heaven, Acacias, and Blue Gum Eucalyptus, among others.

Part of any effective invasive species removal effort must include revegetation with desirable native species to improve habitat conditions and help limit the likelihood that the invasive species become re-established. This can include a mixture of native tree, shrub and groundcover species, depending on site conditions, available light, and other factors. Native plantings can also be used to increase species diversity and complexity along intact reaches of creek corridors in the Planning Area.

Table 5-2 contains a list of appropriate native species that could be used in native revegetation efforts, together with typical planting methods and quantities. This list can be expanded and adjusted as necessary based on input from a qualified restoration specialist or landscape architect experienced in native revegetation. When revegetation with woody native shrub and tree species is not possible, areas disturbed by vegetation removal should at minimum be seeded with the appropriate seed mix (see **Table 5-2**) and treated to prevent erosion.

The following techniques may be utilized to revegetate riparian areas along the creek corridors in the Planning Area:

• **Native Willows and Cottonwoods**. These species are well adapted to channel environments, and can be installed as sprigs or dormant cuttings. Plant material should preferably be harvested as close to the revegetation site as possible, and include a variety of parent plants so as to ensure genetic diversity. These plantings could also support bank stabilization efforts, in addition to habitat enhancement.

• **Large Seeded Trees**. Large seeded trees that are native to the Planning Area include: Valley Oak, Live Oak, Buckeye, Big Leaf Maple, Black Walnut and Bay. These trees can be planted from seedlings contract-grown from seed collected in the Planning Area, or from locally available native nursery stock. Larger specimens can be planted when structure and immediate effect are desired.

• **Other Riparian Shrub and Groundcover Species**. A number of native shrubs and groundcovers are appropriate for planting in riparian habitats in the Planning Area to improve species diversity, complexity of the understory, and help prevent re-establishment of targeted invasive species. These include: California Blackberry, California Rose, Mugwort, Creeping Wild Rye, and Snowberry, among others. Open areas along creek banks created as part of invasive tree and shrub removal can also be seeded with a grassland seed mix (indicated in **Table 5-2**), to establish a continuous groundcover and minimize the potential for erosion and sedimentation in the nearby creek. But plug plantings of Creeping Wild Rye tend to be the most effective grass cover treatment where light levels are limited, as it spreads through stolons and does moderately well in somewhat shaded conditions typical of riparian corridors.

Plans that delineate areas where invasive species are present in the Planning Area are included in the Assessment Report, in Appendix A.

Removal of invasive plants from creek banks and revegetation with native riparian plants is consistent with the Downtown Design Guidelines, which include provisions that require new development to maintain and restore native riparian areas. Implementation of the Downtown Design Guidelines should refer to Table 5-2 for the plant species suitable for riparian areas.

The Downtown Design Guidelines also requires transition landscaping toward and along the creek corridor for a consistent native riparian plant palette to emphasize the interconnectedness of the creekside properties. Where appropriate, mature non-native trees that contribute to the riparian canopy or other beneficial habitat values, and that are not invasive or likely to spread and replace native riparian vegetation, should be preserved. Preserving non-native trees should be secondary to maintaining and improving conditions for native riparian trees along the creek corridors.

Parcel-specific revegetation projects will also require on-going maintenance to remove invasive plants that encroach from adjacent creek banks. For parcels that undergo redevelopment, the City can require Landscape Maintenance Agreements to be recorded on parcels where special maintenance practices need to be followed in perpetuity.

Invasive Species	IPI Rating	Control and Management
Tree-of-Heaven *(Ailanthus altissima)*	Moderate	Treatment – Cut in spring (before May) when cambium is active and to prevent seed production. Pull seedlings, saplings and root suckers annually when soil is moist until plants are exhausted. May consider treating trunks/shoots with herbicide glyphosate, with repeat treatment of any resprouts, if non-herbicide treatment is not successful. Disposal – All seeds, pulled seedlings, and root material should be collected, bagged and disposed of properly. Follow-Up – Cut any resprouts every spring until trees are eliminated, with possible use of glyphosate if resprouting is on-going problem. Pull all seedlings and root suckers annually when soil is moist until seed source exhausted.
Blue Gum *(Eucalyptus globulus)*	Moderate	Treatment – Cut in spring (before May) when cambium is active and to prevent seed production. Pull seedlings, saplings and root suckers annually when soil is moist until plants are exhausted. May consider treating trunks/shoots with herbicide glyphosate, with repeat treatment of any resprouts, if non-herbicide treatment is not successful. Disposal – No significant problems with trunk, root, or seed material. Follow-Up – Cut any resprouts every spring until trees are eliminated, with possible use of glyphosate if resprouting is on-going problem. Pull all seedlings and root suckers annually when soil is moist until seed source exhausted..
Acacia species *(Acacia melanoxylon)* *(Acacia decurrens)*	Limited	Treatment – Cut in spring (before May) when cambium is active and to prevent seed production. Pull seedlings, saplings and root suckers annually when soil is moist until plants are exhausted. May consider treating trunks/shoots with herbicide glyphosate, with repeat treatment of any resprouts, if non-herbicide treatment is not successful. Disposal – All seeds, pulled seedlings, and root material should be collected, bagged and disposed of properly off-site. Follow-Up – Cut any resprouts every spring until trees are eliminated, with possible use of glyphosate if resprouting is on-going problem. Pull all seedlings and root suckers annually when soil is moist until seed source exhausted.
Elm *(Ulmus sp.)*	Evaluated but not listed	Treatment – Cut in spring (before May) when cambium is active and to prevent seed production. Pull seedlings, saplings and root suckers annually when soil is moist until plants are exhausted. May consider treating trunks/shoots with herbicide glyphosate, with repeat treatment of any resprouts, if non-herbicide treatment is not successful. Disposal – All seeds, pulled seedlings, and root material should be collected, bagged and disposed of properly. Follow-Up – Cut any resprouts every spring until trees are eliminated, with possible use of glyphosate if resprouting is on-going problem. Pull all seedlings and root suckers annually when soil is moist until seed source exhausted.
Periwinkle *(Vinca major)*	Moderate	Treatment – Pull and remove all stem material, accessible stolons and deeper roots from ground surfaces. Consider applying broadleaf-specific herbicide by foliar spray to supplement hand removal. Restrict foliar spray within 10 feet of surface water drainage to appropriate aquatic-approved herbicide. Disposal – All seeds, pulled seedlings, stolons, and root material should be collected, bagged and disposed of properly. Follow-Up – Hand pull all seedlings, stem material, accessible stolons and deeper roots. Spot treat with broadleaf specific herbicide by foliar spray as necessary in spring and late summer to supplement hand removal, but carefully control use and application to prevent loss of native grassland, riparian, and upland enhancement plantings.
Ivy species *(Delairea odorata)* *(Hedera helix)*	High	Treatment – Pull and remove all stem material, accessible stolons and deeper roots from trees, shrubs, and ground surfaces. Girdle vines accessing tree trunks and canopies for a distance of 12 inches where no additional treatment is proposed, to minimize further damage to existing trees and shrubs. Consider applying broadleaf-specific herbicide by foliar spray to supplement hand removal. Restrict foliar spray within 10 feet of surface water drainage to appropriate aquatic-approved herbicide. Disposal – All seeds, pulled seedlings, stolons, and root material should be collected, bagged and disposed of properly. Follow-Up – Hand pull all seedlings, stem material, accessible stolons and deeper roots. Spot treat with broadleaf specific herbicide by foliar spray as necessary in spring and late summer to supplement hand removal, but carefully control use and application to prevent loss of native grassland, riparian, and upland enhancement plantings.
Giant Reed *(Arundo donax)*	High	Treatment – Successful elimination requires completely killing or removing the root system. Pulling and cutting can be effective if all rhizomes and above ground vegetation are removed. Herbicide treatment may be required to kill all rhizomes. Disposal – Both treated and non-treated stems can be left on-site to decompose. All root material should be collected and disposed of properly as it could resprout. Follow-Up – Cut and retreat any resprouts, and remove any remaining root systems. Pull or dig younger plants annually, ideally after heavy rains loosen soil.
Himalayan Blackberry *(Rubus discolor)*	High	Treatment – Pull and remove all stem material and accessible root balls from ground surfaces. Consider applying broadleaf-specific herbicide by foliar spray to supplement hand removal. Restrict foliar spray within 10 feet of surface water drainage to appropriate aquatic-approved herbicide. Disposal – All seeds, pulled seedlings, and root material should be collected, bagged and disposed of properly. Follow-Up – Hand pull all seedlings, stem material, accessible root balls. Spot treat with broadleaf specific herbicide by foliar spray as necessary in spring and late summer to supplement hand removal, but carefully control use and application to prevent loss of native grassland, riparian, and upland enhancement plantings.

IPI (Invasive Plant Inventory) Ratings Definitions (California Invasive Plant Council, 2006, California Invasive Plant Inventory, "The Weed List".):

High: These species have severe ecological impacts on ecosystems, plant and animal communities, and vegetational structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. These species are usually widely distributed ecologically, both among and within ecosystems.

Moderate: These species have substantial and apparent - but generally not severe - ecological impacts on ecosystems, plant and animal communities, and vegetational structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, though establishment is generally dependent upon ecological disturbance. Ecological amplitude and distribution may range from limited to widespread.

Limited: These species are invasive but either their ecological impacts are minor on a statewide level or information on them is insufficient to justify a higher rating, although they may cause significant problems in specific regions or habitats. Their reproductive biology and other attributes result in low to moderate rates of invasion. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic.

Evaluated But Not Listed: In general, this designation is for species for which information is currently inadequate to respond with certainty to the minimum number of criteria question, or for which the sum effects of ecological impacts, invasiveness, and ecological amplitude and distribution fall below the threshold for ranking. Many such species are widespread but are not known to have substantial ecological impacts (though such evidence may appear in the future).

Table 5-1: Target Invasive Plant Species Treatment Details

Species	Rate/Size	Treatment Details
Groundcover Seed Mix:		
Creeping Wild Rye *(Leymus triticoides)*	15 lbs per acre	Seed shall be applied over all graded surfaces (except in areas of new paving, new trails, and other development areas) before onset of fall rains, prior to October 15. Seed source shall be as local as possible, supplied on a basis of Pure Live Seed (PLS), and not contain an excess of one percent (1%) of weed seed. Seed shall preferably be applied by hydroseeding particularly for larger areas and slopes, rather than by hand broadcast. Hydroseed may include seed, dye, fertilizer, lime, mulch, and synthetic binder.
California Brome *(Bromus carinatus)*	15 lbs per acre	
Meadow Barley *(Hordeum brachyantherum)*	10 lbs per acre	
Groundcover Plug Plantings:		
Creeping Wild Rye *(Leymus triticoides)*	Install plugs on 1-foot centers.	Install plugs during start of wet period between November 15 and January 15 to allow root development during winter rains. Creeping wild rye plugs provide a reliable groundcover in open and partially shaded creek banks
Riparian Zone Plantings:		
California Buckeye *(Aesculus californica)*	Spaced no closer than 10-foot centers, from tree pot, one gallon or 15 gallon plants.	Install during start of wet period between November 15 and January 15. Stake each plant to allow for on-going monitoring. Provide appropriate browse protection as required with staked 4'-high poultry mesh fencing where monitoring indicates a loss of plant material due to deer and rodents. Provide summer irrigation for a minimum of two to four years until established.
Box Elder *(Acer negundo var. californicum)*	Spaced no closer than 10-foot centers, from tree pot, one gallon or 15 gallon plants.	
Valley Oak *(Quercus lobata)*	Space no closer than 20-foot centers, from tree pot, one gallon, or 15 gallon plants.	
Live Oak *(Quercus agrifolia)*	Space no closer than 20-foot centers, from tree pots, one gallon, or 15 gallon plants.	
California Rose *(Rosa californica)*	Grouped mosaics from dee pots or one gallon plants on 5-foot centers.	
Snowberry *(Symphoricarpos albus)*	Grouped mosaics, from dee pots or one gallon plants on 5-foot centers.	
Mugwort *(Artemiisia californica)*	Grouped mosaics, from dee pots or one gallon plants within 15 feet of channel bottom on 5-foot centers.	
Spreading Rush *(Juncus patens)*	From dee pot or one gallon plants, spaced randomly along channel bank and open areas on 5-foot centers.	
Bigleaf Maple *(Acer macrophyllum)*	Space no closer than 30-foot centers, from tree pot, one gallon, or 15 gallon plants.	Install during start of wet period between November 15 and January 15. Stake each plant to allow for on-going monitoring. Provide appropriate browse protection as required with staked 4'-high poultry mesh fencing where monitoring indicates a loss of plant material due to deer and rodents. Provide summer irrigation for a minimum of two to four years until established.
White Alder *(Alnus rhombifolia)*	Space no closer than 30-foot centers, from tree pot, one gallon, or 15 gallon plants.	
Black Walnut *(Juglans hindsii)*	Space no closer than 30-foot centers, from tree pot, one gallon, or 15 gallon plants.	
Willow *(Salix lasiolepis and Salix laevigata)*	Cuttings installed from branches collected on-site.	Cuttings from one-year-old branches collected and installed during wet period, preferably December 15 to January 15. Cuttings shall be a minimum length of 3 feet, maximum length of 5 feet, minimum cut-end basal diameter of ¾ inch, maximum diameter of 1.5 inches, and continuous bark and stems that are not split. A minimum of three cuttings will be planted in each planting hole.

Table 5-2: Suitable Native Plant Species for Revegetation and Enhancement
(*Source: Environmental Collaborative)*

WATER QUALITY - LOW IMPACT DEVELOPMENT (LID) TECHNIQUES

One of the primary means of maintaining creek health is by improving the quality of water entering the creek and reducing the peak flow during storm events. Unfortunately, most cities directly convey water from the street into concrete storm drain systems, which deposit it directly into creeks. This does not provide any filtering of the street runoff while it also rapidly moves the water to the creek. Thus during rain events, often large quantities of water containing oil, grease, sediment and other pollutants enter the streams and creeks. Compared to water running through vegetated areas, the water also arrives quickly into the stream or creek causing increased peak flows and flow volumes. The increased flows increase erosion and the risk of flooding, while possibly putting increased stress on the flora and fauna of the creek.

The solution to the problem is to increase use of Low Impact Development (LID) techniques, so that water is both detained and cleaned prior to entering the storm drain system. LID techniques are intended to reduce runoff and mimic a site's predevelopment hydrology by minimizing disturbed areas and impervious cover and then infiltrating, storing, detaining, evapotranspiring, and/or biotreating stormwater runoff close to its source. LID practices include measures such as rain barrels and cisterns, green roofs, permeable pavement, preserving undeveloped open space, and biotreatment through rain gardens, bioretention units, bioswales, and planter/tree boxes.

The RWQCB adopted regulations to enforce LID which applies primarily to new development and re-development of disturbed areas of 10,000 square feet or more and is enforced through Lafayette's Stormwater Management and Discharge ordinance that is described in Chapter 2. (*Municipal Regional Stormwater Permit Order No. R2-2015-0049, Requirement C.3.c*, November 19, 2015, California Regional Water Quality Control Board, San Francisco Bay Region.) Many cities also encourage existing repair work, especially road work, and residential properties to incorporate LID techniques.

In addition, the RWQCB permit requires site design measures for small projects and detached single-family dwelling (i.e. development projects which create or replace between 2,500 and 10,000 square feet of impervious surface). Each project must install one or more of the following site design measures:

- Direct roof runoff into cisterns or rain barrels for reuse.
- Direct roof runoff onto vegetated areas.
- Direct runoff from sidewalks, walkways, and/or patios onto vegetated areas.
- Direct runoff from driveways and /or uncovered parking lots onto vegetated areas.
- Construct sidewalk, walkways, and or patios of permeable surfaces.
- Construct bike lanes, driveways, and or uncovered parking lots with permeable surfaces.

The Downtown Design Guidelines already encourage the use of LID techniques for outdoor spaces and parking & circulation elements of new development. This guidance reduces the impacts of paving by limiting its use, promoting the use of permeable surfaces, and treating and filtering runoff.

Following are recommendations for LID strategies that would help improve the creek health by reducing the rate of runoff reaching the creek and improving the quality of the water that does. The techniques discussed summarize the most appropriate LID strategies for development near the downtown creeks, and where stormwater would otherwise enter storm drains that discharge into Lafayette's creeks. These techniques are taken from the Contra Costa County storm water post-construction guidebook, which outlines in greater detail the strategies for LID, their design criteria and sizing strategies (Contra Costa Clean Water Program, 2012).

PERVIOUS PAVEMENT

Since large amounts of water that enter the storm drain system originate from driveways, roads and parking lots, one of the easiest ways to reduce that quantity is to install pervious pavement. Pervious pavement allows water to infiltrate through the pavement and into the underlying base of the pavement, typically sand or gravel. The water then will be stored and slowly infiltrate into the native soil. Typically, the storage amounts are equivalent to about 40% of the base depth, thus a 6-inch base could store 2.4 inches of water per unit area. In addition, often the pavement itself provides additional storage. This allows for large areas of currently impervious pavement to become a central part of the water treatment and flood control of a city.

Pervious pavement works best in flat areas with slopes less than 2%, in soils that are have higher hydraulic conductivity, and areas with low traffic, slower speeds, and lighter weight vehicles (such as parking stalls). It is more expensive than the equivalent impervious pavement and requires some maintenance.

Pervious pavement is also very well suited for use in pedestrian areas such as trails, overlook areas and sidewalks. Where these pedestrian areas are located adjacent to creeks, the additional absorption of stormwater reduces runoff into the creeks and provides soil moisture for riparian vegetation. Lafayette has used pervious paving as sidewalk material along Mt. Diablo Blvd., adjacent to Lafayette Creek and west of Village Center Road.

The most common types are pervious concrete, porous asphalt, crushed gravel, and porous or open pavers.

Pervious pavers in parking lot

Pervious pathway signage on Mt. Diablo Blvd.

BIORETENTION

Bioretention is the process in which contaminants and sediment are removed from stormwater runoff. This process is designed to mimic water retention and cleaning of natural systems. Bioretention areas are optimized to provide a good infiltration rate while still providing a good reduction in contaminants from the water. Water flows from nearby drainage areas into the bioretention area. It passes through an initial mulch layer, and then slowly infiltrates through a specially formulated bioretention soil which helps clean the soil. The bioretention soil layer also holds the water, helping to reduce the volumetric rate at which water enters the storm drain system.

If the native soil infiltration rates are high enough, it is possible to allow the water to infiltrate directly into underlying ground. If the native soil does not have high infiltration rates (such as the predominantly clayey soils in Lafayette) or if there are concerns about water infiltrating into the native soils, then the water passes through the bioretention soil into an underlying gravel bed (see Figure 5-1), which transports water to an outflow pipe into the storm drain system. Often, if the bioretention area is near a roadway or foundation, the sides are lined with an impermeable membrane or concrete. The latter design is called a flow-through planter.

Bioretention is appropriate between runoff sources (e.g. paved areas, roadways, parking lots) and the creeks. Bioretention can provide the same water quality and runoff volume benefits even at a distance from the creeks, if the stormwater would otherwise flow directly into a storm drain that discharges into the creeks. Whenever improvements to roadways and parking lots are undertaken, bioretention areas should be considered. If done in conjunction with sidewalks, often there is little loss of area.

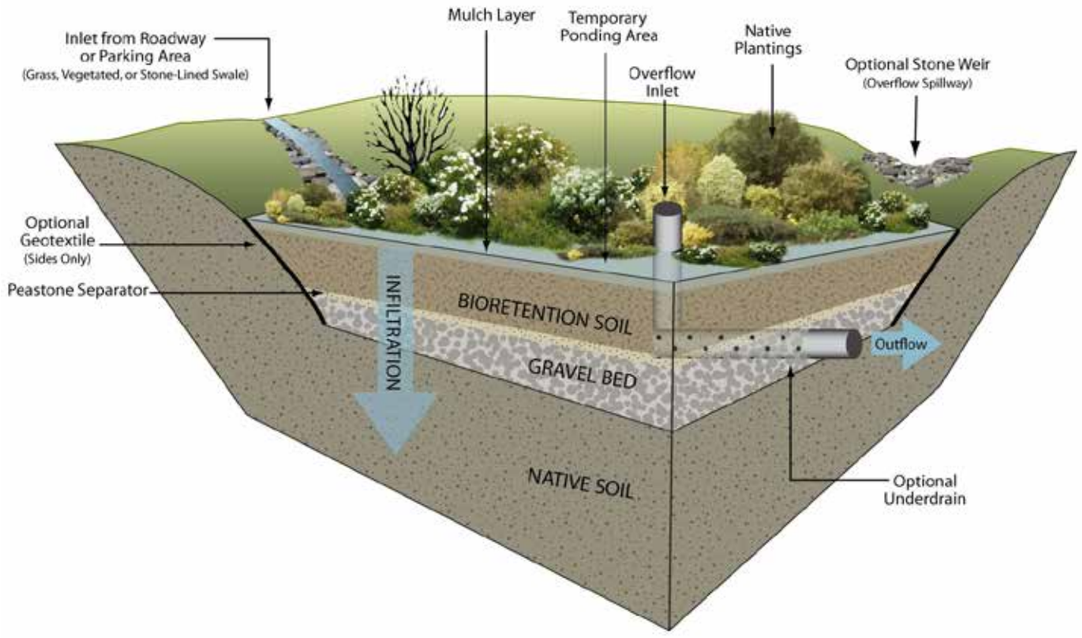

Figure 5-1: Typical design of a bioretention area

Rain garden in parking lot

Rain garden bulb-out in parking lane

Rain garden in sidewalk area

CREEK BANK STABILIZATION AND MAINTENANCE

INTRODUCTION

Lafayette Creek and Happy Valley Creek both contain relatively stable creek beds. However, encroaching urbanization has reduced the historic overbank floodplain areas, which have been replaced by buildings, roadways and other improvements. Alterations to creek flow paths or banks risk damaging these structures. Within the study area, one location in the West Reach showed evidence of a potential bank stability issue (large-scale erosion), while the other areas had evidence of relatively minor bank stability issues (typically invasive species, concrete debris, and sack walls). Bank erosion, even if only minor, could over time alter the creek flows and banks enough to risk destabilizing the slopes; thus it is important to regularly evaluate and maintain creek banks in urban areas.

This section provides recommendations for evaluating and maintaining creek banks and includes techniques focused on smaller restoration projects and interventions. While the techniques address bank stability, where possible, they will also improve water quality, native riparian vegetation and wildlife quantities, and aesthetics. The techniques are also cost effective and likely to meet regulatory guidelines.

Suggestions for more substantive bank modification in specific locations are discussed in the previous chapters on potential improvements. Suggestions on how to approach regulatory agencies about the appropriate permitting are discussed in Chapter 8 - Implementation.

Maps that indicate areas of concern for bank erosion are contained in the Assessment Report, in Appendix A.

EVALUATION

Before embarking on creek bank maintenance or stabilization, it is important to first evaluate the scope and impacts of the project. In general, most regulatory agencies would prefer that the area within the creek banks, especially within the normal flow, not be disturbed. The exceptions to this are bank failure issues, erosion detrimental to water quality, or creek restoration to its historic form. Even if the project should meet these criteria, permitting can still be challenging, so in general it is advisable to minimize disturbance within the creek bank area. The following recommendations for Lafayette and Happy Valley Creeks detail how to address issues of erosion and invasive plants while limiting the disturbance within the bank area.

EROSION

Lafayette and Happy Valley Creeks' bank stability is improved due to the presence of armoring in large areas within the creeks in the form of concrete and steel culverts, concrete debris and sack walls, and wooden retaining walls. The armoring, though, increases the creek velocity in the channels, is usually unsightly, and reduces the area for wildlife and plants.

Many portions of the creek banks in the Planning Area are not armored against erosion, or the armoring is not properly protecting the banks. Often minor erosion occurs from water concentrating at the top of bank and flows being improperly concentrated down the bank.

Additionally, large storm events can down trees or rip up brush that can significantly affect the levels of erosion in the creeks, so monitoring of the creeks during these times and taking prompt action can potentially reduce the adverse effects of these changes.

Within the Planning Area, the most common erosion activity consists of undercut banks, downcutting, and slope erosion.

Undercutting occurs when a higher part of the bank has slope protection while a lower part does not, often below the waterline. Soil will erode unevenly, with more soil eroding from the lower part of the slope. If left unaddressed, this can reduce the slope stability.

Downcutting of the creek bed slope is also apparent in the channel. Adding additional stormwater flows to a creek, which then alter its historic hydrologic regime, often causes a downcutting form of erosion as the creek bed slope seeks to reach a new flatter geomorphic equilibrium through erosion of the bed materials. In response to altered hydrologic conditions, this new equilibrium slope needs to be considered in any changes that occur in the design of the channel, and source controls which limit discharge into the creek from impervious surfaces in the watershed should also be implemented.

Undercutting of bank

Slope erosion occurs in areas where the bank soil is unprotected, usually on steeper slopes, and erodes due to forces such as wind, water, foot traffic, and/or gravity, causing rills or sloughing. Banks composed of larger rocks resist this erosion, as do banks with deep-rooted vegetation. Such resistance is not the case for areas under a canopy of ivy, which are also at risk of bank erosion due to the ivy's shallow root system and heavy above-ground structure. Eventually, this type of erosion slowly cuts back and flattens the slope, causing loss of area beyond the top of bank, and potentially threatening the foundations of structures that are not sufficiently set back from the top of bank.

While evaluating an area where undercutting or bank erosion has occurred, it is important to try to identify sources of water that might be contributing to the erosion. Often slope erosion is exacerbated by water concentrating above the slope and then being channelized down the bank.

Bank erosion

INVASIVE PLANTS

Not all invasive plants are necessarily damaging to creek banks, but in the case of Lafayette and Happy Valley Creeks, invasive ivy has destroyed much of the native species on many of the banks and is one of the most easily remedied issues affecting bank stability. Only the main trunk of the English ivy develops a deep root. The vines themselves create only superficial roots. On creek banks, they kill deep-rooted native species, and the vines subsequently drape over the banks, providing only superficial erosion control. During heavy storms with substantial streamflow, the velocity of the water quickly lifts the ivy, effectively eliminating erosion control on the banks of the creek. Ivy often climbs into the overstory canopy, killing trees and brush, and further damaging the creek banks.

MAINTENANCE

The primary goal of maintenance is to reduce erosion while promoting water quality and supporting native wildlife and plants. Maintenance recommendations for Lafayette and Happy Valley Creeks below focus on issues that were identified during the assessment process, but they should be regularly evaluated and expanded or reduced to reflect changing conditions that impact the creeks. The two current issues that will require regular monitoring and maintenance along the downtown creeks are erosion and invasive plants.

• **Erosion**. Areas with bank erosion should be assessed to identify the contributing factors to the erosion. Most commonly the erosion will either be from channelized water or foot traffic. If it is from foot traffic, the area should be cordoned off, signs placed to encourage people not to use the area, or other measures as appropriate to attempt to discourage using that path. If it is from concentrated flow of water, the most effective control is to divert the oncoming water prior to reaching the eroded area. The general solution is to divert the water into a vegetated or protected area that can withstand the flow without eroding. The eroded area should be replanted with vegetation from the palette of native riparian species as described in *Table 5-2* of this chapter and protected with temporary measures as described below.

• **Invasive plants**. The removal of ivy has been described in the previous section and in the section on *General Vegetation Treatments, Invasive Removal and Control, Native Revegetation*. After the ivy has been removed, any exposed soil will need to be stabilized using the methods described below.

RECOMMENDATIONS

Maintenance goals are to cover any exposed soil to ensure that bank erosion is minimized and the bank is stabilized with native riparian vegetation as quickly as possible. This typically involves a temporary erosion control measure that reduces the erosion in the short term and helps protect newly planted native riparian plants while they become established.

• **Temporary Erosion Control Measures**. Whatever temporary measures are put in place, it is important to protect as much of the existing native riparian vegetation as possible. As there are many temporary erosion control measures currently available, and new ones are constantly being developed, this is not an exhaustive list. In general, the best temporary erosion control measures are ones that rely on natural materials, are biodegradable, and are safe for wildlife. It is also important that the erosion control measures are properly installed, otherwise they may cause more erosion than they prevent.

Biodegradable geotextile mats are one of the most common erosion control materials for slopes and are very effective at both reducing erosion and encouraging plant growth. Hydraulic mulch with seeds (hydroseeding) is also effective on gentler slopes and, with a native seed mix, can greatly increase the speed at which plants establish within the area. There are also a variety of brush mats, branch placements and other natural methods that can provide temporary erosion control.

Dikes and swales can also help reduce the overall velocity of water flowing toward the creek and help reduce erosion.

• **Long-Term Erosion Control Measures.** Based on the criteria of controlling erosion while improving water quality and wildlife habitat, the preferred treatment for banks is revegetation with native species with deep root structures. Generally, trees will provide the deepest roots and the best defense against erosion and the most bank stability, followed by brush and then native grasses and other understory plants. A healthy creek will contain a good diversity of each type of plant and in varying quantities. More information on the types of native riparian vegetation appropriate for the area has been provided in the section on *General Vegetation Treatments, Invasive Removal and Control, Native Revegetation*.

There are many different planting strategies for the types of plants that are desired on the bank, depending on channel characteristics, water elevations and bank steepness. It is best to consult a habitat restoration specialist when deciding on how to restore a bank for maintenance. In general, there are two basic treatment methods, live plantings and bioengineering.

Live plantings treatment consists of choosing native plants with a good diversity of sizes, and replanting the slope. The choice and types are greatly dependent on the bank situation, and the best approach would be to consult a restoration biologist. Techniques include brush matting (the use of dead or live cuttings from riparian vegetation stacked and secured against the creek banks to check erosion and revegetate banks), wattles (bundles of cuttings from riparian plants used to revegetate banks), plant cuttings (sticks cut from riparian shrub and tree branches in their dormant state such as willows and alder, which are buried about halfway in the ground and take root, and brush layering (the use of live branches or cuttings which are inserted into the creek banks perpendicular to the slope so that the rooting occurs back into the slope).

Bioengineering treatments, the use of plants for bank protection and erosions control, are techniques in which the temporary and long-term treatments are more integral to each other and are designed as one treatment, often to deal with more difficult erosion control issues. This can involve vegetated geogrids, brush mattresses, tree revetments, or any of a variety of other bioengineering techniques. For further information, please consult *Ground Bioengineering Techniques: For Slope Protection and Erosion Control* by H. M. Schiechtl and R. Stern.

MODIFICATION

The maintenance recommendations work well to deal with smaller erosion control issues and general improvements and maintenance to the creeks. Both Lafayette and Happy Valley Creeks have locations with large amounts of concrete debris or concrete sack walls. Many of these locations can be addressed by using the same treatments as detailed in the maintenance recommendations. Should these not work in addressing the erosion, or if the removal of concrete substantially changes the characteristics of the creek, then more direct modifications to the creek may be required. In these cases, it is best to work with a professional experienced with creek restoration and permitting to determine the best approach.

In general, whenever doing larger bank modifications, it is important to attempt to develop a plan that minimizes bank disturbances while restoring the creek to as close to a native condition as possible. To this end, reducing bank steepness and bioengineering will probably be preferred by regulatory agencies. Any hard armoring, such as riprap, is less likely to be approved; though if used in combination with bioengineering, the likelihood of approval by the reviewing agencies may increase.

Biodegradable geotextile erosion control

Biodegradable coir roll erosion control

Brush layering for erosion control

CREEK SETBACKS

The Creek Setback ordinance regulates construction and improvements occurring along the creek corridors. Its provisions are summarized in Chapter 2. The ordinance is focused on prevention of flood damage and protection of property. It is the intent of this Downtown Creeks Plan to maintain creek bank stability, and to protect and restore the native ecosystems to the extent possible, while allowing increased visual and physical access to the creeks. Lafayette's creek setback ordinance should:

- Clarify that the purpose of the ordinance includes improving riparian function, and supporting public access in compliance with the Downtown Creeks Plan. Revise the ordinance to strengthen and make more enforceable requirements that relate to the natural environment along creeks and support riparian function.
- Specify that in the setback areas included in the Downtown Creeks Plan, public access pathways and creek overlook areas, including patios, are allowed. Construction of these improvements should not:

a) create, exacerbate, or prevent the abatement of erosion and bank de-stabilization problems;
b) increase stormwater runoff into the creek;
c) degrade water quality from increased sedimentation and particulates from disturbed soils; pollution from motor oil; or from the generally high level of toxics and trash during the construction process; or
d) eliminate or degrade a significant in-stream or riparian corridor habitat.

- Require that landscaping within setback areas consist of native riparian vegetation.
- Allow the city engineer to impose conditions on setback exceptions in the downtown that include public access paths, platforms or other improvements to allow viewsheds into a creek.
- Include definition of "improved" creek, to clarify that only permitted, engineered improvements (and not concrete debris or other substandard stabilization methods) would be considered "improved" for purposes of the ordinance.

See Appendix D for proposed amendments to the Flood Damage and Prevention Ordinance.

Riparian vegetation required and pervious pathways encouraged within setback zone

Creek overlooks encouraged, subject to determinations regarding bank stability, erosion, and water quality

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CHAPTER 6: MATERIALS AND FURNISHINGS

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INTRODUCTION

Awareness of creeks can be enhanced by providing a coordinated family of material treatments. Materials and site furnishings become identified with the downtown creeks, bringing viewers' attention to the presence of the creeks. Uniform creek icons and consistent fencing, railings and riparian vegetation can increase the sense of the creeks as an interconnected system. The icons/identity markers can create an identifiable "brand" that connects people to the creeks.

This chapter provides guidance for the creek icon, interpretive panels, fencing/railing, and riparian vegetation. This guidance will be applied to public and private projects to help emphasize awareness of downtown creeks. Illustrations or photographs are provided where needed to demonstrate the noted guidance.

CREEK ICONS

A creek icon is proposed for marking public viewing and access points for the downtown creeks. The icon would provide a symbolic representation of the presence of downtown creeks for installation on public rights-of-way or easements. Design elements of the icon should be scalable for use as an identity marker in other media such as signs, maps, or paving, similar to a logo. Criteria for the icon design would include the following:

- Visible/recognizable from a vehicle;
- Pedestrian-friendly when installed adjacent to a walkway;
- A design that engages the public and piques interest, while not distracting to drivers;
- Consistent with the informal, small-town character of downtown;
- Weather proof and theft/vandal resistant;
- Durable and low maintenance materials;
- Can be seen day or night; and
- Reproducible for installation at all creek access points.

A creek icon could have greater impact if it also served as public art. Creek viewing and access points and public spaces can be ideal settings for public art. The City's Public Art Master Plan promotes public art for these downtown locations. It is unclear whether the creek icon may meet the definition of public art in the City's ordinance. That determination is ultimately up to the City Council.

Development of a creek icon needs to occur in conjunction with implementation of the first creek enhancement project that includes a creek access point. The West Reach – Lafayette Creek Catalyst Project will be the first city-sponsored creek enhancement to implement pursuant to this Plan. This project proposes to include several creek overlooks and a path to the creek bed. At that time, the City Council should consider the following options on development of a creek icon:

- Options 1: Authorize the Public Art Committee to develop the creek icon by organizing a Request for Proposals by Invitation. This process would create a creek icon as public art, the icon design would be developed by a recognized artist, who in addition to fabricating the icon, would develop specifications for reproducing and installing the icon at public access points for the downtown creeks.
- Option 2: Authorize City staff to commission development of the icon as part of the West Reach Catalyst Project. This process would create a creek icon by obtaining the services of a graphic art company to develop a design that could then be fabricated and installed at creek access points using material recommended by that company.

INTERPRETIVE PANELS

Two creekside interpretive panels were installed adjacent to Lafayette Creek on the path along Mt Diablo Boulevard to the Lafayette Reservoir. Future interpretive panels installed in the Planning Area should be consistent with this panel in terms of pedestal design, materials (high pressure laminate panel and coated aluminum), and type font.

CREEK ICONS

INTERPRETIVE PANEL TREATMENT

Interpretive signage along Mt. Diablo Blvd.

FENCING / RAILINGS

Fencing along downtown creeks detracts from their open character and should only be used for public safety and security purposes. The design of railings will need to meet building code requirements where applicable. Any fencing or railing proposed in a creekside development project should follow the Downtown Design Guidelines with the following provisions:

- Railing and fencing should be as transparent as possible to maintain view of the creek corridor.
- Railings that meet public safety requirements should be considered in lieu of fencing where possible to minimize visual impacts.
- Their design should be uniform along an individual creek reach to emphasize continuity of the creek.
- Fencing and railings may incorporate a public art feature within it.
- Replace the existing fencing and railing along the Lafayette Creek flood control channel with a uniform material and design that supports the vision of the Plaza District as described in the Downtown Design Guidelines and meets the requirements of the Contra Costa County Flood Control District.

See Appendix D for recommended amendments to the Downtown Design Guidelines to incorporate the above criteria for fencing/railings.

FENCE / RAILING TREATMENTS

RIPARIAN VEGETATION

Creek planting is one of the most important elements of the Downtown Creek Plan because it occurs in the riparian zone, a legally defined area under the jurisdiction of the Regional Water Quality Control Board and the California Department of Fish and Wildlife. Creeks and Landscaping are treated as a separate section of the Downtown Design Guidelines. It can improve habitat for local wildlife, visually tie the downtown reaches together as a continuous creek system, and reduce creek bank erosion. However, the presence of invasive plant species requires the revegetation of most all the creeks in the Planning Area.

Revegetation in the “riparian zone” must be reviewed by the Regional Water Quality Control Board and the California Department of Fish and Wildlife. To streamline their review process, these agencies support the City’s development of a Riparian Vegetation Restoration Manual that a property owner would use to revegetate their creek banks. The Manual would expand on the invasive plant eradication techniques and the list of native riparian plant species described in Chapter 5. The Manual would also include the following:

- Map of boundaries for riparian vegetation along each reach to define the jurisdictional limits of the California Department of Fish and Wildlife;
- Map of the ordinary high water mark for each reach to define the jurisdictional limits of the Army Corp of Engineers;
- Planting plan for each reach;
- Protocols for removing invasive plants, and installing and maintaining the native riparian vegetation;
- Reporting and monitoring requirements; and
- Educational outreach to property owners.

Preparation of the Riparian Vegetation Restoration Manual will be a high priority for the City to provide appropriate guidance to property owners. See Appendix D for recommended amendments to the Downtown Design Guidelines to incorporate the above guidance for riparian vegetation.

RIPARIAN VEGETATION TREATMENTS

CHAPTER 7: COMMUNITY OUTREACH

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COMMUNITY ENGAGEMENT PLAN

A key part of the Downtown Creeks Plan is outreach to and engagement with the Lafayette community. An extensive outreach program was developed at the outset of the planning effort, including community meetings, outreach and information at community events, meeting with stakeholders (such as property owners in the project area), and distributing project information through print and on-line media, community groups, email lists and a dedicated page on the City's website. Additionally, members of the Creeks Committee made presentations to various community and environmental organizations, informing them about the project and encouraging attendance at the Community Meetings. The August 2016 Draft of the Downtown Creeks Plan was presented in public meetings to the City commissions and committees that would have some role in implementing the Plan. The Community Engagement Plan is contained in Appendix B, and meetings and presentations that occurred are listed in Table 7-1.

The goals of the Community Engagement Plan were to:

- Increase community awareness of the planning project;
- Offer a range of communication and engagement tools to facilitate input;
- Obtain community buy-in and consensus to support the plan;
- Build upon and respect previous outreach efforts to date (Downtown Specific Plan, Downtown Design Guidelines, etc.);
- Build partnerships for implementation and stewardship of improvements; and
- Partner with the Lafayette Creeks Committee to play an active role in community engagement, as they advise the City Council on creek issues.

Stakeholder meetings, with owners of the lands that the creeks run through, downtown businesses, the Chamber of Commerce and with regulatory agencies such as the Regional Water Quality Control Board and California Department of Fish and Wildlife, have been of great importance. Since the majority of the creek corridors that are the subject of this plan are privately owned, the support and engagement of the property owners and businesses is essential to implementing improvements within those corridors.

COMMUNITY MEETINGS AND PRESENTATIONS

Event / Group	*Date*
Stakeholder Meeting	*September 10, 2015*
Booth at Art & Wine Festival	*September 19, 2015*
Stakeholder Meeting	*October 1, 2015*
Community Workshop #1	*October 6, 2015*
Meeting with Regulatory Agencies	*November 10, 2015*
Stakeholder Meeting	*January 28, 2016*
Sustainable Lafayette	*February 2, 2016*
Community Workshop #2	*February 2, 2016*
Walnut Creek Watershed Council	*February 4, 2016*
Stakeholder Meeting	*February 16, 2016*
Stakeholder Meeting	*March 4, 2016*
Stakeholder Meeting	*April 21, 2016*
Booth at Earth Day Festival and Creek Tours	*April 24, 2016*
Park, Trails & Recreation Commission	*August, 10, 2016*
Stakeholders Meeting	*August, 16, 2016*
Design Review Commission	*August, 22, 2016*
Subcommittee of Public Art Committee	*August, 24, 2016*
Downtown Street Improvement Master Plan Implementation Committee	*September 15, 2016*
Circulation Commission	*September 19, 2016*
Parking Ordinance Committee	*September 27, 2016*
Walnut Creek Watershed Council	*October 12, 2016*
City Council/Planning Commission	*November 14, 2016*
Meeting with Flood Control District	*November 17, 2016*
Meeting with Regulatory Agencies	*November 30, 2016*

Table 7-1: Community Meetings and Presentations

COMMUNITY MEETINGS

Community Meeting #1: October 6, 2015
Veterans Memorial Center

Purpose of meeting: To solicit community input on the opportunities and constraints associated with the creek corridors identified in the Assessment Summary Report.

Following a presentation by Creeks Committee Chair Will Elder, and consultant David Gates, questions and comments were taken. Attendees then circulated to various stations around the room to provide their input regarding the assessments, opportunities and constraints pertaining to each reach of the creeks.

GENERAL COMMENTS

- Need to include property owners in the discussion as they own a majority of relevant property.

RESPONSE: Property owners have been invited to the workshop as well as two earlier meetings specifically for property owners. Efforts to reach out to property owners will continue throughout the process.

- Very difficult for one property owner to do any improvements or even maintain the creek due to regulatory agency processes.

RESPONSE: The Downtown Creek Plan effort includes working with regulatory agencies to clarify processes and criteria. Hopefully it will provide a forum for multiple property owners to work together and with the City to address regulatory agency concerns. A representative from Contra Costa County Flood Control District is attending the meeting to answer questions and hear from the community.

- Maintenance of the creek is a high priority - need to remove exotic vegetation, open views into creek.

Community Meeting #1

STATION COMMENTS:

1. West Reach: This portion of the creek is under public control. There is a need to address bank stabilization issues in near future.

- Provide access for families to play in creek water.
- Demonstrate successful creek restoration and public access at this community entry.
- Target specific native species for restoration that provide habitat value.
- Opportunity for art.
- Balance creek access with moving people along this busy bike/pedestrian route.

2. North Reach: This portion of creek is under private ownership and improvements will be linked with parcel improvements. There is a strong need to remove exotic vegetation to protect bank stability.

- Consider daylighting culvert portion.
- Provide access to creek for families to play in water.
- Improve creek channel and provide walking path along top of bank.
- Coordinate with Trails Master Plan
- Add "natural" mural on concrete walls
- Town Green here per Downtown Specific Plan

North Reach comments

3. South Reach: This portion of the creek is under private ownership and improvements will be linked with parcel improvements. There is a strong need to remove exotic vegetation to protect bank stability.

- Can creek be daylighted? Replace culvert with bridge. Could reduce upstream flooding as the culvert is a restriction, but there could be potential impacts on downstream velocity. This needs to be explored holistically.
- Develop bike share stations
- Provide access for public to play in creek water
- Potential use for preschool, church and Lafayette School for outdoor education area for teachers and others for lunches, after school meetings
- Orient retail uses and views to creek.

4. East Reaches 1 & 2 (Channelized): This portion of creek has been channelized. Contra Costa County Flood Control District has a maintenance easement over the channelized portion. The Downtown Specific Plan designates a site for Library Park to occur with redevelopment of a private parcel.

- Provide access for families to play in the water with walkway structures leading to water.
- School bus drop off spot for Stanley or Lafayette School, opportunity to use a creekside trail as a connection
- Look at ways to enhance appearance of or remove concrete channels walls
- Provide alternative natural, shaded amphitheater outdoor space for library use.
- Explore option to remove concrete bottom of channel and replace with native riparian vegetation.
- Temescal Creek is a good example
- Great spot for seniors to enjoy across the street from where they live.

5. East Reach 3: Gazebo Park, Las Trampas - Briones Trail and Leigh Creekside Park interface with the creek. Contra Costa County Flood Control District owns land by the drop structure.

- Closer access and trails into the Creek
- Have a clean-up day.
- Another “walkable school bus” drop off spot for Stanley and Lafayette School, would be good at gazebo.
- Can’t see creek from bridge, sides are too tall.
- Take school locations into consideration.
- Incorporate Briones – Las Trampas trail into project.
- Provide access for families to play in creek water.
- City should take back parking lot for park by Gazebo Park.
- Sidewalks on Mt. Diablo are insufficient east of Golden Gate.
- Potential tradeoffs for drainage/maintenance responsibilities? – Owners may like it if City assists.
- Provide pedestrian access via bridge over sanitary sewer pipeline across creek. Connect to neighborhood.
- Maintenance will be a huge issue.

East Reach 3 comments

Community Meeting #2: February 2, 2016
Community Room, Lafayette Library & Learning Center
Purpose of meeting: To identify preferred options and priorities

Mayor Mitchell introduced the project, and Will Elder presented the project overview. David Gates presented potential projects to be further developed in the Downtown Creeks Plan.

Approximately 15 members of the general public attended the meeting, as well as members of the Creeks Committee. Attendees visited up to 5 stations divided by reaches, each with representations of potential projects, and provided feedback and input about the projects presented.

STATION REPORTS:

West Reach (Create gateway with overlooks, signage, and removal of invasives. Expand top of creek bank area by removing parking along the south side of Mt. Diablo Blvd.): This could be a showcase piece. Should get funding for this. Like the green street with bioswales - Ok to lose parking spaces. Consider removing the decorative fence – make the creek accessible. Tie this project to the Lafayette Reservoir (interpretive display).

North Reach (Improve pedestrian connections through this area, bulb out and overlook areas at Lafayette Circle, Town Green creek overlook at location noted in Downtown Specific Plan, mural on concrete channel walls.): Like pathway connections to Lafayette Circle. Complete paths through this area for bikes and pedestrians. Eliminate cars on the north bank side – make this a pedestrian core, with cafes and pedestrian uses along the creek.

- Include creek walk in planning process. Could get more people excited.
- Monitor creek health, annually. Re-green.

Community Meeting #2

South Reach (Replace culvert under parking with bridge to restore creek conditions. Bulb out and overlook at Moraga Rd.): Consider a parking garage set into the hillside behind the church parking lot. Roof could be planted to make it recede visually. Vehicle access from top level. Plans must accommodate downtown parking.

East Reaches 1-2 (channelized) (Develop pathway along north side of channel. Create mini-park/viewing area at southwest corner of Golden Gate Way and First Street. Use creek icons, decorative fencing at channel top, and textured channel walls to improve visual experience of creek.): Concrete channel is a good thing vis a vis flood control and maintenance. Preserve the oaks! Trail along north side and overlooks are good. How can we make this happen? If fake rock is used for channel surfaces, make it look good. Explain history – there was an old Grist Mill at the location of the Park Theater.

East Reach 3 (Create usable terrace space, accessed by stairs from Briones/Las Trampas Trail. Use art and creek icons to highlight creek presence.): Revise graphics to make them more easily understood. Open the railing on the EBRPD bridge – short people (especially kids) can't see over to the creek. Could this be a link to Leigh Creekside Park? Consider using sewer pipe crossing for an additional bridge. Connect from streets – create views to creeks. Many people don't even know that the bridge is there. There is informal creek access at the bridge at the west end of Leigh Creekside Park.

PROJECT RANKINGS

Participants were given ranking sheets with criteria to help with prioritization of the presented projects. Criteria considered included:

- **Public Access** – Does the proposed project provide new or improved physical or visual access to the creek?
- **Public Awareness and Education** – Will the proposed project visually enhance the creek so that people are able to enjoy, appreciate, and/or learn about the creeks?
- **Habitat / Restoration** – Will the proposed project improve the ecological functions of the creek?
- **Safety** – Will the proposed project improve public health and safety?
- **Economic Benefit** – Will the proposed project attract people to Lafayette's downtown, and encourage them to linger and patronize the local businesses?
- **Ease of Implementation** – Are there impediments to implementation of the proposed project? What is the "low hanging fruit"?

The ranking summary that follows shows the number of participants who gave the highest ranking (5) to each opportunity. The voting was conducted informally and by roll call; therefore the numbers in Table 7-2 should be viewed as a relative preference only (semi-quantitative).

		PROJECT	
PUBLICLY CONTROLLED	1	West Reach – Create gateway with overlooks, signage, and removal of invasives	7
	2	East Reach 3 – Art elements to highlight creek presence	5
	3	East Reach 3 – Stairs to lower terrace and creek	4
	4	West Reach – Expand top of creek bank area by removing parking along south side of Mt. Diablo Blvd.	3
	5	South Reach – Bulb out and overlook at Moraga Rd.	1
PUBLIC / PRIVATE PARTNERSHIPS	6	Work with property owners to incentivize creek enhancements	10
	7	All Areas - Remove invasive plants and replant with native riparian vegetation	8
	8	Work with agencies to streamline permit process	7
	9	All Areas - Remove invasive plants (above ground only – permits not needed)	7
	10	City develop maintenance association for creek channel improvements	6
	11	Install creek signage – wayfinding, identity and interpretive	5

Table 7-2: Project Ranking Summary

Draft Plan Review: Summer-Fall 2016

During the summer and fall of 2016, Creek Committee members presented the Draft Plan to the Parks, Trails & Recreation Commission, the Design Review Commission, the Downtown Street Improvement Master Plan Implementation Committee, a subcommittee of the Public Art Committee, the Circulation Commission, the Parking Ordinance Committee, Planning Commission and City Council at publicly noticed meetings, to obtain further input regarding the Plan. These meetings are included in Table 7-1. Comments from all of the Commissions and Committees were compiled and addressed a matrix prepared with responses to all comments. In spring of 2017, the Commissions and Committees reviewed and endorsed the revised Plan.

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CHAPTER 8: IMPLEMENTATION

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IMPLEMENTATION APPROACH

The Downtown Creeks Plan is intended as a master plan that will be implemented incrementally over a long time horizon. The Plan sets the framework for implementation to occur as funding is secured for public projects and as individual privately owned properties are developed or redeveloped over time.

The City of Lafayette, in evaluating the opportunities to undertake projects, will need to prioritize its efforts. In the public sector, obtaining funding will be a major factor. Many of the actions described in the chapter on *Creek Protection, Preservation and Restoration (Chapter 5)*, such as incremental removal of invasive species or LID projects in the public right-of-way, are projects that are more easily implemented and may be done with no or minimal permitting. Some may be done by volunteer efforts of stewardship groups.

On privately owned properties, projects may be constrained by current setback ordinances, parking requirements, or size and height limitations. Private property owners may be reluctant to pursue projects that require permitting due to the delays and expense that the process involves. To encourage private property owners to move forward with projects that enhance the creeks and promote public access, the City may consider incentives or other arrangements with property owners, such as: providing off-site parking that will satisfy an owner's parking requirement; providing an exception to the downtown building height limit; or assist with obtaining the permits from the regulatory agencies.

PROJECT PRIORITIZATION

Project prioritization must be based to some extent on opportunistic considerations, such as a creekside property seeking redevelopment, a stewardship group coming forward for habitat restoration, or specific funding becoming available. The City will have more control over when to implement city-sponsored projects. Table 8-1 lists the city-sponsored projects and their corresponding priority for implementation.

The project descriptions are conceptual and their implementation priorities should be interpreted flexibly as conditions change, new opportunities arise, and unanticipated resources become available. It is important for the City to seek opportunities for "quick wins" after Plan adoption to demonstrate and benefits of enhancing our downtown creeks and to help stimulate private investment in creek improvements.

PROJECT DEVELOPMENT PROCESS

This plan establishes a long term vision using conceptual designs, guidelines and resource manuals to guide creek enhancements that are expected to occur incrementally over many years. As funding becomes available for specific projects or as development applications are received on creekside parcels, further planning and project review will be necessary to allow permitting by the City and other agencies as required by existing procedures. Specifically, all projects will receive further review by City commissions and staff for adherence to City planning documents, guidelines and ordinances. Issues such as mitigation for potential parking losses, public safety, nuisance abatement, funding for ongoing maintenance costs, and any need for hydraulic studies will be addressed during this review, which includes public review and comment. The City boards presently involved in review of creekside development in the Downtown include:

Parks, Trails & Recreation Commission: This commission's responsibilities include, but are not limited to, seeking funds to develop City parks, advise the City Council on the use of park fees, pursue easements and funding for trails as shown on the Trails Master Plan, and constructing, maintaining, and upgrading trails over easements already obtained. Proposed creek enhancements that affect proposed downtown parks or trails would be reviewed by this commission.

Design Review Commission: This commission advises the Planning Commission and City Council on matters relating to aesthetics and the physical appearance of the City. This includes, but is not limited to, exterior changes to buildings or parking lots and the aesthetic aspects of proposed development projects. The Design Review Commission's responsibilities in the downtown are guided by the Downtown Design Guidelines, which include guidance for outdoor space, creeks and landscape, parking and circulation, and building design. Most creekside development projects that affect these topics would be reviewed by the Design Review Commission.

Circulation Commission: This commission reviews matters that affect the City's right-of-way, administers the Circulation Element of the General Plan, and advises the City Council on projects that affect traffic safety, on-street parking, sidewalks and bikeways. Creek enhancements proposed for construction within the City's right-of-way such as rain gardens, bulb-outs, overlooks, walkways and pedestrian crossings would be reviewed by the Circulation Commission.

Downtown Street Improvement Master Plan Implementation Committee (DSIMPIC): The City adopted its current Downtown Street Improvement Master Plan in 1988 which guides developers and staff in making improvements to street frontage in downtown Lafayette. Proposed creek enhancements within the street right-of-way would be reviewed by DSIMPIC.

Public Art Committee: This committee reviews public art in development projects and commission's the City's public art projects. Any public art included in a creek enhancement project as part of a development project would be reviewed by this committee. Any public art included in a publicly-sponsored downtown creek enhancement project would be commissioned by this committee.

Parking Ordinance Committee: This City Council appointed this temporary committee to review and update the City's parking ordinance to current standards, including parking requirements for different

PROJECT	COST	IMPLEMENTATION PRIORITIES		
		NEAR TERM	MID TERM	LONG TERM
1. Creek Icon Project (locate at overlooks)	$50,000	●		
2. Riparian Vegetation Restoration Manual (applies to all creek reaches)	$50,000	●		
3. West Reach: Catalyst Project	$750,000	●		
4. North Reach: Lafayette Circle Overlook	$60,000	●		
5. South Reach: East St / Lafayette Circle / Moraga Rd Trail	TBD		●	
6. South Reach: Moraga Road Overlook	$120,000		●	
7. East Reaches 1&2: Channel Enhancements	$750,000		●	●
8. East Reach 1: Creek Connections	$300,000		●	
9. East Reach 1: First Street Overlooks	$135,000	●		
10. East Reach 2: Second Street Overlooks	$135,000	●		
11. East Reach 3: Gazebo Park - Creek Terrace	$200,000			●

Table 8-1: Project list for City-sponsored creek improvements

uses and the parking in-lieu fee program. In many cases, the proposed creek enhancements compete for space currently used for parking. As conceptual designs in this plan are applied to specific projects, the updated parking ordinance will provide important guidance for mitigating any parking impacts.

POTENTIAL FUNDING SOURCES

The projects and improvements described in this plan will require funds for design, construction, maintenance and, in some cases, acquisition of land or an easement. A wide range of funding mechanisms should be considered, so that the Plan can be implemented incrementally as opportunities arise. Having an adopted plan for creek enhancement should help the City attract funds for implementation. Following are some currently available sources of potential funding.

STATE GRANTS

Some of the most common funding sources for large creek restoration projects are government grants. The State or California administers a number of grants intended to improve habitat value, improve water quality, and educate the public about resource conservation. Private property owners are typically eligible for these grants if their projects involve a partnership with a public agency or non-profit organization and they commit to maintaining the funded improvements for a time period specified by the grant program. Among the currently active grant programs administered by the State are:

- California Department of Fish and Wildlife: The State Wildlife Grant Program provides Federal grant funds for the development and implementation of programs for the benefit of wildlife and their habitat, including species that are not hunted or fished. The program funds conservation actions for the wildlife species of greatest conservation need identified in California's State Wildlife Action Plan. The northwestern pond turtle is a species of special concern.

- California State Parks: The California Wildlife Protection Act of 1990, Chapter 9, Fish and Game Code 2780-2799.6 was enacted to provide funding in the Habitat Conservation Fund. Funding categories include the following: ... (c) The acquisition of habitat to further implement the Habitat Conservation Program. ... (f) The acquisition, restoration, or enhancement of riparian habitat. (g) The acquisition or development of wildlife corridors and urban trails, which bring urban residents into park and wildlife areas. (h) Nature interpretation, educational, or other enrichment programs that bring urban residents into park and wildlife areas.

- Wildlife Conservation Board: California Riparian Habitat Conservation Program supports a coalition of State, Federal, local and private organizations whose mission is to develop a coordinated approach to the protection of riparian ecosystems. Grants are awarded for the protection, restoration and enhancement of riparian habitat systems.

- Wildlife Conservation Board: Land Acquisition and Habitat Enhancement and Restoration Program - San Francisco Bay coastal wetlands and watersheds - provides funding for acquisition and habitat restoration projects for protection and restoration of coastal wetland and watersheds within the San Francisco Bay area

- California Coastal Conservancy: Proposition 1 Grants are competitive grants for multi-benefit ecosystem and watershed protection and restoration projects, consistent with the purposes detailed in Chapter 6, "Protecting Rivers, Lakes, Streams, Coastal Waters and Watersheds" of Proposition 1. The Conservancy identified priorities for Proposition 1 expenditures based on the priority issues within its jurisdictions, review of existing State plans, and determination of projects that achieve multiple benefits, serve disadvantaged communities and result in quantifiable outcomes. The four identified priorities are: Water Sustainability, Protect and Enhance Anadromous Fish Habitat, Wetland Restoration, and Urban Greening. Proposition 1 allocates $100.5 million to the California Coastal Conservancy. Grant guidelines were recently revised and new grant cycles began in FY 2016/17.

- California Natural Resources Agency: California Urban Rivers Grant Program is a competitive program that awards grants to projects that meet at least two of the specified statutory conditions, which include: use of soils, plants, and natural processes to treat runoff; create or restore native habitat; and increase regional and local resiliency and adaptability to climate change. The Agency anticipates two funding cycles with approximately $9.3 million available to award in each cycle for the California Urban Rivers Grant Program. There are no minimum or maximum grant amounts for this grant program. The first grant cycle is underway. The Agency also administers the California River Parkways project, which is currently closed pending further State budget clarifications. A cycle was completed in 2015, providing $7.6 million statewide with a maximum $500,000 per project. A grant cycle in 2010 awarded $1,836,800 to the City of Hercules for their Chelsea Wetlands Restoration Project which restored 5.2 acres of tidal floodplain marsh, and $1,850,000 to the City of San Pablo for their Wildcat Creek Trailhead Park & Creek Daylighting project.

AGENCY AND FOUNDATION GRANT SOURCES

- RWQCB Mitigation Funds: A potential funding source for creek restoration projects is RWQCB mitigation funding required of developers whose projects have resulted or will result in loss of riparian habitat, particularly within the Walnut Creek Watershed. These funds must typically be used for restoration projects within the same watershed, and may be used for construction, or for studies required for the planning or advancement of restoration projects (e.g. hydraulic studies, geotechnical studies). Projects such as the removal of the culvert beneath the Methodist Church parking lot in the South Reach could be suitable for such funding. Approval of appropriate mitigation projects would be determined by the Regional Water Quality Control Board and typically include site control and land tenure requirements if the project involves private property.

- Measure WW Grants: Measure WW was passed by voters in 2008 to help the East Bay Regional Park District meet the increasing demand to preserve open space for recreation and wildlife habitat, as well as making 25% of the funds available directly to cities and special districts for high priority community park projects. Acquisition and restoration of creeks in urban cores is a specifically listed project under Measure WW, which allocated $8 million for EBRPD to work with cities and community organizations to restore urban creeks and acquire creek easements. In 2017, EBRPD will make an initial allocation of $1.6 million to local jurisdictions and community organizations on a competitive basis thru an Urban Creeks Grant Program. At least two projects proposed in the Downtown Creeks Plan are likely to be eligible for Measure WW funding - restoration and access to the West Reach (on City of Lafayette property), and improvement to East Reach 3. The East Reach 3 project at the confluence of Lafayette and Las Trampas Creeks is located on both EBRPD property and City of Lafayette. Acquisition of creek easements could also facilitate restoration efforts on private properties.

- Rose Foundation for Communities and the Environment: This foundation gives grants for projects designed to benefit the water quality of many of California's watersheds and their ecosystems. Funding is granted through either their California Watershed Protection Fund, or the Northern California Environmental Grassroots Fund. Funding fluctuates, and the process is very competitive.

- Gordon and Betty Moore Foundation: Among its programs, this foundation funds conservation projects in the San Francisco Bay Area, with the goal of maintaining and, where possible, increasing the Bay Area's biodiversity, ecosystem services and nature-based recreation opportunities.

CITY FUNDING SOURCES

- General Fund. The City's General Fund contains moneys available at the City's discretion for capital improvement or maintenance projects. Allocating these funds to a project in the Downtown Creeks Plan would require approval by the City Council.
- Development Impact Fees. The City assesses various fees for development and redevelopment projects. As development or redevelopment occurs along the downtown creek corridors, several fees may be triggered that could be used to fund public improvements. Such fees include Parkland and Park Facilities Fees (which could be applied to creekside pathways or overlook/gathering areas), Walkways Fee, and the Drainage Fee (which could fund LID drainage projects).

- Dedication of Property. Voluntary dedication of setback area or creekside pathways for public use may occur when the property owner obtains some benefit (such as increased pedestrian traffic, reduced parking requirements, height variances or the like). Dedication of property or public improvements may be required by the City as a condition of approval of development or expansion of use, as long as a rational nexus and rough proportionality are established. For example, the creekside trail in the Shield Block is part of the City's Trails Master Plan, and as such, the City may acquire a trail easement as a condition of approval for development if the appropriate nexus relationship between the easement and the development can be established. Alternatively, the City, in conjunction with the County, could enact an ordinance in accordance with Government Code Section 51200 et. seq., the California Land Conservation Act of 1965 or the Williamson Act, which would permit the City to acquire trail easements from landowners in return for lower tax assessments on that portion of the property. As a trail established pursuant to the Trails Master Plan, the City's Parks, Trails and Recreation Department could be responsible for maintenance of the trail.

- Public Art Fund. In-lieu development fees, general fund allocations, maintenance endowments, awards, grant moneys, and monetary gifts are placed in the City's Public Art Fund. This fund is used exclusively to:

  -- Provide sites for public art;
  -- Acquire or install public art;
  -- Commission public art for a specific site; and
  -- Maintain the City Public Art Collection.

This fund could potentially be used to incorporate public art in creek enhancements constructed on public property.

IMPLEMENTATION PARTNERS

Key implementation partners in this plan are the owners through whose properties the majority of the creek reaches are located. Partnership may take many forms, for example:

- Property owners may form a Special District, which in exchange for defined benefits, they contribute to a creek enhancement and improvement fund enabling the City to maintain the creeks.
- The property owner may grant access along top of bank for a creekside path or creek overlook area, granting the City an easement, and the City may construct the path and associated improvements.
- The property owner may undertake a revegetation project, and the City may accept maintenance responsibility for the area.
- The property owner may contribute fees to a fund for ongoing creek maintenance, which could be coordinated and implemented by the City.
- Public/private partnership agreements can be formed to allow public funds to be used on privately-owned properties.

Other agencies, districts or governmental organizations may be potential partners. For example, the Sonoma County Water Agency partnered with the City of Santa Rosa to create the Creek Stewardship Program, which organizes volunteers to be the "eyes and ears" of the creeks, helping to revegetate and improve the health of the creeks as well as reducing problems such as illicit dumping, water pollution, illegal camping, bank erosion and growth of non-native invasive plants. A number of existing organizations are potential partners for stewardship of Lafayette's downtown creeks, which may include organizing and participating in creek cleanup days or removal of invasive plants. Such groups might include:

- Sustainable Lafayette
- Lafayette Environmental Task Force
- Walnut Creek Watershed Council
- Lafayette schools
- Boy Scout and Girl Scout troops
- Lafayette Chamber of Commerce
- Service organizations (e.g. Rotary)
- Contra Costa Resource Conservation District
- Alameda-Contra Costa Weed Management Area.

PRIVATE PROPERTY IMPROVEMENTS

In order to ensure that the creeks are protected, preserved, and restored when any development, redevelopment or intensification of use is proposed on private property, baseline requirements should be included in any conditions of approval. These include:

- Identify areas of remaining natural habitat to be recognized as constraints in site planning.
- Remove invasive species from the creek channel and revegetate with appropriate native riparian species.
- Implement LID measures for stormwater runoff that would flow to the creek.

To encourage private property owners to provide additional enhancements and access to Lafayette's downtown creeks, a range of options should be made available. These might include:

- City assistance with permitting, coordination with agencies, and coordination with other project stakeholders.
- Pursuit of public/private grant funding opportunities.
- Waivers of City fees: Walkway Fees could be waived where the property owner provides a publicly accessible walkway along the creek. Parkland and/or Park Facility fees could be reduced or waived if the project includes a creek-related activity area in addition to the walkway access.
- Consideration of exception to 35-foot height limit for provision of net significant public benefit or amenities, as discussed in Chapter 4 of the Downtown Specific Plan.
- Allow certain creek enhancements consistent with the Downtown Creeks Plan within creek setback areas as discussed in Chapter 5.

PERMITTING

A fairly detailed regulatory overview has been provided in Chapter 2 - *History, Existing Conditions and Context*. Probably the only activities that would not require some type of coordination with a regulatory agency would be removal of invasive species from tops of bank without disturbing the root systems, cutting ivy out of trees, or removing concrete debris without deforming the creek channel (i.e. creating a large hole or void).

The level of permitting or consultation required would partially depend on the level of improvements proposed. Routine maintenance and some habitat enhancement may be possible with only agency consultation. Other work such as bank stabilization may require more extensive permitting, depending on the particulars of the project. Implementation of an initial project like the Lafayette Creek West Reach Catalyst Project may result in a list of improvements that the agencies are likely to approve, and/or more clearly defined project criteria, thus reducing uncertainty for property owners. A comprehensive Downtown Creeks Plan may result in reduced permitting requirements, facilitated permitting, or reduced fees.

Bank stabilization or revegetation projects within the creek banks will likely require a Streambed Alteration Agreement from the California Department of Fish and Wildlife. Additionally, for creek projects that extend below the ordinary high water line of the creek, a Section 401 Certification from the California Regional Water Quality Control Board, and a Section 404 Permit from the U.S. Army Corps of Engineers would be required. The need for a Section 7 Consultation with the U.S. Fish and Wildlife Service is unlikely, given that the environment around the downtown creeks is not suitable to support red-legged frog or other endangered species. However, the U.S. Army Corps of Engineers would make the determination on the need for consultation where modifications to regulated habitat are proposed. For instance, if the City were to proceed now with the West Reach Catalyst Project, the Army Crops would recommend Informal Consultation with the U.S. Fish and Wildlife Service (USFWS). Some form of consultation would be useful given the delays that a project would have to go through if a listed species like California red-legged frog was found and there had been no consultation of any kind. Existing information describing the habitat, project surroundings, and habitat suitable for breeding in the project area would need to be assembled for USFWS review. There is a possibility that the USFWS would expect to see more information during the consultation. Areas of jurisdiction and estimated times for permit processing are summarized in Table 8-2.

Given the multiple agencies and jurisdictions, many property owners are generally discouraged from engaging in projects that may require permitting. Given the amount of effort and expense typically associated with the process, the City could create a significant incentive to property owners by facilitating the permitting process for downtown creek projects. For instance, the City could map areas of jurisdiction (i.e. the outer limits of riparian vegetation and the OHWM) for the Planning Area to facilitate permit processing.

Recent consultation with state agencies identified the potential to streamline creek bank revegetation if the City were to prepare a creek revegetation manual for property owners. The manual could include a planting plan to follow, and protocols for installing and maintaining the vegetation. For development projects, the manual could include reporting requirements after completion of revegetation. For voluntary projects, the manual could be supplemented by City-sponsored educational workshops and/or annual meetings with property owners to share experiences and tips for maintaining a healthy and stable creek bank. The City will continue to consult with the agencies on this concept.

In areas where improvements are desired on property owned or under easement to the Contra Costa County Flood Control District, encroachment permits would be required, as well as licensing agreements obligating the proponent of the project to maintain those improvements.

NPDES permits and the stormwater treatment features for regulated projects can potentially implement some of the creek enhancements described in this plan. These permits have alternative compliance options that allow payment of in-lieu fees or off-site stormwater treatment facilities that could further implementation of the creek preservation and restoration measures in the Planning Area.

Agency	***Jurisdiction***	***Permit Type***	***Duration for Receipt of Permit Following Application***
California Department of Fish and Wildlife	*Stream bed and banks to edge of woody riparian vegetation, as well as State-listed species*	*Streambed Alteration Agreement (Sections 1600-1603), or Incidental Take Permit (Section 2081).*	*90-120 days for Streambed Alteration Agreement; varies for Incidental Take Permit*
California Regional Water Quality Control Board, San Francisco Bay Region	*Stream bed and banks to edge of woody riparian vegetation, and wetlands*	*Clean Water Act Section 401 Water Quality Certification/Waste Discharge Requirements*	*3-6 months*
United States Army Corps of Engineers	*Streambed below ordinary high water and wetlands, under the Clean Water Act*	*Clean Water Act Section 404 (Nationwide or Individual Permit)*	*Nationwide = 3-6 months Individual= 6-12 months*
United States Fish and Wildlife Service	*Anywhere a federally-listed species may be impacted*	*Endangered Species Act Section 7 Consultation (Informal Consultation = Letter of Concurrence, or Formal Consultation = Biological Opinion)*	*Informal= 2-4 months Formal= 6-12 months*
State Water Resources Control Board, Division of Water Quality	*Discharges to the waters of the United States, under the Porter Cologne Act*	*Multiple types of discharge permits*	*1-6 months*

Table 8-2: Permitting jurisdiction and processing time for natural resource permits

DESIRED OUTCOMES AND IMPLEMENTATION REQUIREMENTS

The Downtown Creeks Plan furthers the goal of protecting and enhancing Lafayette's downtown creeks by defining more specific desired outcomes. The Plan describes implementation actions to achieve each outcome and their associated issues. Then polices, programs or other measures are proposed for the Planning Area as appropriate to satisfy these implementation actions. The desired outcomes, implementation actions/issues, and proposed polices, programs or other measures are shown in Table 8-3.

DESIRED OUTCOME:

1. Protect, enhance and expand native habitat along the creek corridors of downtown Lafayette

Implementation Actions and Issues	***Proposed Policies, Programs or Other Measures***
A. Preserve native trees and areas of native riparian habitat. *The Tree Protection Ordinance defines all trees in the downtown as Protected Trees and guidance on how to determine native riparian areas can be found in Section 6-1702. Definitions: "Native riparian species" means a tree or plant indigenous to a riparian habitat along a perennial or intermittent creek, stream or other watercourse and that is within thirty-feet of the top of a creek bank or that is beyond thirty-feet but in such proximity to a creek bank that it requires or tolerates soil moisture levels in excess of that available in adjacent uplands* *Relevant guidance from in the Downtown Design Guidelines (DDG) can be found on Page 11. All Districts: Creeks and Landscapes: Creek Goal: Development design should embrace creeks and connect the public to them. Creek Guideline 1: Maintain and restore native riparian areas. The Downtown Creeks Plan contains Table 5-2: Suitable Native Plant Species for Revegetation and Enhancement of Riparian Areas.* *Jurisdictional waters of the State regulated by the RWQCB, as well as jurisdictional waters regulated by the CDFW, extend above the Ordinary High Water Mark to the top of bank and outer edge of woody riparian vegetation where present along creeks in the Planning Area. Distinguishing the edge of woody riparian vegetation beyond the top of bank is difficult in some locations in the Planning Area, given that the riparian woodlands can integrate with the surrounding upland oak and bay woodlands.*	• *Amend the DDG to refer to the riparian vegetation guidance in the Downtown Creeks Plan (see Appendix D)* • *Consult with the RWQCB and CDFW regarding mapping the boundaries of the native riparian habitat and the OHWM in the Planning Area.* • *Consult with the RWQCB and CDFW on preparation of a Riparian Habitat Restoration Manual for Downtown Creeks to facilitate creek revegetation projects by property owners.*
B. Where appropriate, preserve mature non-native trees that contribute to the riparian canopy or other beneficial habitat values, and that are not invasive or likely to spread and replace native riparian vegetation. Preserving non-native trees should be secondary to maintaining and improving conditions for native riparian trees along the creek corridors. *The Tree Protection Ordinance defines all trees in the downtown as Protected Trees. This includes invasive non-native tree species identified for removal in Table 5-1 of this plan.*	• *Amend the Tree Protection Ordinance to allow persons to seek an exception to the provisions of the Tree Protection Ordinance if the tree removal involves trees listed on Table 5-1 of this plan (see Appendix D).*
C. Improve habitat conditions by controlling and eradicating non-native invasive species and restoring native riparian vegetation.	• *Require development applications to address non-native invasive plant species in their planting plans for riparian areas.* • *See policies, programs and other measures proposed in 1.A. bulleted item 3, above.*

Table 8-3: Desired Outcomes; Implementation Actions and Issues; and Proposed Policies, Programs or Other Measures

Implementation Actions and Issues	*Proposed Policies, Programs or Other Measures*
D. Provide necessary monitoring and maintenance to prevent re-establishment of non-native invasive species and ensure the successful establishment of desired native riparian vegetation. *The City typically requires development projects with special landscaping needs to have a Landscape Maintenance Agreement recorded on the parcel. Similar agreements are also used to ensure adequate maintenance of stormwater control features. Recording such requirements with the parcel ensures disclosure to new owners.* *For voluntary projects, the City should sponsor educational workshops and/or annual meetings with property owners to share experiences and tips for maintaining a healthy and stable creek bank.*	• *Use Landscape Maintenance Agreements to prevent re-establishment of non-native species in revegetated riparian areas for development projects in the downtown.* • *See policies, programs and other measures proposed in 1.A. bulleted item 3, above.* • *The City should consult with the Contra Costa Resource Conservation District and the Walnut Creek Watershed Council on developing workshops and annual forums to educate property owners on how to maintain a healthy and stable creek bank.*
E. Protect aquatic habitat by controlling untreated runoff from impervious surfaces, preventing the introduction of fertilizers and non-approved herbicides into creek habitats, and complying with stormwater treatment requirements for existing and future development. *This protection is provided through the Municipal Regional Stormwater Permit, Provisions C.3. requirements and is implemented through the City's Stormwater Management and Discharge Control Ordinance on new development creating/replacing 10K sq. ft. or more of impervious surface. Site Design measures (listed in Chapter 5) are required for all other projects creating/replacing 2.5K-10K sq. ft. of impervious surface and for new single family dwellings. Projects that create or replace less than 2.5K sq. ft. of impervious surface and are not single family dwellings have no requirement to treat runoff.* *The City adopted an Integrated Pest Management Policy by resolution that controls the use of fertilizers and pesticides on all parcels in the City.*	• *Consider adopting supplemental requirements for downtown creekside parcels in the Stormwater Management and Discharge Control Ordinance (see Appendix D) that would extend Site Design measures to new development creating/ replacing < 2.5K sq.ft. of impervious surface.* • *See policies, programs and other measures proposed in 2.C. bulleted items 2 through 4, below.*
F. As part of evaluating future development plans that border creek corridors consider other measures to enhance aquatic habitat such as: • *Evaluate opportunities for native riparian enhancement and restoration through daylighting of existing culverts and increasing natural habitat along the creek corridors;* • *Encourage the removal of culverts, impervious surfaces and structures where they border open creek channels, and provide possible incentives through exceptions to the 35-foot height limit to expand and enhance the riparian habitat along the creek corridors;* • *Where possible, install stormwater bioretention basins along the outer edges of the creek setback and vegetate them with native wetland species to compliment riparian habitat values of the creek corridor.* • *City coordination and facilitation of landowner efforts to properly manage, maintain and improve habitat conditions along the creek corridors of Downtown Lafayette:* • *Improving habitat conditions along creek corridors would be a new expense for most landowners. In addition, it typically triggers permitting requirements from regulatory agencies that can be costly and time consuming. Consultation with regulatory agencies can identify opportunities to improve habitat conditions while streamlining compliance with their regulations.*	• *Amend the DDG to encourage the removal of culverts and impervious surfaces where they border open creek channels (see Appendix D).* • *See policies, programs and other measures proposed in 1.D. third bulleted item, above.* • *Expedite implementation of city-sponsored projects such as Project 3, West Reach Catalyst Project, to educate the general public and landowners of the sensitivity of the creek corridors, their importance as habitat for native species, and the regulatory authority of jurisdictional agencies.* • *Pursue grants, public/private partnerships, and other funding opportunities for restoring and enhancing the creek corridors, including daylighting culverted reaches, removing stands of invasive species, and replanting native riparian vegetation.* • *Assist in completing required environmental review and securing regulatory agency authorizations for creek maintenance, creek restoration and habitat enhancement efforts of landowners.* • *Investigate areawide strategies (e.g. community improvement districts) and infrastructure programs in other jurisdictions that could help landowners cost-effectively maintain native riparian vegetation along creek banks.*

Table 8-3: Desired Outcomes; Implementation Actions and Issues; and Proposed Policies, Programs or Other Measures (cont.)

DESIRED OUTCOME:

2. Improve the water quality, reduce erosion, and increase creek bank stability in the Planning Area.

Implementation Actions and Issues	***Proposed Policies, Programs or Other Measures***
A. Address current creek erosion issues. Use techniques identified in this plan to address minor erosion issues. Compile a list of possible contractors qualified to do this work. Larger issues will require professional consultation with a licensed civil engineer.	• *Consult with regulatory agencies on effective erosion repair and creek bank stabilization techniques that are easiest to permit.* • *Develop a standard condition of approval to apply to new development to ensure proper erosion repair and creek bank stabilization (if an appropriate nexus is established), and to streamline securing regulatory agency authorizations.* • *Ask regulatory agencies for a list of contractors they have worked with on creek bank stabilization projects, and update this information regularly.* • *Pursue grants, public/private partnerships, and other funding opportunities and incentives to assist voluntary efforts of landowners to repair, stabilize and maintain creek banks.*
B. Incorporate bioretention in existing development and future improvements. *The long term health of the creek is dependent on quality of the water entering the system. As future projects and improvements are approved, one of the requirements for approval should be that any runoff from the site be mitigated by means of bioretention to help reduce the level of pollutants entering the creek. Incorporating bioretention in existing development would be voluntary.*	• *See policies, programs and other measures proposed for 1.E. above.* • *Support voluntary efforts among landowners to incorporate bioretention features on their property, including pursuit of grants, public/private partnerships and other funding opportunities.* • *Expedite implementation of city-sponsored projects such as Project 3, West Reach Catalyst Project, to educate the general public and landowners of the benefits of reducing erosion and polluted runoff into our creeks.* • *Investigate areawide strategies (e.g. community improvement districts) and infrastructure programs in other jurisdictions that could help landowners cost-effectively incorporate and maintain bioretention features on their properties.* • *Where bioretention or rain gardens reduce the number of available parking spaces in the downtown area, consider alternative locations for parking facilities or structures, or additional parking strategies to reduce the impact of the loss.*
C. Remove concrete and steel from creek. *Part of the process of returning the creek to a more natural state will be removing the non-natural material in the creek. The removal of that material ranges in difficulty, from hand removal of concrete debris to the entire restoration of the creek needed to remove concrete culverts or channels.*	• *Consult with regulatory agencies on techniques to remove concrete and steel from creeks that are easiest to permit.* • *Develop a standard condition of approval to apply to projects with creeks to ensure removal of concrete and steel debris from creeks (if an appropriate nexus is established) and to streamline securing regulatory agency authorizations.* • *Any modification to the concrete channel shall be prepared in cooperation with the Contra Costa County Flood Control District and shall require preparation of a hydraulic study of the creek to determine flow velocity, potential for flooding, and any upstream and downstream impacts.* • *Report to City Council on progress with Flood Control District's 50-Year Plan.*

Table 8-3: Desired Outcomes; Implementation Actions and Issues; and Proposed Policies, Programs or Other Measures (cont.)

DESIRED OUTCOME:

3. Increase public access to, awareness and enjoyment of, and education about Lafayette's downtown creeks

Implementation Actions and Issues	*Proposed Policies, Programs or Other Measures*
A. Create creek viewing areas, including pathways adjacent to the creek, overlooks from the sidewalk where creeks cross public streets, and gathering areas such as parks or plazas with physical or visual access to the creeks. *The creek enhancements described in this plan are consistent with the DDG.* *The DSP identifies sites for future parks including the "Town Green" at Lafayette Circle East, "Library Park" at the southeast corner of Golden Gate Way and First Street, and "Gazebo Park" at Golden Gate Way and Mt. Diablo Blvd.* *Sidewalk gaps exist where Lafayette Circle East, First Street, and Second Street cross creeks. These locations are included in the Master Walkways Plan and upgrading walkways at these locations could be eligible for the Walkway Fee program.* *Enhancements to the Lafayette Creek flood control channel must address the needs of the landowners and the Flood Control District.* *Project 11, East Reach 3 Gazebo Park - Creek Terrace, is located on property owned by the East Bay Regional Parks District (EBRPD) and the Contra Costa County Flood Control District ("Flood Control District"). EBRPD Measure WW allocated $8 million for EBRPD to work with cities to restore urban creeks.* *Increasing public access to creeks can impact the privacy on nearby residential areas and increase exposure to nuisances from others. The City has addressed similar concerns with trail facilities by adopting Trail and Trail Easement Rules, Restrictions and Regulations in Chapter 8-22 of the Municipal Code.* *Providing amenities in creek corridors will impose new maintenance costs on landowners.*	• *Consider revising the Downtown Design Guidelines, Park & Circulation guidance for bicycles, to include placement of bicycle parking at the entrance to pedestrian zones (see Appendix D).* • *Designate a city-sponsored creek enhancement project such as Project 3, West Reach Catalyst, has a high priority for the City's Capital Improvement Program to demonstrate the amenity of our downtown creeks to landowners further east, and to provide a model for potential creek improvements in other areas of the City.* • *Incorporate proposed downtown parks as priorities eligible for funding through the Parkland and Park Facilities Fee program.* • *Consider incorporating the paths from East Street to Lafayette Circle and from Moraga Road to Golden Gate Way in the Trails Master Plan (see Appendix D).* • *Prioritize use of revenue from the Walkway Fee program for constructing the walkway portions of the creek overlooks at Lafayette Circle East, First Street, and Second Street if these walkways meet the requirements of the fee ordinance..* • *Meet with the Flood Control District to determine specifications for the path and ornamental fencing along East Reaches 1 and 2 that would be allowed under existing easement, and maintenance costs. Obtain verification from the Flood Control District on the conditions required for construction of a pedestrian path on the north side of the Lafayette Creek flood control channel. Meet with landowners to review path and fencing design details. Follow up with an encroachment permit from the Flood Control District and, if needed, an agreement with Flood Control District and landowners.* • *Meet with EBRPD and the Flood Control District to determine requirements for a Cooperative Agreement to implement Project 11, East Reach 3 Gazebo Park - Creek Terrace, and other proposed creek enhancements.* • *Apply for EBRPD Measure WW funding for downtown creek enhancement projects.* • *Consider the need to adopt an ordinance for public areas of creek corridors, similar to the rules for trail use.* • *Design creek enhancements to minimize impacts of noise and lighting on adjacent landowners and impacts to the well-being of residential areas.* • *Investigate areawide strategies (e.g. community improvement districts) and infrastructure programs in other jurisdictions that could help landowners cost-effectively maintain amenities in creek corridors.* • *Where proposed access improvements reduce the number of available parking spaces in the downtown area, consider potential locations for additional parking facilities or structures, or additional parking strategies to reduce the impact of the loss.*
B. Install a creek icon where a creek is visible from the public right-of-way, or where access to a creek occurs from a public right-of-way to highlight the presence of the creek.	• *Specify locations for installation of icons/identity markers* • *Consider authorizing Public Works Director to design, fund and schedule creek icon installation at specified locations.*
C. Identify areas where interpretive signage can educate the public about the Las Trampas Watershed, the downtown creeks, riparian vegetation, habitat, and LID techniques.	• *Consider use of interpretive signage in creek enhancement projects.*
D. Incorporate public art to enhance awareness of the downtown creeks, in the form of decorative railings, paving treatments, murals, sculptures, or other forms that celebrate the creeks.	• *Consider using the Public Art Committee to organize a Request for Proposals by invitation for design of icons, fencing, identity markers and interpretive panels used in creek enhancements.* • *Consult with Public Arts Committee on potential locations of public art in creek enhancement projects.*

Table 8-3: Desired Outcomes; Implementation Actions and Issues; and Proposed Policies, Programs or Other Measures (cont.)

Implementation Actions and Issues	*Proposed Policies, Programs or Other Measures*
E. Provide incentives where appropriate for construction of public access, amenities and gathering areas along creek corridors. *Creek enhancements may be required from new development as conditions of development approval where nexus and rough proportionality requirements are met. When nexusand rough proportionality requirements are not established, incentives are often needed to obtain the desired creek enhancement from new development. Incentives to landowners may also be needed where there is little prospect for redevelopment that would allow the City to otherwise obtain creek enhancements in a timely manner.* *The current Creek Setback requirements allow landowners to seek exceptions for setback requirements of structures from the top of bank of an unimproved creek channel. The city engineer may approve an exception to allow construction of structures within the setback area. In granting an exception, the city engineer may impose conditions deemed necessary for creekside erosion protection and on-site drainage.*	• *Consider allowing additional building height or regulatory assistance to landowners as incentives for the public benefits of creek enhancements that exceed nexus and rough proportionality requirements (see Appendix D).* • *Consider enacting an ordinance allowing for reduction of property taxes on portions of a property where a landowner has granted an easement to the City for public access along the creek corridor.* • *Revise the ordinance for the City's Creek Setback requirement to allow construction of creekside paths and viewing areas within the creek setback area as described in Chapter 5, (see Appendix D).*
F. Mitigate for loss of parking from creek enhancements. *According to the City's 2017 Downtown Parking Inventory, the downtown has 9,938 off-street parking spaces (Private = 9,476 and Public = 462) and 1,214 on-street parking spaces.* *At full implementation, up to 40 on-street spaces and 51 off-street spaces would be removed to accommodate all proposed creek enhancements. This is a long term vision so this loss of parking would occur gradually over a number of years and represents less than .01% of the downtown parking supply..* *North Reach – Mt. Diablo Blvd. bulb-out, would require consolidating two parking lots north of Happy Valley Creek.* *The North Reach-Shield Block Trail, would require consolidation of all the parking lots north of Happy Valley Creek.* *South Reach - Daylight Lafayette Creek, would include mitigating for loss of parking, loss of parking revenue and loss of a storage facility to the landowner.* *The parking impacted by South Reach – Moraga Road Education Garden, is required for the La Fiesta Square project.* *East Reaches 1 & 2-Visual and Physical Creek Connections, requires consolidation of parking lots pursuant to the City's Plaza Way Zoning Overlay.*	• *Consult with the Parking Ordinance Committee on potential parking losses and mitigation measures including: Mitigate for the loss of parking from creek enhancements, such as by replacing parking with other conveniently located spaces or improving management of the existing supply (e.g., pricing, time restrictions, consolidation of adjacent parking lots).* • *Seek ways to minimize parking losses during the design phase of creek enhancements.* • *Prior to design of a creek enhancement that impacts parking, consult with potentially affected landowners and businesses and involve the public in the project development process.*

Table 8-3: Desired Outcomes; Implementation Actions and Issues; and Proposed Policies, Programs or Other Measures (cont.)

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APPENDICES

Appendix-A:
Assessment Report - Existing Conditions, Land Use and Enhancement Opportunities
Appendix-B:
Community Engagement Plan
Appendix-C:
Project Costs
Appendix D:
Recommended Amendments to City Codes, Plans and Guidelines

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APPENDIX A: ASSESSMENT REPORT - EXISTING CONDITIONS, LAND USE AND ENHANCEMENT OPPORTUNITIES

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INTRODUCTION

An initial task in the planning process for the Downtown Creeks Plan was the preparation of a baseline assessment of the downtown creeks. The Assessment Report – Existing Conditions, Land Use and Enhancement Opportunities (Assessment Report) presents this baseline assessment. This information, along with comments from the public and landowners, provided a foundation for the recommendations contained in the Downtown Creeks Plan.

The Assessment Report is organized by the six creek reaches in the Planning Area, which are shown in Figure A-1. The assessment for each reach begins with a summary of its findings. Detailed information is then provided for:

- creek conditions – e.g. location, channel type, bank stability, flooding;
- land use context – e.g. adjacent activities and buildings;
- outdoor and pedestrian use space – e.g. paths, open spaces, fencing;
- biological conditions and features – e.g. plants and animals found in the creek; and
- opportunities for public access and use and habitat restoration.

Maps are provided for existing conditions, biological conditions and opportunities for creek enhancements. Aerial base imagery is from ESRI, parcel boundaries and topographic information is from the Contra Costa County GIS website (2015), bank condition information has been developed by ENGEO, and the biological survey has been conducted by Environmental Collaborative in September 2015. Biological Conditions maps were produced by www.digitalmappinsolutions.com on November 4, 2015. Additional mapping features were produced by Gates + Associates.

PLAN AREA REACHES

Figure A-1: Downtown planning area creek reaches studied for assessment report

WEST REACH - LAFAYETTE CREEK

SUMMARY

Location

- Located in the West End District; western gateway to Lafayette.
- Along Mt. Diablo Blvd., across from the Veterans Memorial Center

Creek Conditions

- Several areas of large and moderate bank erosion were noted along this segment.
- The 100-year Flood Zone extends approximately 50 feet at its widest point from the north and south creek banks.
- Creek conditions are natural for most of this section; there is a culvert at the western end.
- Steeply incised creek banks characterize this reach.

Land Use Context

- The parcel that largely encompasses the West Reach is owned by the City of Lafayette.
- Mt. Diablo Blvd. is located immediately north of the creek.
- Residential units and one commercial building are located on the south side of the creek.

Biological Conditions

- Black walnut trees are the predominant tree species along this creek section.
- Non-native invasive plants are found along the entire length of this section.

Outdoor and Pedestrian Use Space

- No existing outdoor use areas are located in this area.

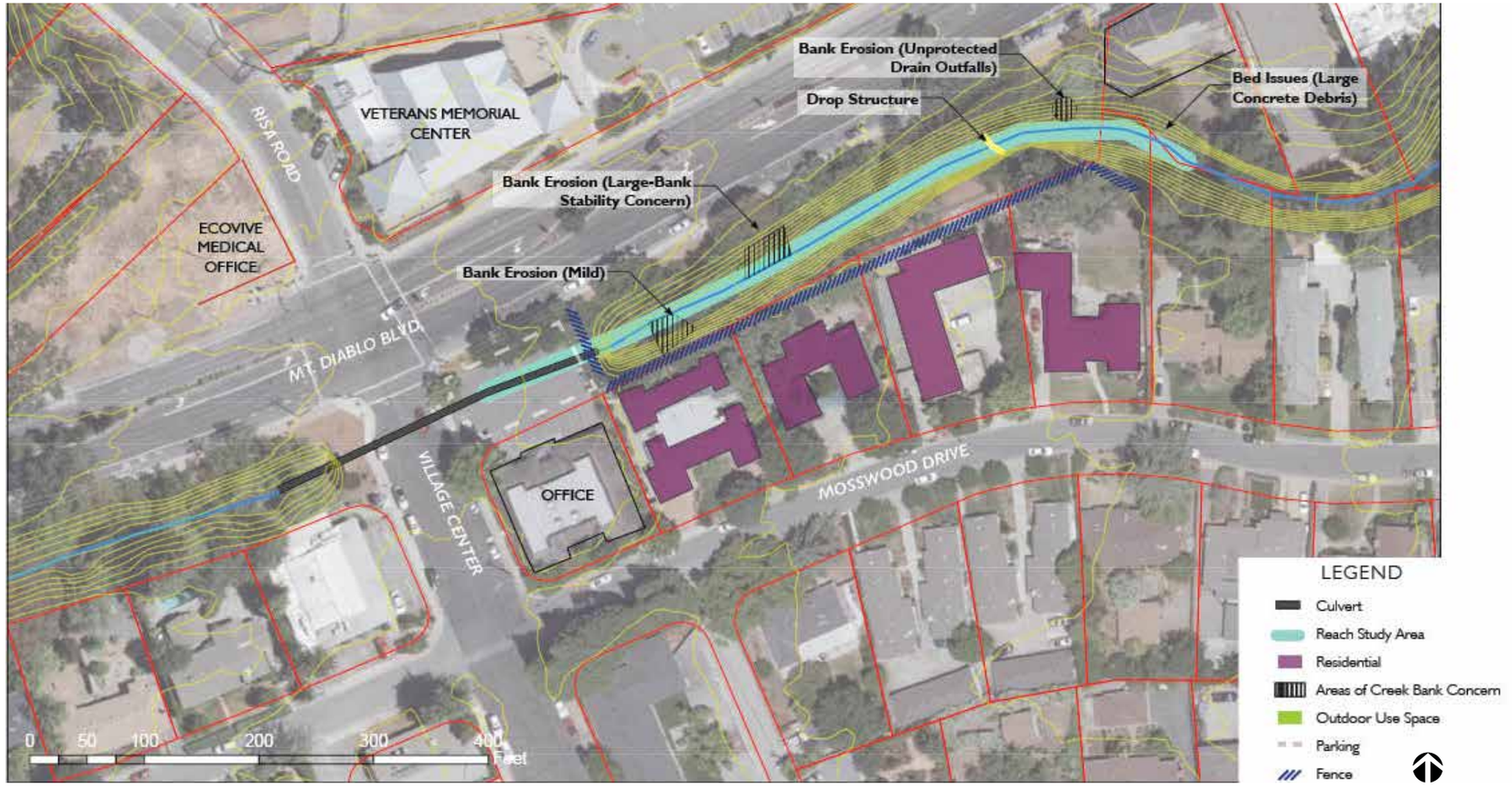


Figure A-2: West Reach Existing Conditions

Opportunities

- Address erosion issues that threaten Mt. Diablo Blvd.
- Create a riparian habitat restoration demonstration area
- Enhance the creek experience for pedestrians
- Create a bulb-out and bioretention area
- Create a gateway for Lafayette celebrating the creeks

KEY MAP

WEST REACH - LAFAYETTE CREEK

Creek Conditions

Of all the creek sections, this section of Lafayette Creek has the closest proximity to Mt. Diablo Blvd. and is easily visible to pedestrians walking along Mt. Diablo Blvd. It is the only reach in the Downtown Creeks Study area to be owned almost entirely by the City of Lafayette.

The West Reach has natural creek conditions except for the culvert that runs under the parking lot at the west end of this study area.

The banks of the creek are steeply sloped in the West Reach, and there is no floodplain.

Several areas of bank concern have been noted along this section of the creek. There are two areas of bank erosion, one unprotected storm drain outfall, and one area with bed issues where concrete debris has accumulated. The largest area of erosion and concern is located just opposite the Veterans Memorial Center. In this location, the bank is being severely undercut, exposing much of the root system of a large buckeye tree, and threatening to undermine the road stability of Mt. Diablo Blvd. Undercutting of the root zone is estimated to be between 50-70%. On the western end, there is an area of mild erosion. A drop structure is located approximately 200 feet east of the large stability concern area.

The 100-year Flood Zone extends approximately 50 feet from both creek banks at its widest points (Figure A-3), and therefore is mostly contained within this segment.

Land Use Context

Located within walking distance of the Lafayette Reservoir, the pedestrian and bike pathways are heavily used along the West Reach. Many reservoir visitors use the streets in this area to park their cars and walk up to the reservoir. This area is easily accessible via BART and nearby commercial buildings, and does represent a transitional area between Lafayette's commercial downtown and the rural area surrounding Lafayette Reservoir. As such, natural landscaping and landscaping materials are preferred in the Downtown Design Guidelines for this area.

Land use in the West End District is predominantly commercial and residential, and some civic buildings as represented by the Veterans Memorial Center. However, this section of the creek has no buildings immediately adjacent to the northern creek bank; the northern creek bank is bordered a sidewalk, bike paths, and Mt. Diablo Blvd. Residential buildings are located on the south side of the creek, however, they are separated from the creek by solid wood fencing.

No buildings fall within the perimeter of the 100-year Flood Zone, although portions of the residential yards do sometimes extend into this zone.

Outdoor and Pedestrian Use Space

Outdoor use areas include the public sidewalk, pedestrian paths and bike paths along Mt. Diablo Blvd. Some informal footpaths lead to the creek banks.

Walking path near Lafayette Reservoir along Mt. Diablo Blvd.


Veterans Memorial Center

WEST REACH - LAFAYETTE CREEK

Biological Conditions and Features

Invasive non-native plant species are very prevalent along this section of the creek. The invasive plants include English ivy (*Hedera helix*), giant reed (*Arundo donax*), and bamboo. The ivy is most prevalent, and is smothering the trees in this area.

Trees in this section of the creek include black walnut (*Juglans hindsii*), white alder (*Alnus rhombifolia*), California buckeye (*Aesculus californica*), live oak (*Quercus agrifolia*), and valley oak (*Quercus lobata*).

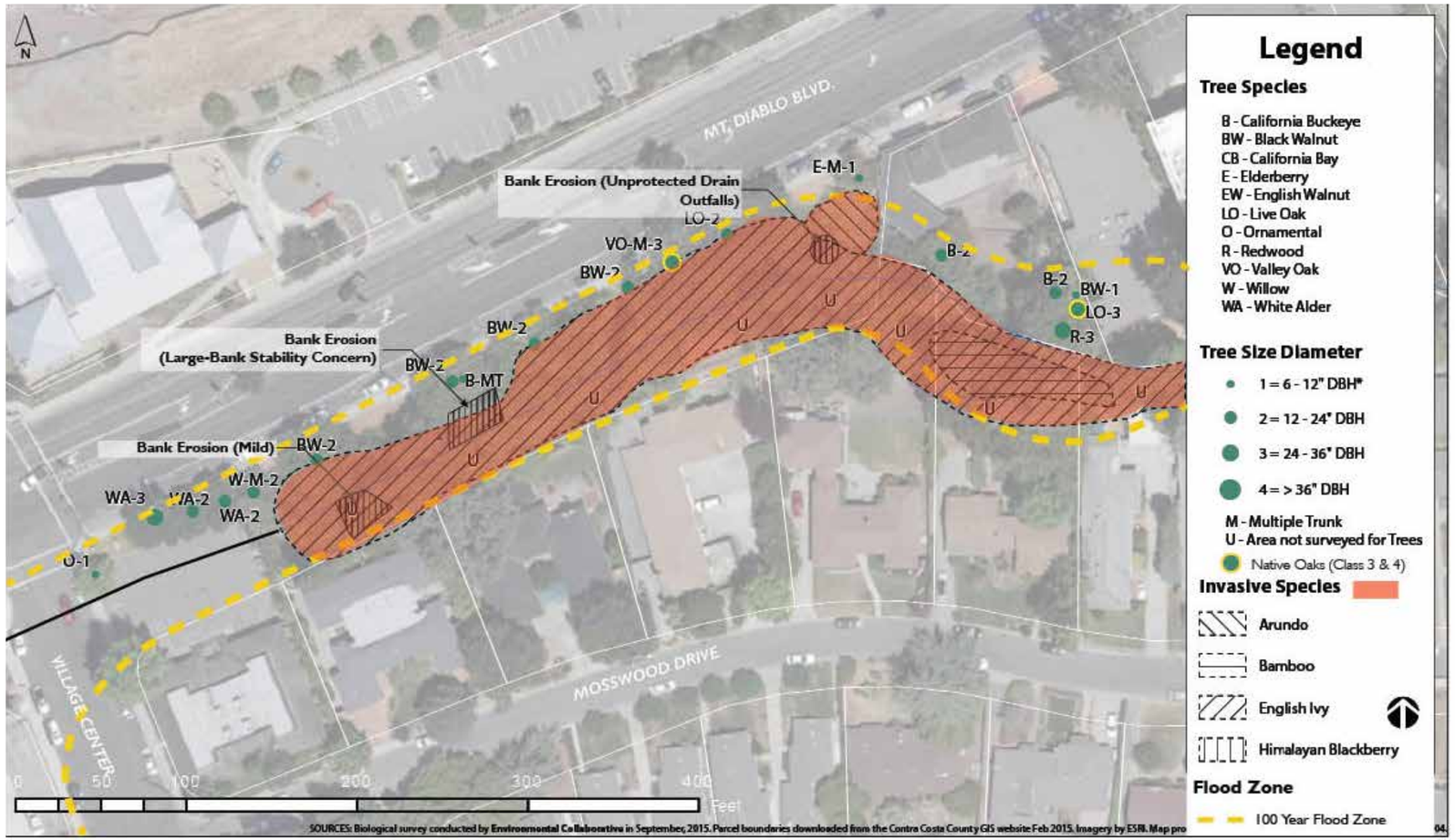


Figure A-3: West Reach Biological Conditions and 100-Year Flood Zone

WEST REACH - LAFAYETTE CREEK OPPORTUNITIES

Public Access and Use

Public ownership of this segment of the creek creates a unique opportunity to develop a gateway for the downtown area, and to create a model for creek restoration. Creating a model of creek restoration along this reach would exemplify the benefits of creek restoration to the public, and provide a blueprint for how to restore other areas of Lafayette's creeks. Private land owners could leverage this information to restore segments of the creek which they own.

To improve pedestrian access to the creek from Mt. Diablo Blvd., the on-street parking on the east bound side of Mt. Diablo Blvd. could be eliminated and replaced with a wider sidewalk (pervious paving), overlook, and bioretention area. A bioretention area would serve a dual purpose of buffering pedestrians from busy Mt. Diablo Blvd., and cleansing stormwater runoff before it reaches the creek.

An overlook deck on the western end of this creek section could serve a dual purpose of increasing public access to the creek, as well as shoring up the area of high erosion concern. A second opportunity lies further east where the bank needs to be stabilized due to erosion issues. Bank stabilization in this area could also provide creek access.

Removal of invasive species would open views to the creek from this well-traveled sidewalk.

Habitat Restoration

The natural creek conditions that exist along the West Reach have suffered extensively from non-native invasive plant species. Removing the non-native vegetation, and re-vegetating with native riparian plants, would be an important component of restoring this area of the creek to more natural conditions. Removing the ivy would also make the creek area and habitat much more open and visible to pedestrians.

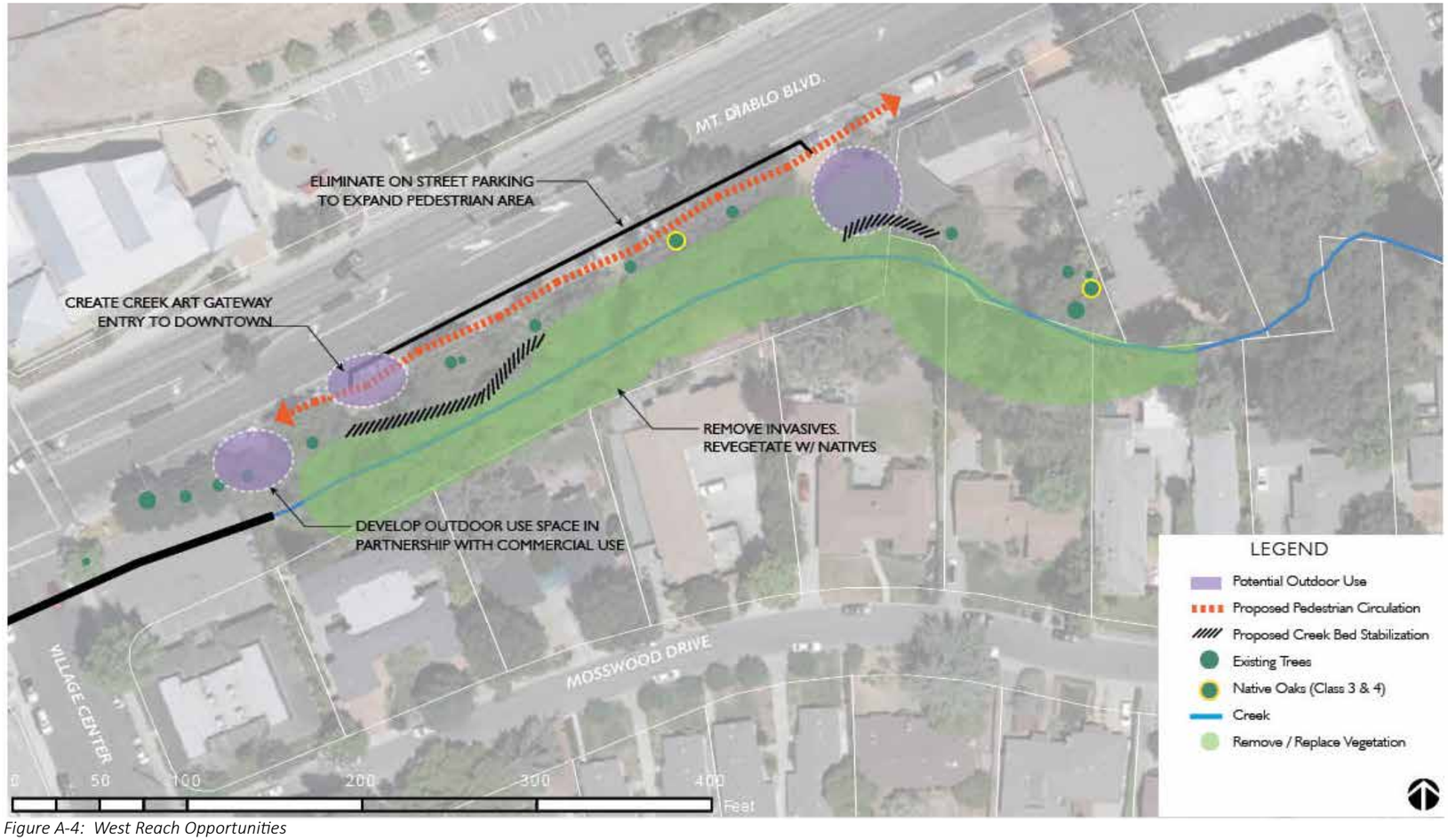


Figure A-4: West Reach Opportunities

Current creek frontage along Mt. Diablo Blvd.

Possible enhancements include a wider sidewalk with overlook.

NORTH REACH - HAPPY VALLEY CREEK

SUMMARY

Location

- Located between the western and eastern segments of Lafayette Circle, south of Mt. Diablo Blvd.

Creek Conditions

- The area is relatively flat with a minimal elevation change of approximately 16 feet.
- The 100-year Flood Zone extends approximately 75-125 feet from the creek banks at its widest points.
- Natural stream conditions with some culverts.

Land Use Context

- The creek is located on the rear property lines, often behind commercial parking lots and with limited linear access along the creek.
- High pedestrian use area due to the proximity to businesses, apartments and restaurants
- The south side of the creek is mixed-use with residential and business uses; commercial and retail uses are located on the north side of the creek.

Biological Conditions

- Some of Lafayette's largest and most attractive valley oaks are located in this reach.
- Invasive non-native plant species extend almost the entire length of the creek banks.
- Redwoods and valley oaks are the most common trees in this area.

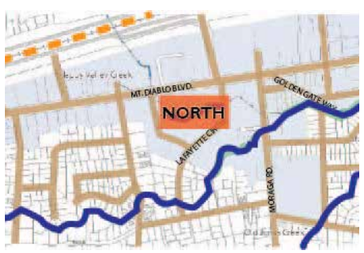
Outdoor and Pedestrian Use Space

- A short existing path along the northern edge of the creek is not connected to other pedestrian paths.
- The Downtown Specific Plan has identified a potential Town Green Park site adjacent to the creek and several large valley oaks, behind the Roundup Saloon which is located on Mt. Diablo Blvd.
- There is no public outdoor use space immediately adjacent to the creek on the south bank.

Figure A-5: North Reach Existing Conditions

Opportunities

- Create bioretention areas to improve water quality and ameliorate flooding
- Restore riparian habitat
- Improve north-south and east-west pedestrian connectivity
- Increase awareness of the creek from public rights-of-way
- Outdoor use space for commercial/restraurant/retail



KEY MAP

Existing path along a portion of parking lot does not connect to overall pedestrian network.

The Downtown Specific Plan identified the area near Lafayette Circle and the creek as a potential site for a Town Green.

NORTH REACH - HAPPY VALLEY CREEK

Creek Conditions

The North Reach is a section of Happy Valley Creek that runs through the "Shield Block," located in the central downtown area. At the western end of this reach, the creek emerges from a culvert under Mt. Diablo Blvd. and a parking lot. At the east end, the creek enters a culvert that extends eastward under Lafayette Circle and La Fiesta Square. Natural creek conditions exist in the area between the two culverts.

The conditions of the creek between the two culverts are characterized by a moderately sinuous creek shape, and steeply incised creek banks with no floodplain. However, the upland and top bank zones are relatively flat with gentle slopes. Under ordinary conditions, the water depth along this segment is approximately 2-3 feet. During rain events and high water conditions, the creek depth can increase to 8-10 feet.

Moderate levels of bank erosion are occurring on both sides of the creek at the eastern end of this reach, extending approximately 300 feet. Erosion and undercutting has occurred under a concrete walkway at the base of the concrete wall at The Cooperage American Grill building, but the extent has not been determined. Two other smaller areas (extending approximately 30-50 feet) of mild to moderate erosion have been noted further west along this reach. Most of the erosion in this area is directly related to ivy. A large rain event will likely increase erosion in this area.

The 100-year Flood Zone area extends approximately 75-125 feet from the both creek banks at its widest points (see Figure A-6).

Land Use Context

The North Reach is bordered predominantly by offices and retail businesses, and the parcels along the creek are privately owned. Located in the Shield Block, the Downtown Specific Plan (DSP) has designated this area as a primary retail center for the City. The DSP has noted that Postino restaurant, the Roundup Saloon, and the Hen House buildings, as well as the redwood trees and creek, are intrinsic to creating the small town feel in this block of the city. Due to the historical significance of the Shield Block, the DSP proposes a Town Green to be located in the area between the Roundup Saloon and the creek.

Several buildings are located within the flood zone including The Cooperage which is located entirely within the 100-year Flood Zone. Several other offices and residences on the southern creek bank are also located within the Flood Zone. The northern creek bank is flanked predominantly by parking lots. Buildings on the north side are set back farther from the creek, and only portions of those buildings are within the Flood Zone. Many of the existing buildings along the southern creek bank do not conform to current setback requirements.

Outdoor and Pedestrian Use Space

An office building located at the western end of the reach has a balcony overlooking the creek where the creek is easily visible; this property does not meet the current creek setback standard.

There is a small pedestrian trail along the northern bank at the edge of the Clocktower and Postino's parking lot. Fences between properties prevent significant pedestrian movement along the creek as well as opportunities for shared parking and more efficient use of parking areas. North-south pedestrian connections across the creek are limited to the streets.

A small bioretention area and decomposed granite walking path is located across from The Cooperage and between two parking lot areas. Under a canopy of oak trees, a historical plaque denotes this area as the former home site of Elam Brown, a pioneering Lafayette settler.

The creek experience is dominated by parking lots and dumpster areas.

The foundation wall of the Cooperage could be an opportunity for a creek mural.

Bioretention area located in the parking area across from The Cooperage American Grill

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NORTH REACH - HAPPY VALLEY CREEK

Biological Conditions and Features

Some of Lafayette's largest and most attractive valley oak trees are located in the North Reach near the planned Town Green site.

Trees located along the North Reach include native as well as some non-native tree species. Planted coast redwoods (*Sequoia sempervirens*) are the most prevalent species and serve as the primary cover, followed by valley oaks (*Quercus lobata*) and California buckeye (*Aesculus californica*). The largest and most established of the trees are the redwoods and the valley oaks.

Plant species that are located along the banks of the North Reach include both native riparian plant species as well as invasive non-natives. English ivy, a non-native invasive plant, is the primary understory plant, extending almost the entire length of the North Reach. Other invasive plant species along this segment include Giant Reed (*Arundo donax*).

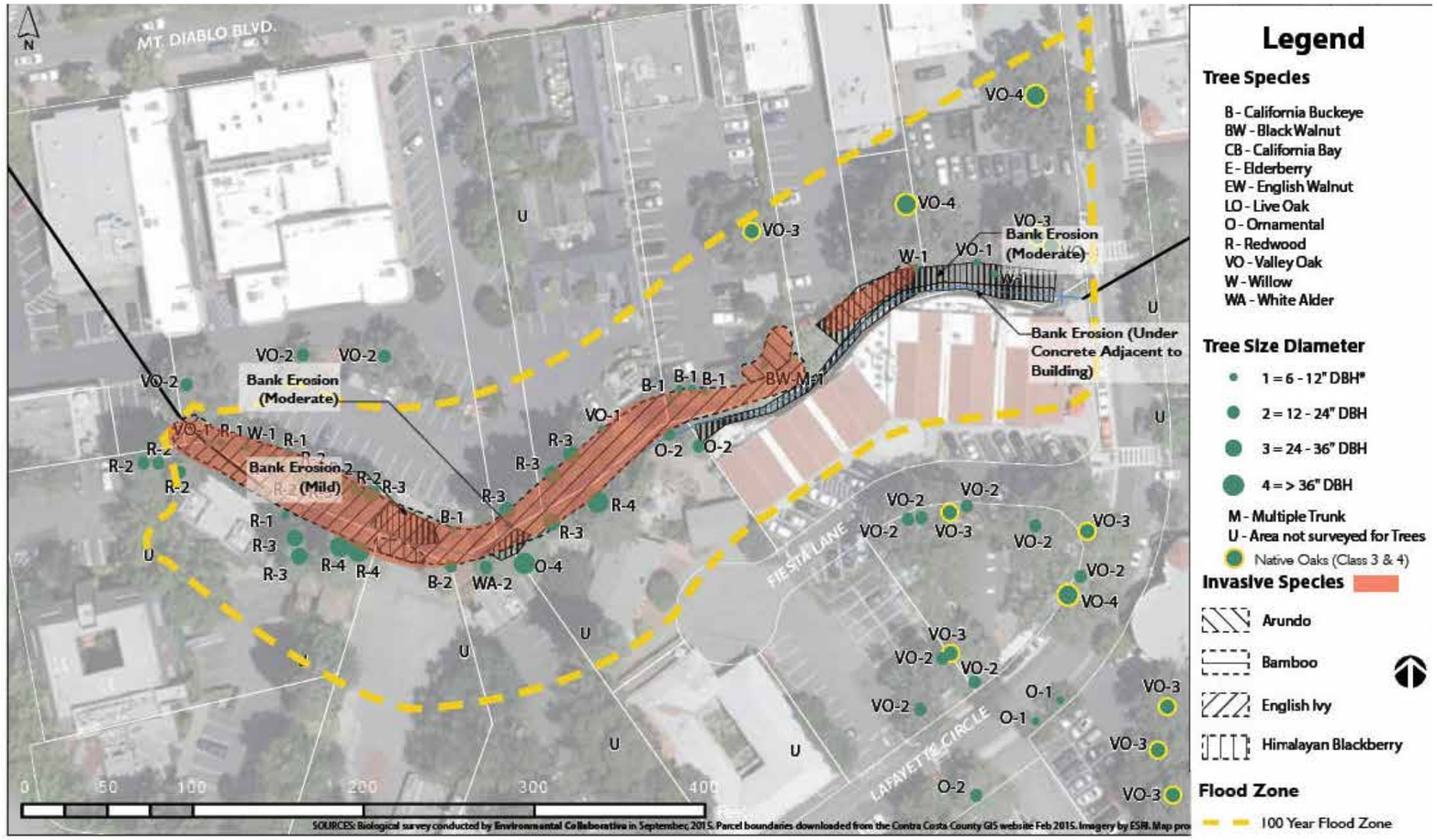

Figure A-6: North Reach Biological Conditions and 100-Year Flood Zone

Future development should better integrate use of natural resources into site design.

NORTH REACH - HAPPY VALLEY CREEK OPPORTUNITIES

Public Access and Use

The North Reach is located in one of Lafayette's historic areas known as the 'Shield Block'; as noted in the Downtown Specific Plan, the architecture and passageways of this block provide some of the best examples of Lafayette's pioneering small-town character. This area is also the former home site of Elam and Margaret Brown; Elam Brown was one of the first Lafayette settlers and purchased Acalanes Rancho, which comprises most of modern day Lafayette. Since much of this segment of the creek has natural creek conditions, and it is located in one of Lafayette's most historically significant areas, restoring the riparian habitat and conditions along this reach would further solidify and unify the historic character of the Shield Block.

The North Reach has the potential to provide an area where people could gather under the large valley oaks and enjoy the ambience of the creek after coffee, lunch, or shopping. The Downtown Specific Plan and the Lafayette Trails Master Plan recommend creekside trails through the Shield Block. Such trails would provide an easily accessible environmental education opportunity for children and adults and an area where interpretive signs could be placed along pedestrian pathways and creek overlooks. The Town Green proposed adjacent to the creek on the north side should integrate the creek experience into its design.

Some of Lafayette's most mature valley oak trees are located in the Shield Block and visible from Lafayette Circle; these trees could be highlighted for their historical and ecological significance to the city. Making these trees a focal point in the landscape by adding seating or interpretive signage would emphasize their importance to Lafayette.

Improved pedestrian circulation will be paramount to increasing public access to the creek. To achieve this goal, it will be important to connect existing east-west oriented paths along the creek bank with

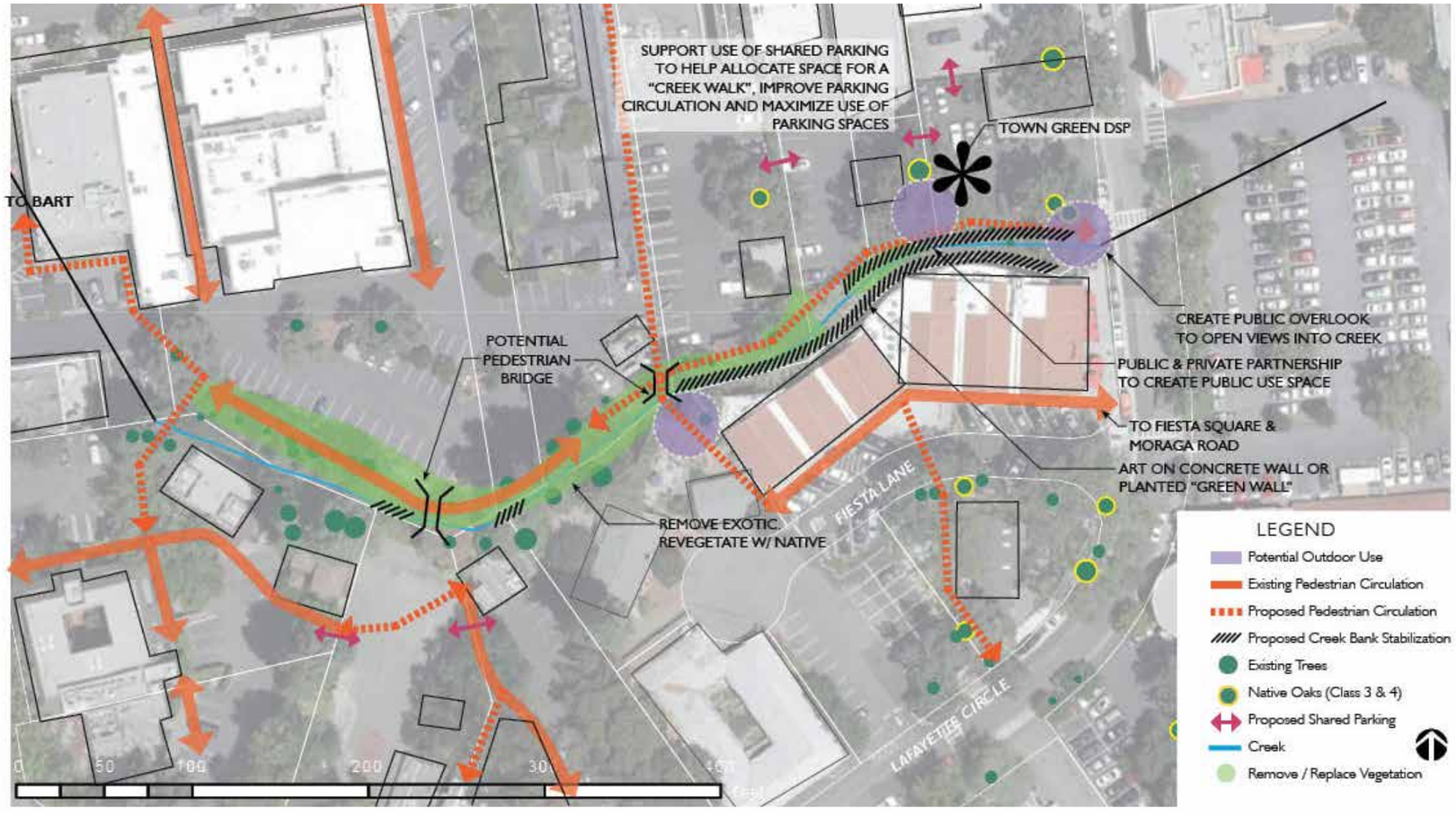

Figure A-7: North Reach Opportunities.

new paths, enabling direct access between The Cooperage, Postino, and La Fiesta Square via the creek. Additionally, it will be important to expand north-south pedestrian access across the creek, and two approximate locations have been identified in the Downtown Specific Plan as potential sites for a future bridge. A bridge across the creek would link the pedestrian activity on Lafayette Circle and Mt. Diablo Blvd. The first proposed bridge site is located toward the end of Fiesta Lane, crossing to the Postino Restaurant property. Representatives of 3565 Mt. Diablo Blvd. (Postino's) are supportive of the bridge.

The second site is located slightly further west from this site, and fewer trees would need to be removed during bridge construction. The second site has more open vantage points, and may provide a better view of the creek in both directions.

A parking garage could provide the impetus for improving the creek experience with a trail through what are currently parking lot areas. Fewer parking stalls along the creek would increase the available land for pedestrian paths and bioretention areas. In addition to the ecological benefits of bioretention

Retail uses can benefit from the special creekside ambiance.

areas (described in the Habitat Restoration section), bioretention areas can beautify an area, further enhancing the pedestrian creek experience.

Views of a creek are a significant component of the creek experience that could be enjoyed by all. A universally accessible street level overlook deck located adjacent to the sidewalk along Lafayette Circle would have a variety of benefits. An overlook with seating adjacent to the street would provide a gathering spot for visitors, its visibility from the road would increase awareness of the creek, and interpretive signage could be installed to educate visitors on the riparian habitat.

Re-imagining the concrete wall along the creek under The Cooperage as an asset could re-vitalize commercial and retail businesses along the creek corridor. A mural on this wall could integrate images or concepts relevant to a riparian ecosystem, and could also be part of the visual experience from the overlook. Another option could be to install and irrigate plants on the wall face so it becomes a “living green wall.” Additionally, outdoor dining and display areas facing the creek could be created within the creek setbacks.

The majority of improvements proposed for this area would occur incrementally over time, and would be linked to the redevelopment and improvement activities on individual properties.

Habitat Restoration

Creek restoration along the North Reach will provide numerous benefits for the riparian ecosystem and the community. Replacing the ivy with native riparian vegetation would help stabilize the creek banks and help address erosion issues. In addition to the environmental benefits, habitat restoration can be a means of community engagement through volunteer efforts to remove the ivy.

Water quality is fundamental to a healthy creek ecosystem. Runoff from parking lots during rain events is a major source of pollutants, and whenever possible, water runoff from parking lots directly into creek systems should be prevented. Since there are numerous parking lots located immediately adjacent to the creek banks in this reach, direct runoff is likely reducing creek water quality. Reconfiguring and designing the parking lots and pedestrian access through these areas could provide an opportunity to develop bioretention areas at the rear of the parking lots above the creek banks. Bioretention areas would filter polluted runoff from the parking lots, improving the water quality entering the creek along this segment of the creek. Slowing water runoff into the creeks, and allowing more water to percolate into the soil via the bioretention areas, could also ameliorate flooding risks due to constrictions at the culvert locations and loss of floodplain within the creek banks.

Earlier pro-bono planning by Restoration Design Group for the Shield Block, subsequent to adoption of the Downtown Specific Plan, developed a creek restoration concept that maximizes the natural channel restoration while integrating a pedestrian path. This concept, illustrated in the figure to the right (Figure A-8), identified a 31’ setback requirement from the toe of slope on each side pursuant to the City’s existing setback ordinance. This setback area was allocated to the creek and permitted a wider and restored riparian channel for flood water storage, habitat restoration, and a “creek walk.”

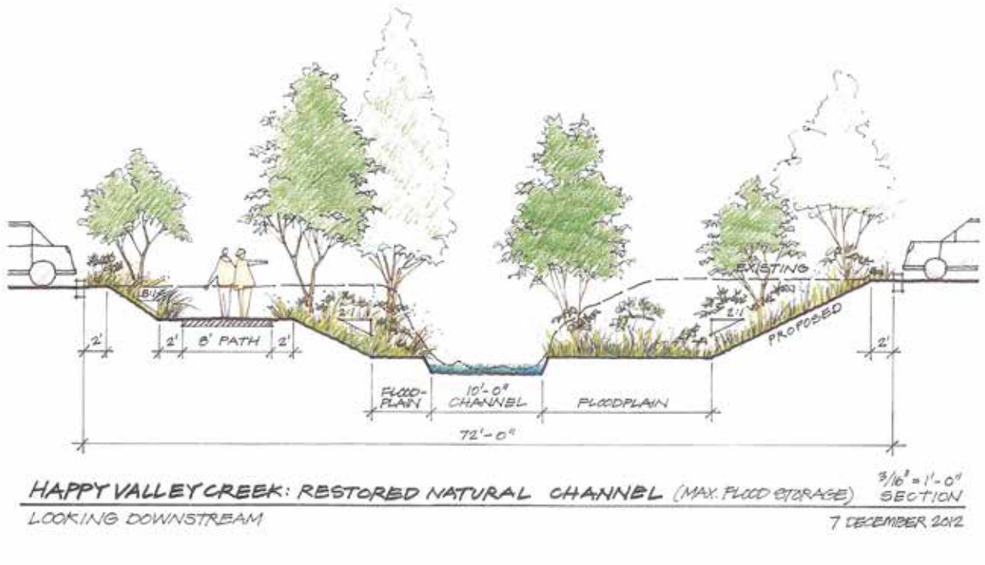

Figure A-8: Restored riparian channel concept sketch

(Source: Restoration Design Group)

SOUTH REACH - LAFAYETTE CREEK

SUMMARY

Location

- Located in the Downtown Retail District between Lafayette Circle to the north and Moraga Road to the east

Creek Conditions

- Creek banks are relatively steep; some erosion and existing support structures are in need of repair.
- Natural creek conditions except for the culvert under the parking area and access drive, and the culvert under Moraga Road.
- Due to constrictions created by culverts, the 100-year Flood Zone is quite extensive on the north side of the creek. Creekside buildings opposite the Methodist Church and most of the area upstream from the parking lot culvert are located within the Flood Zone.

Land Use Context

- Multi-family and single family residential is located on the north and northwest side of the creek.
- La Fiesta Square is located on the north side of the creek.
- Lafayette United Methodist Church is the largest building complex on the south side of the creek.

Biological Conditions

- The predominant tree species are valley oaks and non-native ornamentals.
- Invasive non-native plant species extend the entire length of the non-culverted stream bank.

Outdoor And Pedestrian Use Space

- Creekside garden and outdoor areas exist on multi-family, Futures Explored, and the church properties.
- Existing pedestrian paths connect Moraga Road to the parking areas west of the church.

Figure A-9: South Reach Existing Conditions

Opportunities

- Replace the culvert under the parking lot with a bridge, and restore the natural creek channel.
- Restore riparian habitat.
- Expand public access to the creeks via expanded pedestrian pathways.
- Develop public use space adjacent to Moraga Road.
- Add commerical/retail outdoor use space.

KEY MAP

Garden space near multi-family residences

SOUTH REACH - LAFAYETTE CREEK

Creek Conditions

The banks of the South Reach are much steeper than those of the North Reach. The steeper banks required the construction of support walls and fencing toward the western end of this section; however, these structures are now in danger of collapsing into the creek. Toward the eastern portion of this section, a deck at the Cake Box is located within the creek high water mark.

Two culverts are located along this section of creek; one extends under Moraga Road, and the other extends under the access drive to the church parking lot. Between these culverts, wooden support wall structures are in danger of collapsing, and there is an area of mild bank erosion. The slopes are steep along this creek segment, and stabilization of the creek bank is recommended.

Despite the steep banks in several areas of the creek, just north of the creek, the 100-year Flood Zone extends approximately 300 feet at its widest points, crossing Moraga Road and Lafayette Circle. Inadequate culvert capacity is largely responsible for the expansive upstream flooding.

Land Use Context

The South Reach is located in the Downtown Retail District which includes the busy retail center of La Fiesta Square located north of the creek; the area also supports a wide variety of other land uses. Immediately adjacent to the creek banks, there are mixed-use areas that include privately owned residential, retail and church properties. There are no city-owned parcels.

On the eastern end of this reach, Lafayette United Methodist Church is located along the south creek bank, and its parking lot straddles the creek. Several commercial and retail business are located opposite the church on the north creek bank along Wilkinson Lane, which connects to parking at La Fiesta Square. The creek located behind these businesses is overgrown with non-native vegetation, and the creek banks are littered with trash. Before it passes through the culvert under Moraga Road, the creek is visible from the sidewalk; the traffic noise from Moraga Road limits the auditory benefits of the creek.

Residential buildings are located predominantly near the western end of the South Reach, and consist of both single family and multi-family units.

Several commercial and residential buildings fall within the 100-year Flood Zone on the north side of the creek, as can be seen in the map on Figure A-6. Along the western end of this creek section, approximately seven residential buildings and two apartment buildings are located within the Flood Zone.

Outdoor and Pedestrian Use Space

There are eight existing outdoor use areas in the vicinity of the South Reach. The largest outdoor use area is located just outside the Cake Box and south of Sugi, on the north side of the creek, near Moraga Road; the creek area nearest Moraga Road has become overgrown and unused.

Several residential structures, Futures Explored, and the Methodist Church have created well-used creekside outdoor spaces. The multi-family residential space has a garden and children's play area located on the north side of the creek; a cyclone fence separates the garden and play area from the creek bank. The site is quiet, well removed from traffic noise, and the creek can be easily seen and heard from this garden setting. Futures Explored has also taken advantage of their creekside setting and has created a picnic area along the creek under the oaks; although this picnic area is also near the parking lot, it is quiet, and the sound of the creek can be easily heard at this site. Similarly, the Lafayette United Methodist Church garden, which has native riparian plantings and seating, also benefits from a quiet creekside setting on the south bank of the creek. At the western end of the church parking lot is a site where several shipping containers are located immediately adjacent to the creek; this site would be an ideal setting for picnic tables or other outdoor uses, and the shipping containers are not optimizing the outdoor use of the creekside setting. There is a pedestrian pathway from Moraga Road through the church lot to the parking lot that connects to Lafayette Circle. An informal pedestrian pathway connects the north end of East Street to the church parking lot. The church parking lot crosses the culvert, creating north-south access across the creek, and links to the parking lot near Futures Explored.

A number of other outdoor use spaces are located further away from the creek. A former private residence along Lafayette Circle, which has been converted to commercial space, has a relatively large garden area located behind the building. This garden area has picnic tables and is shaded by the canopy of a large pine tree. There is also a large play area located adjacent to American Kitchen, north of the creek, which can be accessed via the church parking lot.

The steep banks along the South Reach make pedestrian access to the creek bed difficult.

Creek bank adjacent to the church is overgrown.

Attention is not drawn to the creek at Moraga Road.

Culvert beneath church parking lot

SOUTH REACH - LAFAYETTE CREEK

Biological Conditions and Features

Invasive non-native plant species extend along the entire length of the banks of the non-culverted portion of the South Reach. English ivy (*Hedera helix*) and Himalayan blackberry (*Rubus armeniacus*) are the predominant invasive non-native species.

Trees located along the South Reach include native riparian as well as some non-native species. Unlike the North Reach which has an abundance of redwood trees, redwoods are scarce along the South Reach. The predominant tree species is the valley oak, and a variety of non-native ornamental trees are the second most common tree type. A number of large native oak trees have been identified along this reach.

Himalyan blackberry is forming dense thickets out-competing native vegetation, and the ivy is smothering existing trees in the South Reach. In addition to out-competing native riparian vegetation, the dense growing habit of the blackberry also limits creek access by larger animals, thereby impacting the creek flora and fauna.

A small stand of bamboo is another invasive species found on the south bank of this reach.

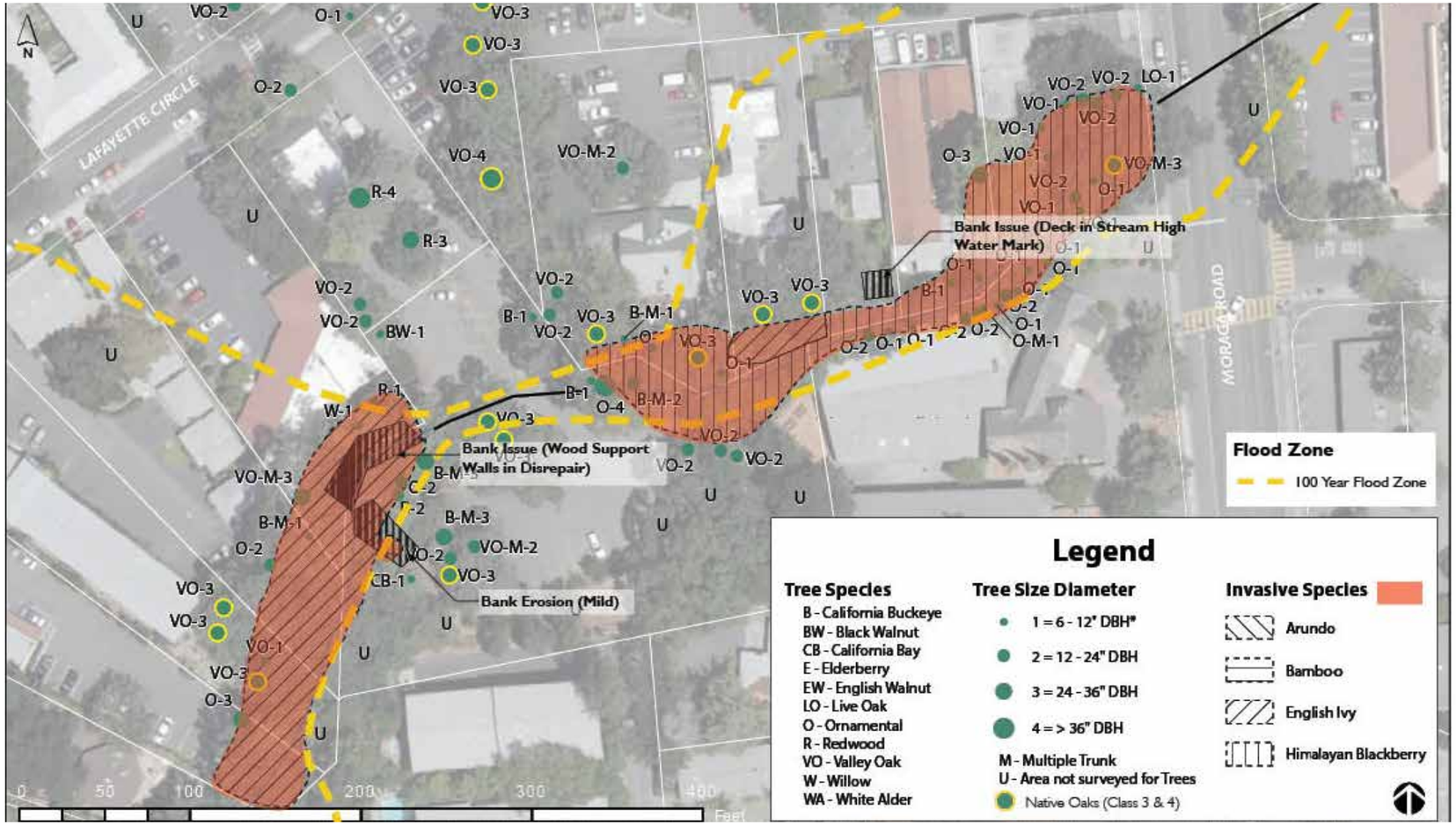

Figure A-10: South Reach Biological Conditions and 100-Year Flood Zone

SOUTH REACH - LAFAYETTE CREEK OPPORTUNITIES

Public Access and Use

New pedestrian walkways in this segment could create a more cohesive sense of place. A network of pedestrian pathways would serve to connect the church, nearby residential sites, retail businesses and the creek area more directly, thereby integrating the riparian corridor into the everyday lives of Lafayette residents. Pathways located further away from busy streets such as Moraga Road, would allow pedestrians to enjoy not only views of the creek, but also the pleasant sound of the running waters of the creek.

The natural creek conditions of the South Reach could be optimized to expand the public's interaction with the creek. Orienting retail uses toward the creek through expanded outdoor seating or patio areas would create opportunities to achieve this goal. In particular, the outdoor space near the Cake Box provides an excellent creek-facing retail opportunity.

A big community impact could be made by converting the small parking lot off Moraga Road to a public outdoor space. The high visibility of this parking lot from Moraga Road, and its proximity to the Church and the Lafayette Elementary School, could be transformative for the community. At this site, the sidewalk could be widened, and a creek overlook could be created. Cleaning up the densely overgrown vegetation opposite Sugi's would create another public space area within a grove of valley oaks in an area highly visible from Moraga Road.

These public access areas could also be locations for rain gardens or other bioretention, along with interpretive signage.

Habitat Restoration

The natural creek conditions along the South Reach make it possible to restore and enhance the habitat area and address bank stablization needs. A significant enhancement to biological conditions could be achieved by replacing the culverted creek

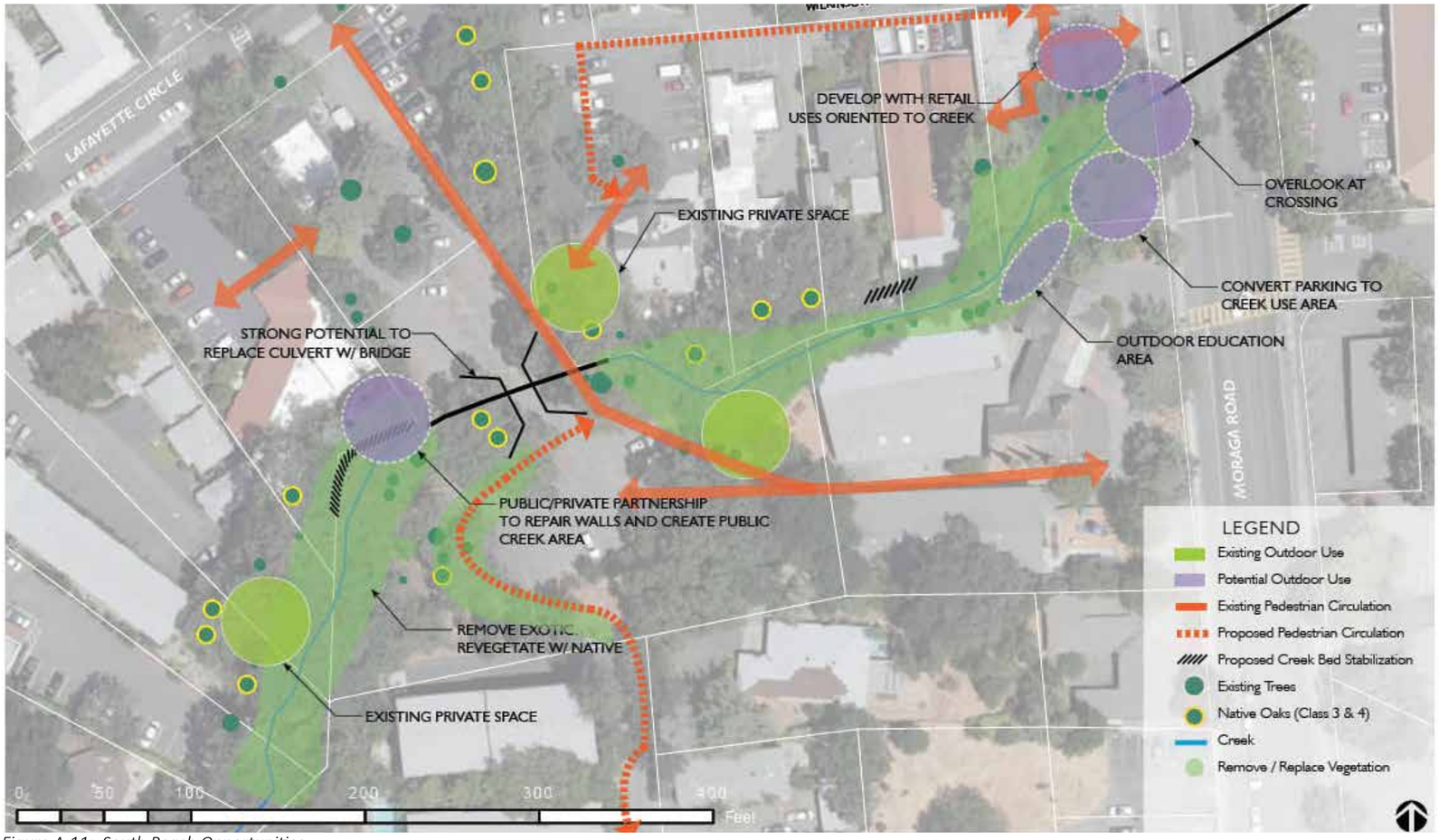

Figure A-11: South Reach Opportunities

section through the parking lot with a bridge. The hydrological impacts of removing the culvert would need to be carefully studied to ensure existing flooding problems are not worsened.

The creek banks are densely overgrown along this segment, and as a result, there is limited visibility of the creek below. Ivy and Himalayan blackberry will need to be removed to restore the area. After removal of the invasive plant species, the banks should be re-vegetated with deep rooted native plants to facilitate creek bank stabilization and to provide habitat for migration of native animals.

Signage can interpret creek features.

Overlooks can provide visual access.

Photosimulation of potential overlook area

EAST REACH 1 - LAFAYETTE CREEK (CHANNELIZED)

SUMMARY

Location

- Located in the Plaza District of the Downtown Specific Plan and the Plaza Way Character Area.
- South of Golden Gate Way (one block south of Mt. Diablo Blvd.), near First Street.

Creek Conditions

- Fenced concrete U-channel; no natural creek areas.
- The 100-year Flood Zone extends approximately 100 feet at its widest from the north and south concrete channel walls.

Land Use Context

- A variety of mixed-use and commercial buildings are located on the northern side of the creek.
- Single-family residences, multi-family residential units and parking areas are located on the south side of the creek.
- The Lafayette Library, a major community destination, is located in this area.
- The Downtown Specific Plan has a park proposed in a portion the parking lot opposite the Library.
- Public parking and pedestrian enhancements have been developed along Golden Gate Way.
- The Plaza Way Overlay District provides an opportunity for outdoor use space and pedestrian access.

Biological Conditions

- Several significant oak trees and a redwood grove are located in this area.
- Outdoor and pedestrian use spaces are located along Golden Gate Way.
- A circular bench seating area is located along Golden Gate Way near the theater.

Opportunities

- Modify / enhance the surface of the concrete channel to more closely mimic a natural creek channel and/or create more natural creek bed conditions
- Obscure the view of the barbed wire fence with taller native riparian vegetation or replace the fence
- Develop pocket parks along Golden Gate Way to link Lafayette Plaza Park to the library and future public park
- Create a pedestrian connection between Moraga Road and the Library
- Place utilities underground to provide unobstructed views of mature creekside trees

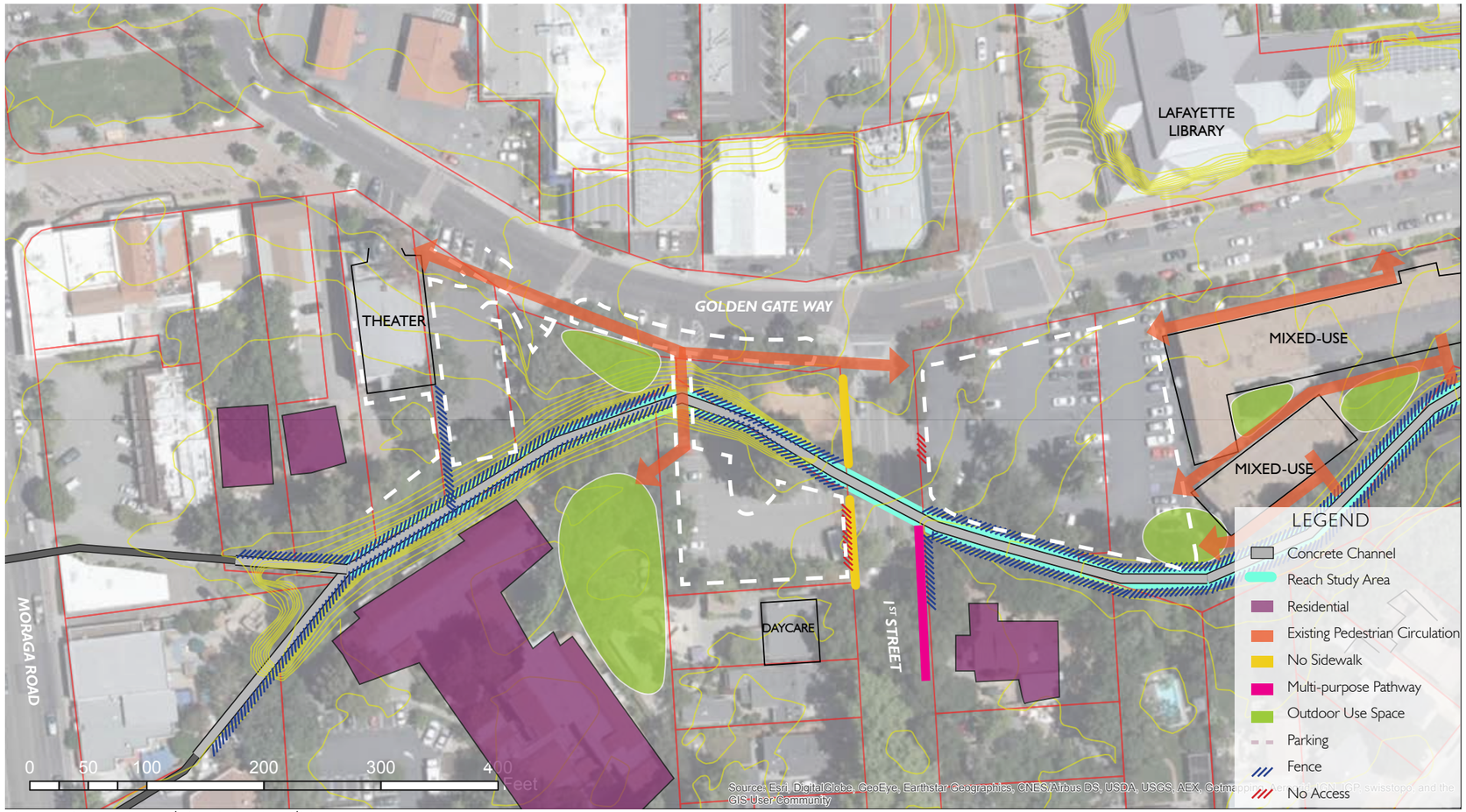

Figure A-12: East Reach 1 Existing Conditions

KEY MAP

Parking access and pedestrian link to senior residence garden

EAST REACH 1 - LAFAYETTE CREEK (CHANNELIZED)

Creek Conditions

A deep concrete U-channel, surrounded by a cyclone metal fence topped with barbed wire, extends the entire length of East Reach 1 segment. The concrete U-channel often results in dangerously high creek velocities within this segment during rain events. Additionally, the height and depth of the channel pose a public safety risk, requiring the channel to be secured with the fence. Steep creek bank slopes are found along an approximately 400-foot section at the west end of this reach, which leads to the edge of the concrete creek channel.

The cyclone fence topped with barbed wire creates a harsh and unwelcoming visual of the creek, although the tall trees along the creek bank mitigate this effect somewhat. In contrast, since this is a relatively quiet area of the city, the creek and the sound of moving water can be easily heard, creating a pleasant auditory experience.

At its widest points, the 100-year Flood Zone extends approximately 50-100 feet from the top of the concrete channel along this section. Parking lots and limited portions of some structures are located within the Flood Zone. Overall, the U-channel is effective for flood control.

The Contra Costa County Flood Control and Water Conservation District (Flood Control District) holds an easement, and maintains the channelized segments of the creek.

Land Use Context

Some of Lafayette's oldest buildings are located in this district and include the Pioneer Store Buildings, and Wayside Inn. The Downtown Specific Plan (DSP) identifies this area as the Plaza District, which is characterized by an eclectic mix of civic, retail, commercial and residential uses, anchored by Lafayette Plaza and the Lafayette Library and Learning Center. Elam Brown donated the Lafayette Plaza site to the city of Lafayette in 1852; this site was the City's first public space. The plaza is used for public events such as outdoor concerts and wine tasting events. Historic buildings, some of the oldest in Lafayette, front the Plaza.

In the DSP there is a park proposed across from the Library in what is now a parking lot for mixed-use buildings near the intersection of Golden Gate Way and First Street.

Pedestrian paths are currently limited to the sidewalks along Golden Gate Way, and the north and south sides of the creek can be accessed via a parking lot located adjacent to the senior community of Chateau Lafayette. Improved pedestrian and bicycle connectivity is one of the primary goals of the DSP for East Reaches 1, 2 and 3.

Outdoor and Pedestrian Use Space

On the east side of the theater, just above the creek, a small outdoor space is located near the parking spaces for the former Lafayette Pet Shoppe, which has a circular bench around a ginkgo tree. The ginkgo tree is not thriving because of the shady conditions created by the mature oak trees. The planting beds along the fence line have been neglected, and are predominantly compacted bare dirt with exposed drip irrigation lines. Furthermore, dumpsters are also located in this area, making the area uninviting for relaxing outdoor use.

Near the mixed use area east of First Street, at the south edge of the parking lot, is a picnic table located above the creek. An outdoor use site adjacent the channel can be reached via a walkway, through an interior courtyard in the mixed use buildings.

The senior apartment complex, Chateau Lafayette, has developed a garden area adjacent to the creek. A bridge crossing the creek from Golden Gate Way provides access to a private parking lot (purchased by City in July 2016) and pedestrian access to the Chateau Lafayette garden area.

The pedestrian creek experience is limited to the sidewalk area along Golden Gate Way.

Pioneer buildings

Parking off Golden Gate Way

Park Theater

Lafayette Library and Learning Center.

Creek channel velocity is dangerous during rain events.

Pedestrian walk adjacent to creek is unused.

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EAST REACH 1 - LAFAYETTE CREEK (CHANNELIZED)

Biological Conditions and Features

Mature tall trees, which demarcate the location of the creek, and which can be seen over the rooftops of buildings along Mt. Diablo Blvd. and Golden Gate Way, are integral to the character of East Reach 1 and its neighborhoods.

Trees located along this section of the creek include native as well as some non-native tree species. Similar to the North Reach which has an abundance of redwood trees, redwoods are fairly common along East Reach 1. There are also several significant valley oaks and live oaks in this segment.

Invasive non-native plant species are more limited along this section of the creek. The predominant invasive plant is English ivy (*Hedera helix*), located primarily along the north side of the creek.

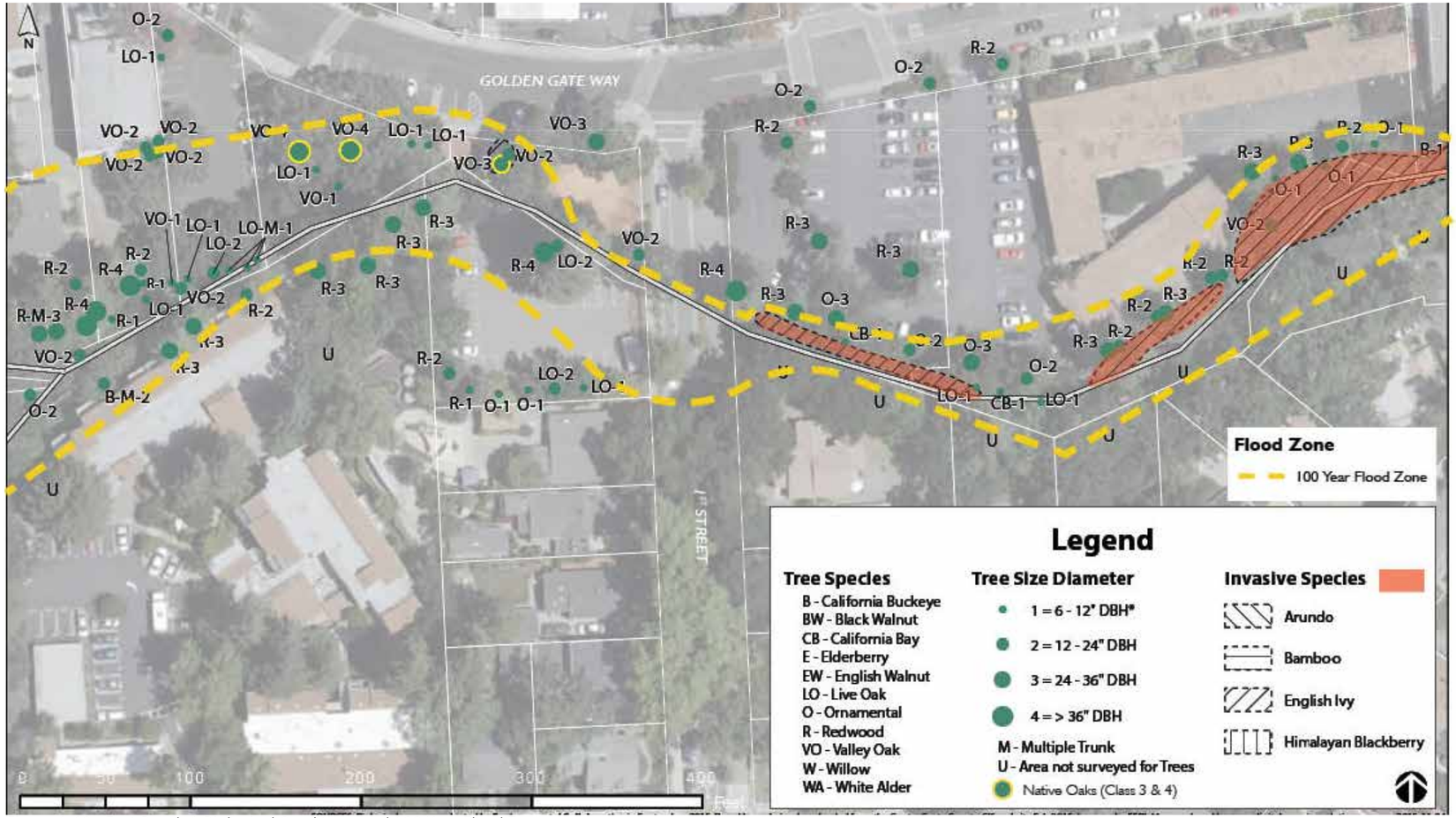


Figure A-13: East Reach 1 Biological Conditions and 100-Year Flood Zone

Mature trees highlight presence of the creek.

Treetops indicate creek corridor behind building.

EAST REACH 1 - LAFAYETTE CREEK (CHANNELIZED)

OPPORTUNITIES

Public Access and Use

The Plaza Way Overlay District encompasses nine parcels between Lafayette Creek and Lafayette Plaza. This district encourages consolidated parking to improve parking circulation, make more efficient use of parking spaces, and provide opportunities for public access and outdoor use.

To align with the DSP pedestrian goals for East Reach 1, wayfinding elements could be incorporated along the sidewalks of Golden Gate Way to direct pedestrians to areas of historical, cultural or ecological significance. For example, wayfinding elements could direct pedestrians to a new park site proposed in the DSP in a portion of the existing parking lot south of Golden Gate Way, east of First Street, across from the Library. Wayfinding elements could also be used to direct pedestrians to a terrace overlooking a visually modified U-channel with walls that mimic natural rock walls of a creek. Interpretive signage at the terrace could provide natural history and ecosystem information about the creek. The Contra Costa County Flood Control and Water Conservation District would support a pedestrian path along the north side of their channel.

The senior community of Chateau Lafayette is located along this segment of the creek, and enhancing access to Golden Gate Way and the site of the proposed future park from Chateau Lafayette could enhance the outdoor and pedestrian experience for senior citizens. Improved pedestrian access could also improve access to the library for the senior citizen community. Specifically, east-west pedestrian pathways could be added along the north side of the creek to link Chateau Lafayette to both Moraga Road and Golden Gate Way. Linking Chateau Lafayette to the site of the future park and to the library via a creekside pathway would facilitate community involvement with the residents of Chateau Lafayette.

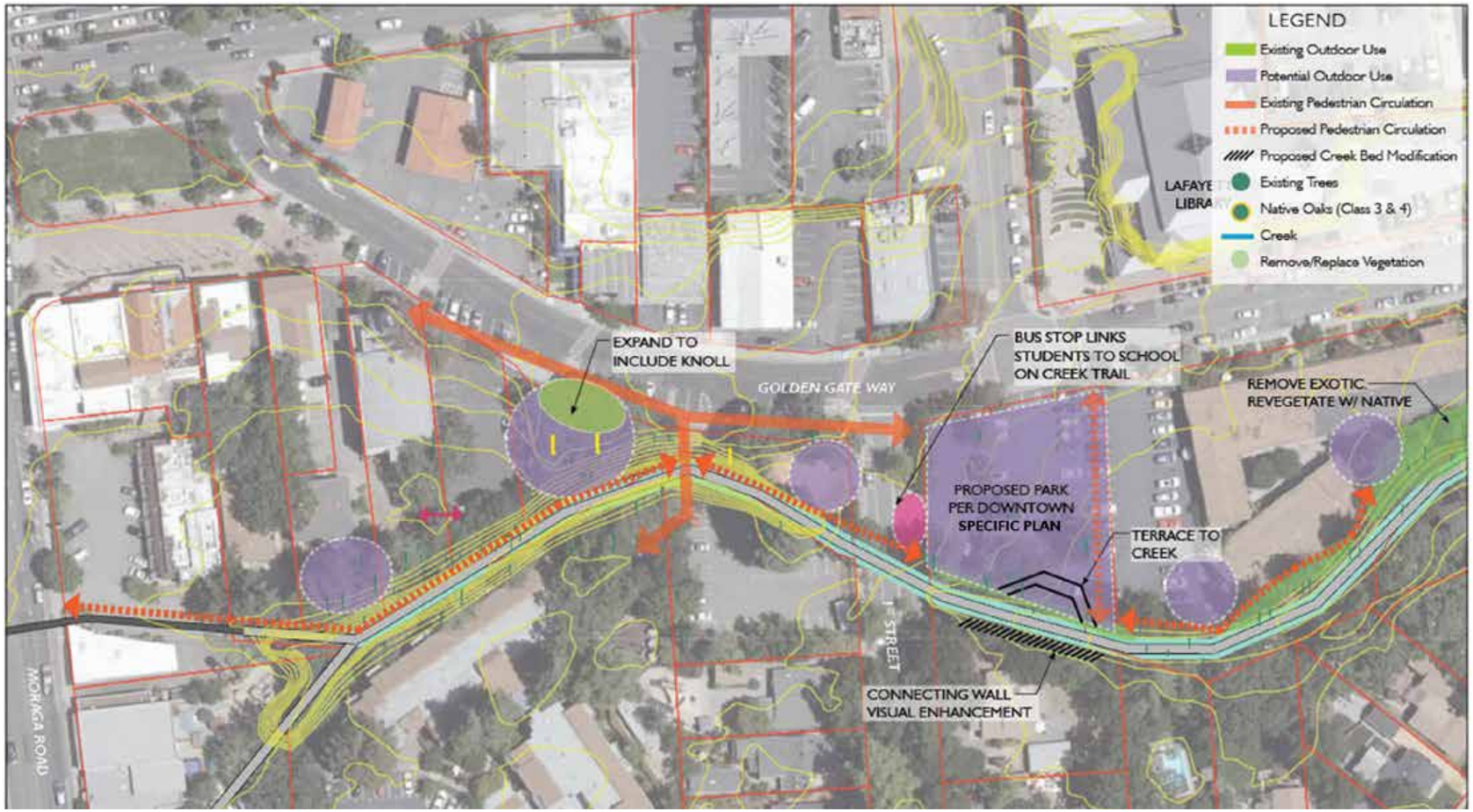


Figure A-14: East Reach 1 Opportunities

In addition to the proposed park, there are two other outdoor use opportunities located along the north side of the creek where mini pocket parks could be created. The first opportunity is located along the creek in what is currently an empty lot along Golden Gate Way. The second site is where the circular bench and the ginkgo tree are located; this area could be expanded to include the knoll above the creek into a small pocket park. This potential knoll site has several significant valley oaks which could be integrated into a pocket park where people could meet either before or after visiting the downtown.

The concrete channel wall could be enhanced as shown here.

Unused space could be improved as a creek amenity.

Two additional outdoor use areas exist near the mixed use buildings which could be expanded. At the end of the parking lot, and adjacent to the mixed used retail / housing buildings, a picnic table has been placed along the upper bank of the creek. This area could be enhanced by creating a larger green buffer zone between the picnic table and the parking lot, to provide a more serene outdoor experience; it is very easy to hear the creek from this location since the area is relatively quiet. There is an existing pedestrian path that extends along the backside of the buildings which could potentially be expanded to connect with an unused outdoor space beyond the inner courtyard of the mixed use buildings. Connecting the existing picnic area to the unused outdoor space could create a short greenery-filled walking loop which could be used by business customers and residents.

To align creek restoration activities with the DSP goal of creating a pedestrian and bicycle friendly area along Plaza Way and Golden Gate Way, raised crosswalks and intersections that were recently incorporated along Plaza Way could be extended into this area.

Habitat Restoration

The Flood Control District adopted “The 50-Year Plan” to convert its first generation infrastructure, such as the concrete flood control channel located in East Reach 1 and East Reach 2, to second generation facilities consisting of more natural creek conditions. The remaining service life of these first generation facilities is 30 to 50 years, and the objective of the Flood Control District is to begin the planning process to replace this essential infrastructure. Implementation of The 50-Year Plan is contingent on support of the affected jurisdictions and funding.

In 2014 the Flood Control District completed a Condition Assessment Report for their channelized section of Lafayette Creek, and assigned a condition rating of “3” (Good). Recommended actions included removing trees and debris away from the fencing and establishing an ongoing maintenance program for the fencing.

The 50-Year Plan supports the concept of replacing the channel with a more natural flood protection facility integrated into a redeveloped urban landscape. Such an enhancement plan for the East Reach could involve constructing a bypass pipe, an upstream detention basin, or increased upstream infiltration of storm runoff. Implementation would require an extremely long planning horizon.

A more near-term opportunity could be converting the concrete channel bottom to a natural creek bed to support a more natural riparian environment. Such concepts have been implemented elsewhere and are supported by some of the regulatory agencies. A natural creek bed has a varied bottom, and typically contains pools of varying depth that support aquatic life, provide foraging opportunities, and allow for movement by fish, amphibians and other wildlife. It allows for establishment of native emergent vegetation and rooting of larger riparian trees and shrubs such as willow, that provide some level of stability to the natural creek system. A concrete channel bottom contributes to higher flow velocities during runoff periods, preventing establishment of any native vegetation, stripping and flushing native material that would otherwise move along and contribute to the complexity of the bottom of a natural creek channel, and leaving no pools or other refuge areas for fish and aquatic species to remain within the channelized reach. Complete removal of the concrete channel bottom may, however, create conditions leading to undercutting of the channel walls and de-stabilizing the channel in this area.

SF Bay Regional Water Quality Control Board and California Department of Fish and Wildlife support modifying the bottoms of flood control channels to expose the natural creek bed.

Because many parcels along this segment of the creek are privately-owned, habitat restoration along the upper banks of this section of the creek would require the cooperation of private land owners.

The quality of water inflows into the creek along East Reach 1 could be improved by creating bioretention areas along the upper banks near the parking lot areas closest to the creek banks. The bioretention areas could also serve as a visual buffer and screen of the barbed wire fence located along this segment of the creek, and possibly even a learning opportunity if interpretive signs were used to describe the vegetation used in the bioretention area, and the cleansing value a bioretention area provides.

In conjunction with development of paths on the north side of the channel, it may be possible to explore options to create terraces along the banks of the channel, and modify the channel walls to create more visually appealing conditions. Terraces would allow people better visual access, and would enable riparian plants to be planted along the banks, thereby restoring some habitat conditions. Similar proposals, endorsed by the Army Corps of Engineers, have been made as part of the master plan for the channelized Los Angeles River. This undertaking would require additional hydraulic studies to evaluate the impact of any proposed changes.

The ivy should be removed from this section of the creek, and the area subsequently should be replanted with native plants.

EAST REACH 2 - LAFAYETTE CREEK (CHANNELIZED)

SUMMARY

Location

- The area between the creek and Golden Gate Way is located in the Plaza District.
- South of Golden Gate Way, near Second Street.

Creek Conditions

- The 100-year Flood Zone extends approximately 150 feet at its widest from the creek bank.
- Fenced concrete channel conditions; natural creek areas begin at the east end of this segment.

Land Use Context

- Retail, office and mixed-use buildings are located on the north side of the creek.
- Single-family residential is located on the south side of the creek.

Biological Conditions

- There is a significant oak tree at the Second Street intersection with the creek.
- Non-native ornamentals are the predominant tree species along this segment of creek, and redwood trees are the second most common tree.
- Non-native invasive plants are found predominantly on the north bank.

Outdoor And Pedestrian Use Space

- Existing outdoor public use space is located only along the north side of the creek.
- Backyard fences of homes are located along the south side of the creek.

Figure A-15: East Reach 2 Existing Conditions

Opportunities

- Create new pedestrian access on the north side of the channel and connect to the creek via Second Street
- Create an overlook at Second Street
- Remove non-native vegetation
- Modify / enhance the surface of the concrete channel to more closely mimic a natural creek channel and/or create more natural creek bed conditions
- Celebrate the majestic oak located on the Coral Pool property

KEY MAP

EAST REACH 2 - LAFAYETTE CREEK (CHANNELIZED)

Creek Conditions

East Reach 2 is a section of Lafayette Creek that is a little more than two blocks from Mt. Diablo Blvd., between Golden Gate Way and Moraga Blvd., and runs parallel to these streets.

Continuing from East Reach 1, the majority of East Reach 2 is fenced off with a barbed wire-topped cyclone fence, and is contained in a concrete channel. At the east end, as it transitions to East Reach 3, the concrete channel ends and natural creek conditions begin. Commercial buildings block almost all visual access to the creek along East Reach 2.

The banks of the creek are quite steep, and mostly densely vegetated.

The 100-year Flood Zone extends approximately 100-150 feet from both creek banks at its widest points.

Land Use Context

The Contra Costa County Flood Control and Water Conservation District (Flood Control District), has an easement over the channelized section of East Reach 2, and maintains this section.

East Reach 2 is contiguous with East Reach 1, and creating pedestrian and bicycle friendly streets continues to be a DSP goal in this area. Although contiguous with East Reach 1, no single-family residential buildings are located along Golden Gate Way on the north side of the creek; only commercial, retail, mixed-use buildings and parking are located north of the creek, whereas the south side of the creek has residential properties.

Near the east end of East Reach 2, the creek transitions from channelized to natural creek conditions behind the parking lot of a multi-family building. There is an informal path to the creek bank at this location.

The public interface with the creek is primarily at the creek crossing under Second Street, and there is no sidewalk along the west side of Second Street, limiting creek views at this site.

Several residential structures and commercial buildings are located within the 100-year Flood Zone.

Outdoor Use and Pedestrian Use Space

The largest potential outdoor use spaces in East Reach 2 are located in parking lots. The Thrift Store parking lot is the only area that provides public access to the creek, however, the creek is still inaccessible because of the flood control fence. The Thrift Store site has several large redwood and pine trees which provide a nice canopy. Coral Pool, located at the corner of Second Street, uses its creekside location for parking, and the parking area is fenced off and not accessible by the public.

This is a quiet area of downtown, and the sound of the creek moving through the channel can be easily heard.

Tree cover at creek corridor near the Thrift Store parking lot

Thrift Store outdoor sales area adjacent to the creek

Fences block views and interaction with the creek.

2nd Street lacks a sidewalk.

EAST REACH 2 - LAFAYETTE CREEK (CHANNELIZED)

Biological Conditions and Features

There is ample tree cover along this segment of the creek, however, non-native ornamental trees are the predominant tree type, comprising approximately 40% of the tree total. Redwoods are the second most prevalent tree type.

There are large valley oak trees located on the Coral Pool property, which are remnants of the riparian woodland, and a significant natural resource.

Invasive non-native plant species are not as prevalent along this section of the creek, and the predominant invasive plant is ivy.

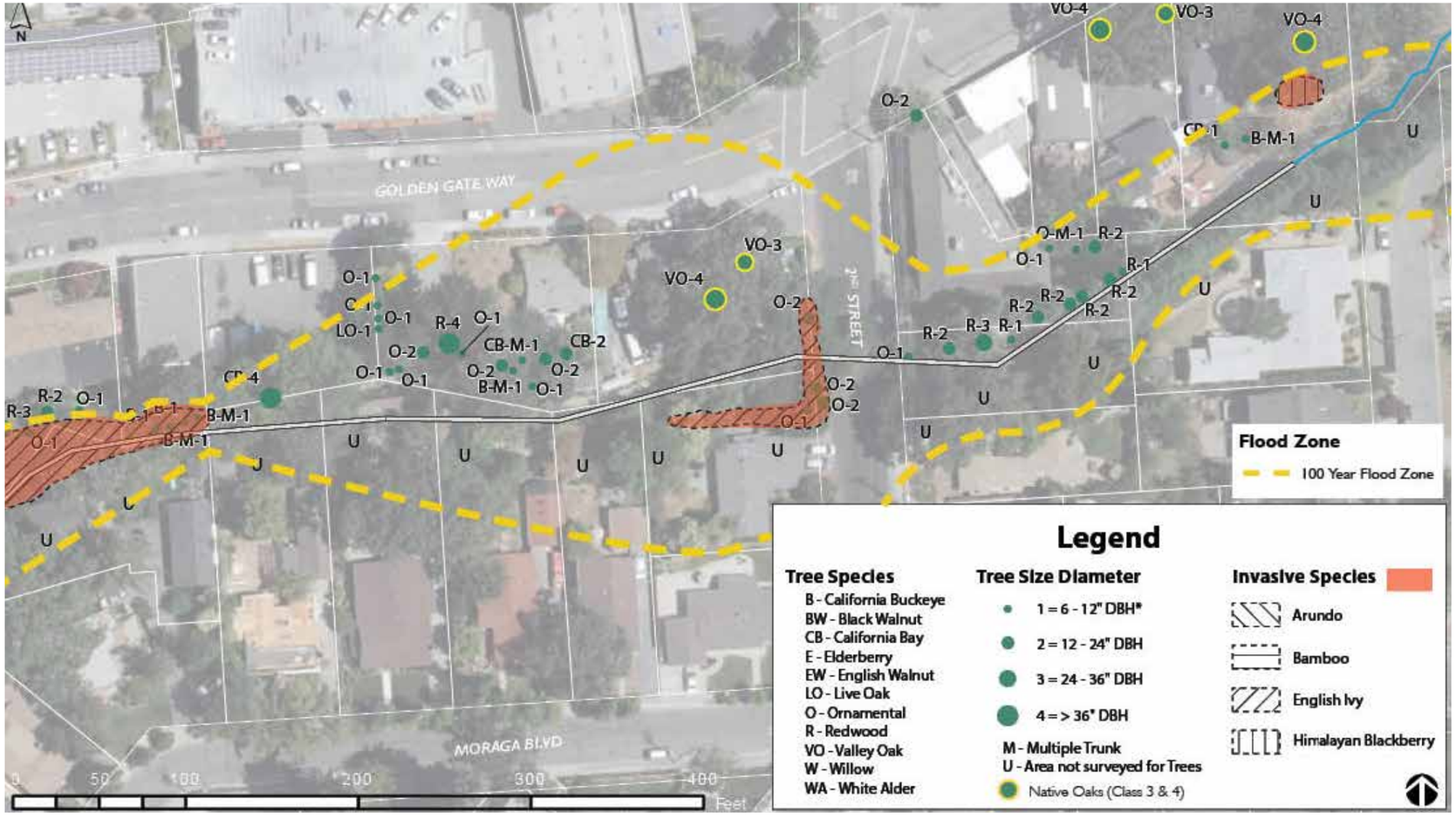


Figure A-16: East Reach 2 Biological Conditions and 100-Year Flood Zone

Majestic valley oak along the creek on the Coral Pool property

EAST REACH 2 - LAFAYETTE CREEK (CHANNELIZED)

OPPORTUNITIES

Public Access and Use

East Reach 2 is an important area that connects Lafayette's eastern creek gateway, beginning with East Reach 3, to East Reach 1 which includes the historic Plaza Overlay District.

Adding a sidewalk along the west side of Second Street would help improve pedestrian circulation and access to the creek in this area. Improved pedestrian circulation with the addition of another sidewalk along Second Street could lead to an opportunity to create a pocket park near the southwest corner of Second Street and Golden Gate Way. The magnificent large oak tree located at this site would provide shade for a seating or picnic area. Additionally, this location might be ideal for a creek overlook with interpretive signage. Since the property is privately owned by Coral Pool, a public-private partnership would likely be necessary to develop this site for public use.

Modifying the surface of the concrete channel at the Golden Gate Way and Second Street intersection in some manner would improve the visual appeal of the creek, and maximize the creek experience for the community. Some type of visual barrier would also be important to minimize the visual impact of the barbed wire-topped cyclone fence, and to maximize the visual experience of the creek for the community.

The Flood Control District would support development of a pedestrian path along the north side of their channel as parcels are redeveloped. Opportunities should also be explored to create a public use area near the valley oak trees when redevelopment occurs.

Habitat Restoration

The majority of this section of the creek is within a concrete channel or culvert, which presents a near-term habitat restoration challenge for the creek. Nonetheless, habitat restoration is possible along the tops of creek banks; removal of the Ivy and replacing it with native riparian plants would improve habitat and also increase visibility of the creek.

SF Bay Regional Water Quality Control Board and California Department of Fish and Wildlife support modifying the bottoms of flood control channels to expose the natural creek bed, as discussed in the previous section on East Reach 1.

Because the parcels along this segment of the creek are privately-owned, habitat restoration along the upper banks of this section of the creek would require the cooperation of private land owners.

Figure A-17: East Reach 2 Opportunities

EAST REACH 3 - LAFAYETTE CREEK & LAS TRAMPAS CREEK

SUMMARY

Location

- Located at the eastern end of the Plaza District
- Eastern gateway into Lafayette; South of the Mt. Diablo Blvd. and Golden Gate Way intersection and Gazebo Park.

Creek Conditions

- Confluence of Lafayette and Las Trampas creeks
- The 100-year Flood Zone extends approximately 100 feet at its widest point from Lafayette Creek.
- Natural creek conditions exist along the entire length of this section except for the drop structure at the eastern end.

Land Use Context

- The City of Lafayette, Contra Costa County Flood Control District, and East Bay Regional Park District own several parcels along East Reach 3.
- Commercial, office, multi-family residential buildings and parking lots are located on the north side of the creek.
- Single-family residential parcels are located on the south side of the creek.

Biological Conditions

- Willows (*Salix lasiolepis*) are the most common species along this segment of creek.
- Non-native invasive plants are not very prevalent along this segment of the creek.

Outdoor And Pedestrian Use Space

- The Briones to Las Trampas Trail crosses the creek south of Golden Gate Way.
- Leigh Creekside Park is located east of Las Trampas Creek, with no direct access from the trail.

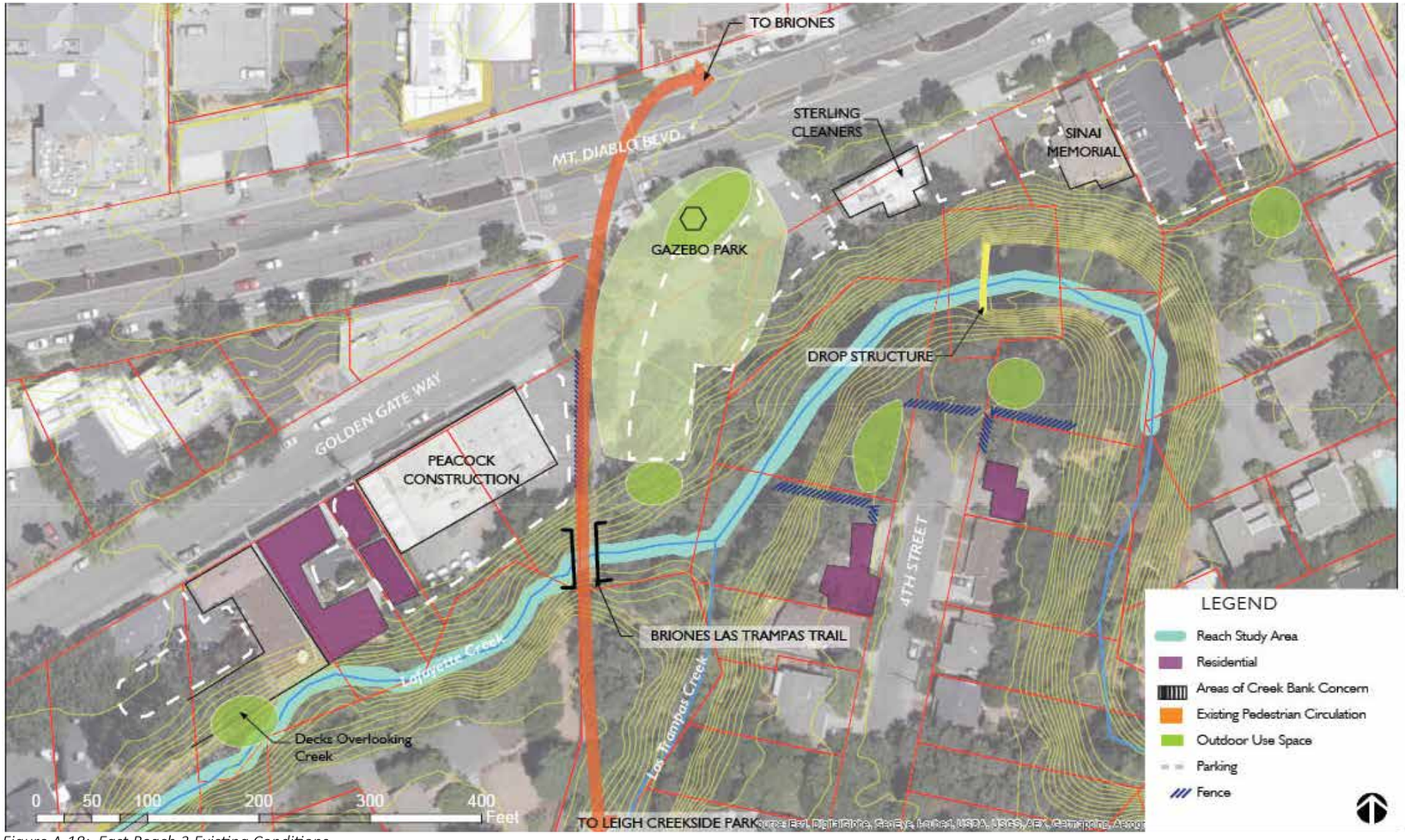
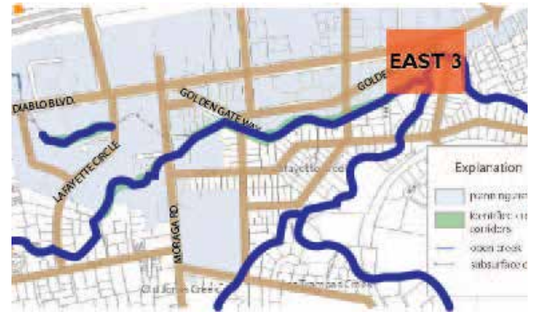


Figure A-18: East Reach 3 Existing Conditions

Opportunities

- Create thematic wayfinding elements linking the gazebo to the creek
- Improve pedestrian access to the creek via stairs
- Connect pedestrians to the existing Briones to Las Trampas Trail, and expand the trail network along the creek bank
- Reintroduce native species



KEY MAP

EAST REACH 3 - LAFAYETTE CREEK & LAS TRAMPAS CREEK

Creek Conditions

The confluence of Lafayette Creek and Las Trampas Creek is located in East Reach 3. East Reach 3 is the farthest east of the creek study areas, and is located near the intersection of Mt. Diablo Blvd. and Golden Gate Way.

East Reach 3 has natural creek conditions, and is highly vegetated with great tree overstory. It is also the only area along the creek that has a fairly flat floodplain area immediately adjacent to the creek. Above this floodplain, and leading from the parking lot behind Gazebo Park, the slope is relatively gentle, whereas in other areas further downstream, and above the drop structure, the slope is much steeper (see Figure A-19).

The 100-year Flood Zone extends approximately 100 feet from Lafayette Creek at its widest point.

Land Use Context

Commercial, office, apartment buildings and parking lots are located on the north side of the creek, whereas the south side of the creek is predominantly residential. At the confluence of Lafayette Creek and Las Trampas Creek, and along the west side of Fourth Street, all the homes are within the 100-year Flood Zone. None of the businesses or apartments on the north side of the creek are within the Flood Zone, although some parking lots do fall within this zone.

Sinai Memorial Chapel is located on the north side of the creek near the drop structure. The sound of water running over the drop structure can be heard from the back of the Sinai Memorial Chapel parking lot.

The back area of the parking lot at Sterling Cleaners is close enough to the creek, and high enough, to provide nice views.

There is an undeveloped property owned by the Contra Costa County Flood Control District at end of Fourth Street.

Leigh Creekside Park is directly south of this reach.

Outdoor and Pedestrian Use Space

Along Mt. Diablo Blvd. at the intersection of Golden Gate Way, the Gazebo Park includes a small public use area, with a multi-use trail connecting to the East Bay Regional Park District bridge and the Las Trampas to Briones Trail.

The gazebo is a landmark along Mt. Diablo Blvd. The Lafayette Garden Club maintains the landscaping in this garden area, bringing members of the community together. A small creekside garden and seating area has been created adjacent to the parking lot near the Gazebo.

EAST REACH 3 - LAFAYETTE CREEK & LAS TRAMPAS CREEK

Biological Conditions and Features

Only one type of invasive plant was observed in this area, Himalayan blackberry (*Rubus armeniacus*), and it is concentrated near the bridge.

Several significant oak trees are located in this area; trees in this segment of the creek include willow (*Salix lasiolepis*), valley oak (*Quercus lobata*), live oak (*Quercus agrifolia*), and English walnut (*Juglans regia*).

Figure A-19: East Reach 3 Biological Conditions and 100-Year Flood Zone

EAST REACH 3 - LAFAYETTE CREEK & LAS TRAMPAS CREEK

OPPORTUNITIES

Public Access and Use

The parking lot area adjacent to the Gazebo is proposed as a future park site with picnic tables and other park facilities, as part of the Downtown Specific Plan. Thematic wayfinding elements and public art could be used to align the park entry to the creek area and trails from Golden Gate Way and Mt. Diablo Blvd.

The flat floodplain areas in East Reach 3 make it ideal for public use. This feature, combined with natural creek conditions, make it an ideal area to highlight local flora and fauna via interpretive signage and an extended network of pathways along the creek. A controlled access path could be created to allow the public to safely access the water near the confluence of Lafayette and Las Trampas Creeks.

Stairs could be created leading to a lower terrace adjacent to the bridge to expand access to the creek in this area. Views from the bridge could be enhanced by selectively pruning to open views to the creek, and by lowering or replacing the bridge sides to improve visual access to the creeks.

At the back of the Sinai Memorial Chapel parking lot, the sound of the creek running over the drop structure is soothing, and perhaps a small garden area could be developed at this location, buffered from the parking lot with vegetation, which could allow the community to enjoy the sound of the water cascading over the drop structure from an easily accessible site.

Habitat Restoration

As there are few non-native invasive plant species located along East Reach 3, only limited restoration is required, with the exception of the removal of a small area of Himalayan blackberry and selective pruning to improve views. It may be an ideal area for restoring habitat for the western pond turtle and other native wildlife, and reintroducing wildlife species to the area.

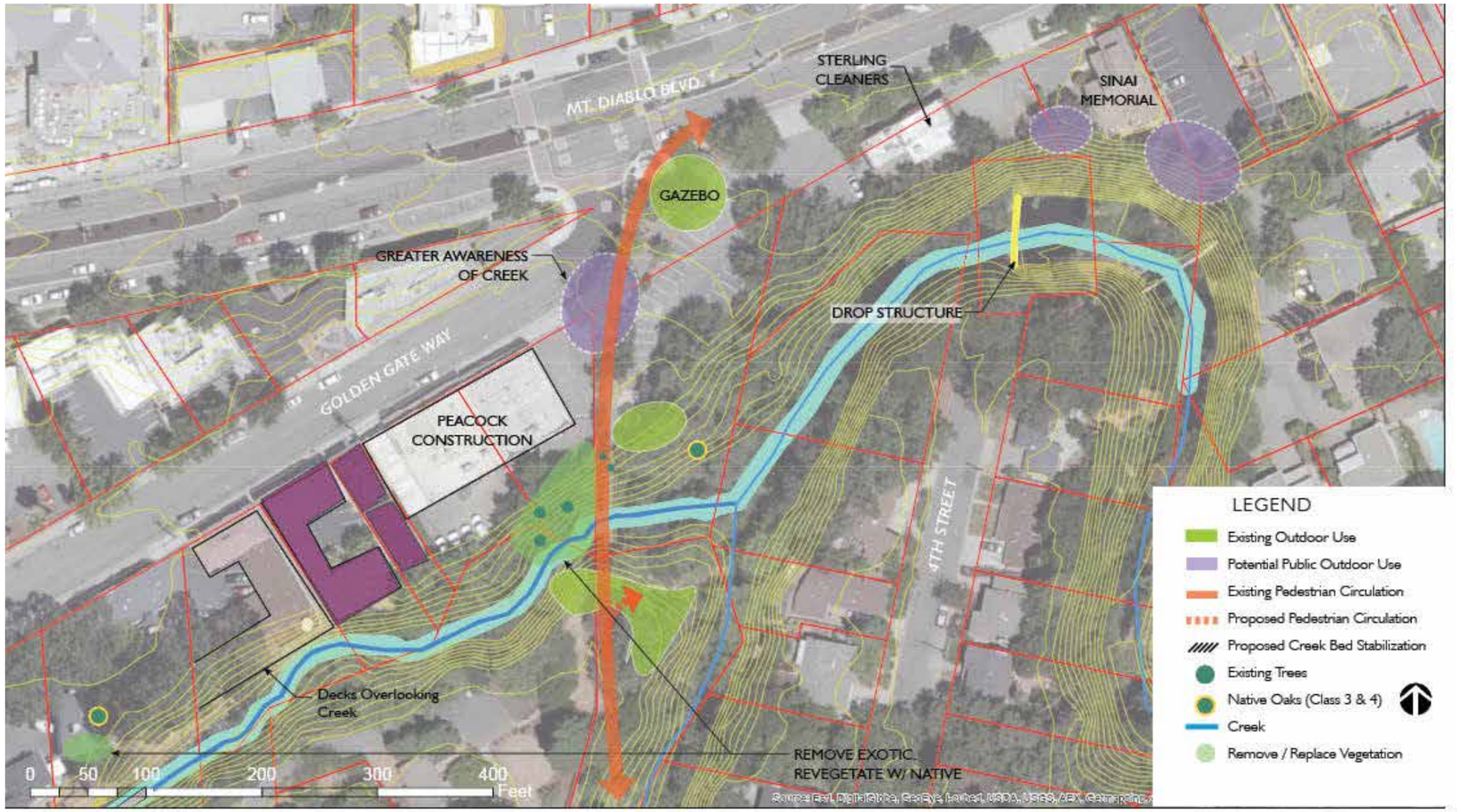


Figure A-20: East Reach 3 Opportunities

Art can highlight presence of the creek.

Possible creek access near EBRPD bridge

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APPENDIX B: COMMUNITY ENGAGEMENT PLAN

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APPENDIX B:

COMMUNITY ENGAGEMENT PLAN

PURPOSE:
The purpose of the Community Engagement Plan is to describe a strategy to maximize community awareness of and participation in the Lafayette Downtown Creeks Preservation, Restoration and Development Plan, and guidance to implement this strategy. Various sections of the Plan will be revisited as the planning process progresses.

Project Goals:
The purpose of the Lafayette Downtown Creeks Preservation, Restoration and Development Plan ("Downtown Creeks Plan") is to further the goal of protecting and enhancing Lafayette's downtown creeks. This goal was established by the City of Lafayette in 2012 when it adopted the Downtown Specific Plan (DSP). The DSP articulates a vision to preserve and enhance its small town character while guiding change that will occur over the next 20 years. In addition, the City adopted the Downtown Design Guidelines in 2014 to provide more detailed guidance to direct development in the downtown area and to more fully develop the visions and goals for the downtown creeks. Thus, the Downtown Creeks Plan will establish a long-term strategy for achieving the vision set forth in the Downtown Specific Plan and Design Guidelines for downtown creeks

Engagement Goals:
1. Increase community awareness of the planning project
2. Offer a range of communication and engagement tools to facilitate input;
3. Obtain community buy-in and consensus to support the plan;
4. Build upon and respect previous outreach efforts to date (Downtown Specific Plan, Downtown Design Guidelines, etc.);
5. Build partnerships for implementation and stewardship of improvements; and
6. Partner with the Lafayette Creeks Committee to play an active role in community engagement, as they advise the City Council on creek issues.

Objective of Plan Document
- Identify key opportunities for enhancing creek amenities and habitats and estimate their cost;
- Document the outreach process for future grant applications;
- Maximize ability of the plan to be utilized opportunistically;
- Provide clear direction on priority areas;
- Create a document which will be useful in securing funding for creek improvements;
- Create a document which is easily used and implemented by City staff;
- Identify projects and actions that can be incrementally implemented from public and private efforts; and
- Identify maintenance, stewardship and funding responsibilities.

TARGET AUDIENCES:
Focus should be on members of the local community. List of potential targeted audiences might include:

Community at Large:
- Local residents
- Nearby businesses and commercial site owners along the creek corridors
- Youth, tweens, and teens
- Seniors and older adults
- Schools (Happy Valley Elementary, Lafayette Elementary School, Stanley Middle School, Acalanes High School, Campolindo High School)
- Potential donors/partners (Lafayette Community Foundation, Historical Society, Sustainable Lafayette, others)
- Environmental Groups (Walnut Creek Watershed Council)

Key Stakeholders:
- Creekside property owners and businesses
- Development Community
- Regulatory Agencies

o Contra Costa County Flood Control District, (Paul Detjens, Senior Civil Engineer, pdetj@pw.cccounty.us, 925.313.2394)

o East Bay Regional Parks District, (Brian Holt, Advanced Planning Principal Planner, bholt@ebparks.org, (510) 544-2623)

o San Francisco Bay Regional Water Quality Control Board (Bruce Wolf, bwolf@waterboards.ca.gov, (510) 622-2300; Kathryn (Katie) Hart, Kathryn.Hart@waterboards.ca.gov, (510) 622-2356)

o California Department of Fish and Wildlife, (Robert Stanley, Robert.stanley@wildlife.ca.gov, (707) 944-5573)

o Army Corps of Engineers, San Francisco District, (Katerina Galacatos, South Branch Chief, Katerina.Galacatos@usace.army.mil, (415) 503-6778)

- City Parks, Trails and Recreation Department as potential joint development partner and maintenance entity, (Jonathan Katayanagi, Parks Trails & Recreation Director, jkatayanagi@ci.lafayette.ca.us)

METHODS FOR INCREASING AWARENESS:

Print and Online Media Outlets:
The City will distribute project information through the following outlets:
- City to host "Downtown Creeks Plan" (Project) Webpage. (Link and QR code to be included on printed materials)
- City to put link to Project Webpage on City Creeks Webpage (http://www.ci.lafayette.ca.us/city-hall/city-departments/public-works/creeks)
- City to put link to Project Webpage on Creeks Committee Webpage (http://www.ci.lafayette.ca.us/city-hall/commissions-committees/creeks-committee)
- City to replace "Development of Downtown Creeks RFP" link with the Project Webpage link on the Quick Links for Public Works & Construction (http://www.ci.lafayette.ca.us/city-hall/quick-links/public-works-construction)
- The City generally provides public notice to all property owners within 300-feet of a property a minimum of 10-days in advance of a public hearing. The notification area is expanded to 500-feet for properties within the LR-5 and LR-10 zoning districts (not applicable in this circumstance). When more than 1,000 properties are impacted then individual public notice is not required. Based on the large area that this plan covers, we will rely on providing notices to property owners that abut a creek, but not a larger distance at this time, as the 300-foot distance will often result in notifying property owners from the other side of Mt. Diablo Blvd. These notices will be provided prior to each Community Meeting. After the plan is drafted and it is reviewed by the Planning Commission and City Council, we will have additional notification requirements to publish legal advertisements in the newspaper. These requirements will be revisited closer to that time period.
- The Weekly Roundup (Steven Falk, City Manager, sfalk@ci.lafayette.ca.us). Deadline is generally

by noon on Friday the day you want the message included; however, the Weekly Roundup is not published when the City Manager is out of the office, so plan to submit it the week before.

- City Facebook Page (Tracy Robinson, trobinson@ci.lafayette.ca.us)
- Flyers to be distributed to Chamber of Commerce, City offices and Creek Committee members

Email Blast Lists:
The City will distribute project information using the city-maintained Downtown Creeks Plan email list (Populated by sign in sheets and Downtown Creeks Plan webpage). The City will distribute project information to the sponsors of the following electronic media outlets and request that they distribute this information to their readership or membership:

- Lafayette Chamber of Commerce email list (Jay Lifson, Executive Director, jay@lafayettechamber.org)
- Lafayette Community Foundation (info@lafayettecf.org)
- Lafayette Historical Society, they have a blog that is active (http://lafayettehistory.org/contact-us/)
- Sustainable Lafayette email list (social media contact: Pam Palitz, pampalitz@gmail.com)
- Lafayette Homeowners Council (info@lafayettehomeownerscouncil.org)
- Lafayette Environmental Task Force (Megan Canales, Assistance Planner, mcanales@ci.lafayette.ca.us)
- Lafayette Parks, Trails and Recreation Commission (Jonathan Katayanagi, Park Trails & Recreation Director, jkatayangi@ci.lafayette.ca.us)
- Walnut Creek Watershed Council, (Heidi Petty, Watershed Coordinator, Contra Costa Resource Conservation District rodeocreek@comcast.net)

Online and Print Media Outlets for Cross-Posting Articles and Events:
The City will distribute project information to the sponsors of the following electronic media outlets and request that they distribute this information to their readership.

- Bay Nature (http://baynature.org/submissions/)
- East Bay Times (http://www.eastbaytimes.com/contact-us, srichards@bayareanewsgroup, jmodenessi@bayareanewsgroup, dcurr@bayareanewsgroup)
- Lamorinda Patch (http://patch.com/california/lamorinda)
- Sustainable Lafayette (http://www.sustainablelafayette.org/) (website contact: Gailene Nelson, gailene@sustainablelafayette.org)
- Lafayette Library and Learning Center (http://www.lafayettelib.org/foundation/)
- Nextdoor Lafayette – USN sgoetz@ci.lafayette.ca.us, PW 916Gl17522 (https://nextdoor.com/events/calendar/ca/lafayette/?utm_medium=events_public_page&utm_source=events_public_page)
- Lamorinda Sun (http://www.contracostatimes.com/lafayette), srichards@bayareanewsgroup.com
- Lamorinda Weekly (http://www.lamorindaweekly.com)
- Lafayette Today (Alisa Corstorphine, Editor/Publisher, editor@yourmonthlypaper.com
- Lamorinda Web (http://lamorindaweb.com/submit-an-event)
- Beyond the Creek (questions@beyondthecreek.com)
- Walnut Creek Watershed Council, (Heidi Petty, Contra Costa Resource Conservation District, rodeocreek@comcast.net)
- Contra Costa Watershed Forum (http://www.cocowaterweb.org/) contact Elisse Robinson, 925-672-4577 x4150
- School Websites/Newsletters/PTA
- Happy Valley Elementary (no contact currently available)
- Lafayette Elementary (no contact currently available)
- Stanley Intermediate (Please email submissions for the newsletter to wildcatweeklyeditor@gmail.com by Thursday at 5:00 PM.)
- Acalanes High School (Acalanes Blueprint, no contact currently available)
- Campolindo High School (La Puma, Submit Letter button)

Potential Links at Events:
Include: Informational Project Flyers/Community Meeting Flyers, sign-in sheets for those interested in being added to email blast lists.

- Janet Thomas, Water Series at Lafayette Library and Learning Center (August 16, 2015)
- Creek Day Event (September 27, 2015)
- Art & Wine Festival – City Booth and Sustainable Living Booth (September 19, 2015)
- Contra Costa Watershed – Quadrennial Creek and Watershed Symposium (December 3, 2015)
- Earth Day - with creek tours (April 2016)
- Other local events (flyers with branding, messaging, logo)

Lower Priority Items to Consider:

- Survey (Online/Mailers) – Reserve for a later date if needed
- (Low Priority) Social Media “Parks and Recreation” Facebook

PROJECT BRANDING / IDENTITY:
QR Code to be created for all printed materials linking to project webpage. Prepare project logo for use in all projects documents and noticing (online and print)

Incorporate:

- Creeks
- Lafayette - Small Town Character
- Sustainability

COMMUNITY MEETINGS:
Three (3) Community Meetings to be held midweek (Tuesday or Wednesday) in the evenings. Preferred locations: Lafayette Library and Learning Center or Lafayette Veterans Memorial Center. If a deeper dive is needed regarding one or more creek reaches, option to meet on site or hold focus group and/or staff meeting. Members of the City of Lafayette, Creeks Committee and Gates + Associates will attend. All Community Meetings will be noticed as Creeks Committee meetings.

All Meetings Should Include:
- Project Branding Elements for project recognition
- Sign in sheets/Email list sign ups and attendance record
- Agenda and Purpose of Meeting
- Clear ways to Participate / Variety of Input Options
- Summary of Input
- Next Steps/Ways to stay involved (Webpage links, upcoming event flyers, Commission and Council, etc.)

Community Meeting #1:
- What (The Event Title): Community Meeting #1 – Help us identify opportunities to protect and celebrate downtown creeks.
- When (Date/Time): October 6th, 7 pm
- Where (Location): Veterans Memorial Center
- Why (Purpose of meeting): Solicit community input on the opportunities and constraints associated with creek corridor plan.

Agenda:

1. Introduction	City Staff
2. Project Overview a. History b. Goals c. Schedule	City Staff/Creeks Committee
3. Purpose of Meeting	Gates
4. Presentation a. Opportunities and Constraints b. Summary of Reach characteristics	Gates
5. Station Breakout a. Discussion of Reaches	Community
6. Report Out/Summary of Input	Gates, Creeks Committee, City Staff
7. Next Steps	Gates

Meeting Materials:
Setup
- Tables and chairs – plan for 50 attendees (venue to provide)
- Room/AV Setup (Gates to provide layout)
- AV cart with power strip and extension cords, Screen, 2 podiums with mikes, 2 wireless mikes, one lapel mike, 2 easels, plug-in and wireless internet access (venue to provide)
- Snacks/Water/Cups (City Staff to provide)

Overall Materials (provided by Gates + Associates)
- Sign-in sheets
- Agenda
- Powerpoint for presentation
- Boards as appropriate
- Reference materials (Downtown Specific Plan, Downtown Design Guidelines, etc.)
- Comment box
- Name tags
- Flyers for next meeting

Individual Creek Reach Stations (provided by Gates + Associates)
- Graphics/boards for each station
- Sticky Notes/markers

Community Meeting #2:
- What (The Event Title): Community Meeting #2 – Options & Priorities for Preserving and Celebrating our Downtown Creeks
- When (Date/Time): February 2, 2016, 7:00 pm
- Where (Location): Library
- Why (Purpose of meeting): Solicit input on potential projects, and Identify priorities

Agenda:

1. Introduction	City Staff or Councilmember
2. Project Overview a. History b. Goals c. Schedule	Creeks Committee
3. Purpose of Meeting / Format (Share ideas & prioritize)	Gates
4. Potential Project Presentation	Gates
5. General Questions	All
6. Project Discussion Stations	Break Out – 6 stations, each with rep/facilitator
7. Summary of Input	Gates
8. Next Steps / Wrap-up	Gates

Community Meeting #3:
In lieu of Community Meeting #3, the Creek Committee will present the draft plan to the City Commissions and Committees that will be affected by or whose cooperation is needed to implement the draft plan's recommendations. The presentations will include a staff report and questions for the commission/committee to answer. Commission/Committee meetings will be announced through the methods described in the Community Engagement Plan. These meetings were scheduled as described in Table 7-1 of this plan.

Stakeholder Meetings:
The City will take the lead in coordinating meetings with key stakeholder groups prior to first community meeting (mid-September). Additional meetings will be held as needed throughout the process. Stakeholder groups include property owners, development community, Chamber of Commerce and regulatory agencies.

Planning Commission/City Council
When (Date/Time): TBD
Where (Location): TBD
Why (Purpose of meeting): approve environmental document and adopt Downtown Creeks Plan

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APPENDIX C: PROJECT COSTS

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PROJECT COSTS

The projects described in this plan will be implemented incrementally over a long time horizon. The costs herein are order-of-magnitude planning level cost estimates, based on recently completed projects of similar scope. Actual costs for specific reaches may vary widely, depending on a multiplicity of factors including:

- specific geological / hydrological / structural conditions of the sites
- necessity of additional hydrologic studies
- extent of permitting required, and requirements and potential competing interests of permitting agencies
- the extent of improvements included in the project - economies of scale - whether incremental, or undertaken as a whole, or in conjunction with other construction
- project timing (costs over the time horizon of this plan will likely increase over time)
- bidding climate
- material choices and refined design elements.

The projects listed in this appendix have been categorized as either Public Projects or Private Projects. The Public Projects are described in Table C-1. The Private Projects may be more speculative, and are briefly described in the Project Cost Table (Table C-2).

Some elements that may be applied in various locations, such as rain garden bulb-outs and bioretention areas have been broken out into a per unit cost.

Costs of riparian restoration, including establishment maintenance for three years, is also broken out into per unit costs, in Table C-3. The estimates on restoration costs are based on an assumption of 4 acres total. There are several factors that could multiply the final cost, such as dense Giant Reed, perennial pepperweed, blackberry, unstable slopes, poor access, project phasing, commercial availability of container stock, or compacted soil.

Priority	Project Description	Project Purpose	Next Steps
Near Term	**1. Creek Icon Project** • Select a design for the creek icon and identity marker for use in creek enhancement projects. • Fabricate an initial supply of icons • Cost: $50,000	• Enhance public awareness of downtown creeks. • Establish a brand for downtown creeks • Promote public art.	• Authorize the Public Art Committee or the Public Works Director to issue a Request for Proposal for design of the creek icon.
Near Term	**2. Riparian Vegetation Restoration Manual** • Map jurisdictional boundaries for riparian vegetation and the ordinary high water mark. • Planting plan for each reach • Protocols for removing invasive plants, and installing and maintaining the vegetation • Reporting and outreach requirements. • Cost: $50,000	• Emphasize continuity of the downtown creek environment. • Streamline permits from regulatory agencies. • Encourage voluntary creek revegetation projects by downtown property owners.	• Authorize the Public Works Director to prepare the manual.
Near Term	**3. West Reach: Catalyst Project.** **Phase I** • Creek bank stabilization • Creek overlook with icon • Revegetate creek banks • Cost: $50,000 **Phase II** • Repair creek bank erosion • Two creek overlooks with interpretive panels and decorative railing • Public Art • Permeable trail along and into the creek bed • Rain gardens • Cost[1]: $700,000 + erosion repair	**Phase I** • Stabilize the buckeye tree on Lafayette Creek which threatens to undermine the eastbound lanes of Mt. Diablo Blvd. • Improve public access to Lafayette Creek with an overlook. • Provide a highly visible project that demonstrates to property owners the benefits of creek revegetation. • Brand this reach with the creek icon. **Phase II** • Establish a process with regulatory agencies for review of future creek enhancement projects. • Correct erosion problems along Lafayette Creek. • Provide an opportunity for creek education using interpretive panel. • Improve water quality by using rain gardens and permeable trail to intercept stormwater runoff from Mt. Diablo Blvd, which currently drains directly into the creek. Enhance the western entry into the downtown by providing a location for public art.	• Authorize Public Works Director to prepare plans and report on funding opportunities to construct improvements.

[1] Does not include the cost of Public Art.

Table C-1: Public Projects

Priority	Project Description	Project Purpose	Next Steps
Near Term	**4. North Reach: Lafayette Circle Overlook** • Sidewalk gap closure[2] • Creek overlook with icon, interpretive panel and decorative railing • Rain garden and bulb out • Cost: $60,000	• Improve public access with overlook to Happy Valley Creek. • Provide an opportunity for creek education using interpretive panel. • Improve water quality by using a rain garden to intercept stormwater runoff from Lafayette Circle, which currently drains directly into the creek. • Implement a high priority project from the Master Walkways Plan. • Brand this reach with the creek icon.	• Consult with Circulation Commission on programming Walkway Fees and securing additional funds for the project.
Mid Term	**5. South Reach: East Street/Lafayette Circle/Moraga Rd Trail** • Obtain easement from property owner • Construct pedestrian trail connecting Lafayette Circle with Moraga Road and the end of East Street. • Cost: TBD	• Improve pedestrian circulation with trails between Lafayette Circle and Moraga Road and between East Street and the BART station. • Connect creek trails.	• Obtain a trail easement from the property owner, United Methodist Church.
Mid Term	**6. South Reach: Moraga Road Overlook** • Creek overlook with icon, interpretive panel and decorative railing • Rain garden and bulbout • Cost[3] : $120,000	• Improve public access with an overlook to Lafayette Creek. • Provide an opportunity for creek education using interpretive panel. • Improve water quality by using a rain garden to intercept stormwater runoff from Moraga Road, which currently drains directly into the creek. • Brand this reach with the creek icon.	• Authorize Public Works Director to seek funds for the project and Consult with the Circulation Commission on its design.
Mid Term to Long Term	**7. East Reaches 1 & 2: Channel Enhancements** • Hydraulic Study[4] • Channel wall and bed enhancements • New fencing. • Cost: $750,000	• Improve habitat through channel bed enhancements for up to 1,650’ of creek bed. • Improve aesthetics of the flood control channel.	• Prepare a Cooperative Agreement with the Flood Control District to replace the security fencing and evaluate potential enhancements to the channel for habitat and aesthetic values.

[2] Sidewalk gap closure included in Walkway Fee Program.
[3] Cost assumes striped crosswalk, not decorative pavers.
[4] Hydraulic study is needed to evaluate feasibility of enhancements that would not increase flood risk.

Table C-1: Public Projects (continued)

Priority	Project Description	Project Purpose	Next Steps
Mid Term	**8. East Reach 1: Creek Connections Phase I** • Expand existing plaza • Cost: $100,000 **Phase II** • Creekside Terrace Garden • Ornamental Fencing and icon • Cost: $200,000	• Improve water quality by using the Creekside Terrace Garden to intercept stormwater runoff from Golden Gate Way, which currently drains directly into the creek. • Improve public access by creating the Creekside Terrace Garden. • Brand this reach with the creek icon.	• Authorize Public Works Director to prepare plans and report on funding opportunities to construct improvements.
Near Term	**9. East Reach 1: First Street Overlooks** • Sidewalk gap closure (west side) [5] • Creek overlook with icon and decorative railing (both sides of street) • Rain garden (both sides of street) • Cost: $135,000	• Improve public access with overlook to Lafayette Creek. • Improve water quality by using a rain garden to intercept stormwater runoff from First Street, which currently drains directly into the creek. • Implement a high priority project from the Master Walkways Plan. • Brand this reach with the creek icon.	• Consult with Circulation Commission on programming Walkway Fees and securing additional funds for the project.
Near Term	**10. East Reach 2: Second Street Overlooks** • Sidewalk gap closure (both sides of street) [6] • Creek overlook with icon and decorative railing • Rain garden (both sides of street) • Cost: $135,000	• Improve public access with overlook to Lafayette Creek. • Improve water quality in creek by using the rain garden to intercept stormwater runoff from Second Street, which currently drains directly into the creek. • Brand this reach with the creek icon.	• Consult with Circulation Commission on programming Walkway Fees and securing additional funds for the project.
Long Term	**11. East Reach 3: Gazebo Park - Creek Terrace** • Revegetate creek banks. • Stairs to lower terrace & creek bed • New railings on existing pedestrian bridge • Icon, interpretive panel, Public Art • Construct Gazebo Park and east end of creek trail to connect with EBRPD trail. • Project can be phased. • Cost[7]: $200,000	• Improve public access with improved multi-use bridge, connection of creekside pedestrian trail with the EBPRD trail, and trail to creek bed and lower terrace. • Provide an opportunity for creek education using interpretive panels. • Improve habitat by restoring riparian vegetation. • Brand this reach with the creek icon.	• Authorize the Public Works Director to prepare a Cooperative Agreement with the East Bay Regional Park District and the Flood Control District for development of the project.

[5] Sidewalk gap closure on west side included in the Walkway Fee Program.
[6] Sidewalk gap closure on both sides included in the Walkway Fee Program.
[7] Cost does not include cost of Public Art or Gazebo Park.

Table C-1: Public Projects (continued)

PRIVATE PROJECTS	COST
All Reaches: Riparian vegetation restoration and Low Impact Development measures.	See Table C-3
North Reach: Mt. Diablo Blvd Creek Access. Parking consolidation, creek path, rain garden.	TBD
North Reach: Shield Block Trail. Parking consolidation, creek path, pedestrian bridge, creek revegetation, Town Green.	$1,500,000[2]
South Reach: Culvert Removal. Replace culvert with bridge, restore creek channel and revegetate, reconfigure parking.	$3,000,000
South Reach: Creekside patio, educational garden	$150,000
East Reach 1: Plaza Way Improvements. Creek path and patios, decorative fencing.	$150,000
East Reach 2: Library Park. Creek path, Library Park, decorative fencing.	$60,000[3]
UNIT COSTS	
Interpretive panel, mounted and installed (EA)	$5,000
Rain garden and bulb-out (SF)	$85
Bio-retention area (SF)	$30

[1] Does not include cost of Gazebo Park
[2] Does not include cost of Town Green
[3] Does not include cost of Library Park

Table C-2: Private Project Costs

PHASE & DESCRIPTION	COST/ACRE	COST/SF	ASSUMPTIONS
Implementation			
Site Preparation	$7,187		*Initial mowing of weeds such as mustards, poison hemlock, grasses, fennel, etc.*
Plants	$8,415		*1500, 1 gallon size plants per acre*
Planting/seeding	$7,920		*Normal planting conditions. 8 pounds of seed/acre.*
POC Connection	$12,000		
Irrigation system	$66,000		
Seed	$1,056		*supplemental annual seed species*
Implementation Subtotal	**$102,578**	**$2.35**	
Year 1			
Maintenance	$6,229		*Expect large crop of annual weeds, up to 5 visits/year*
Irrigation System Operation	$1,100		*Operator, maintenance, water cost, fuel*
Monitoring	$3,300		*Bi-monthly monitoring*
Reporting	$5,500		*Summary report*
Subtotal	**$16,129**	**$0.37**	
Year 2			
Maintenance	$4,312		*Up to 4 weeding visits/year*
Irrigation System Operation	$1,100		*Operator, maintenance, water cost, fuel*
Monitoring	$3,520		*Quarterly Monitoring*
Reporting	$4,400		*Summary report*
Subtotal	**$13,332**	**$0.31**	
Year 3			
Maintenance	$2,178		*Up to 3 weeding visits/year*
Irrigation System Operation	$375		*Operator, maintenance, water cost, fuel*
Monitoring	$1,600		*Bi-annual monitoring*
Reporting	$3,500		*Summary report*
Subtotal	**$7,653**	**$0.18**	
TOTAL COST (rounded)			
Restoration & Maintenance	**$140,000**	**$3.20**	**4 acres = $560,000**

Table C-3: Riparian Restoration Costs
(Source: RECON Environmental, Inc.)

APPENDIX D: RECOMMENDED AMENDMENTS TO CITY CODES, PLANS AND GUIDELINES

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INTRODUCTION

The creek enhancement concepts in the Downtown Creeks Plan draw heavily from existing City policies (e.g. codes, plans, and guidelines). There are some gaps in these policies when planning for the protection, enhancement and enjoyment of our downtown creeks. Most of these gaps can be addressed with minor amendments. This appendix describes the recommended amendments to the following policy documents, and lists the City boards, in addition to the Planning Commission and City Council, that should consider them for adoption.

- Downtown Design Guidelines (Draft pending workshop with Design Review Commission)
- Trails Master Plan/Trails Implementation Plan
- Tree Protection Ordinance
- Flood Damage Prevention Ordinance
- Stormwater Management and Discharge Control Ordinance

For each amended document, the full text of the document is shown in italic font, with new text underlined and deleted text stuck-out.

DOWNTOWN DESIGN GUIDELINES adopted September 8, 2014, oversight bodies vary and include City staff, Design Review Commission or Planning Commission.

The Downtown Design Guidelines contain substantial guidance on the development of creek side parcels. The guidance most relevant to creeks can be found in the sections dealing with outdoor space, creeks and landscape, parking and circulation, and building design. The amendment to the Downtown Design Guidelines of greatest importance is to incorporate the riparian vegetation restoration measures described in the Downtown Creeks Plan. Through these measures new development will help improve habitat for local wildlife, visually tie the downtown creek reaches together as a continuous creek system, and reduce creek bank erosion. Other recommended amendments the Downtown Design Guidelines address wayfinding/signage, fencing, railings, and bicycle parking.

Downtown Design Guidelines Text

Page 11 – revise guideline #5 as follows:

Transition landscaping toward and along the creek corridor for a consistent native riparian plant palette as described in the Downtown Creeks Plan.

Riparian vegetation treatments

Page 11 – New guidelines to follow guideline #6:

To enhance awareness of creeks, use creek icons, interpretive signage, or decorative fencing element as described in the Downtown Creeks Plan

Interpretive signage treatment

Fencing and railings may incorporate a public art feature within it.

Fencing or railing proposed in a creekside setting should minimize visual impacts and promote continuity of downtown creeks by:

- *maintaining views of the creek corridor*
- *use of railings that meet public safety requirements in lieu of fencing where possible*
- *Maintaining uniform design along an individual creek reach.*

Fence / railing treatments

Fencing and railing materials should be durable and low maintenance. To enhance the natural function of creeks, pursue opportunities to remove culverts adjoining and impervious surfaces bordering open creek channels.

Page 14 – revise guideline #11 as follows:

Provide bicycle parking in well illuminated, secured, covered, and convenient areas. Short-term bicycle parking should be visible from building entrances and located near entrances to pedestrian zones.

Page 29 – Revise Plaza District Vision as follows:

The Plaza district is the civic and cultural hub of the downtown with community activities revolving around Lafayette Plaza. A critical component of this district is uses that take advantage of these activities. Outdoor space should reinforce this district as the central community gathering space and take advantage of the proximity to the creek. Development should draw on the Lafayette Library and Learning Center as a cultural and educational asset and create a synergy of complementary uses. The Downtown Specific Plan (DSP) expanded on this concept by envisioning an active park southwest of the Library to complement the surrounding uses. This district, along with the Downtown Retail district, make up the core of the downtown.

The Plaza district, which is bordered by the Lafayette Creek, is defined by four distinct streets: Mt. Diablo Boulevard, Moraga Road, Plaza Way, and Golden Gate Way. Development along the south side of Mt. Diablo Boulevard should serve as the transition between the retail-based Downtown Retail district and the commercial-based East End district. Development along Moraga Road should be less concentrated with greater setbacks and a residential character to transition between the core of the downtown and the neighborhoods to the south. Development along Plaza Way and Golden Gate Way should be sited close to the sidewalk and close together, with parking behind buildings or underground to create a pedestrian-friendly environment and maximize an active retail frontage. Traffic on Golden Gate Way is slower paced, creating a more relaxed setting than the other streets. While much of Lafayette Creek is channelized, it is considered riparian habitat by state agencies. Landscaping should build on the existing riparian vegetation, and restore riparian habitat as opportunities are available.

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Page 31 – Revise the Plaza Way Character Area Vision as follows:

Plaza Way, as further described in the Downtown Specific Plan (DSP), is the community's historic center. The design intent is to preserve and enhance the historic village character of the area which begins on Plaza Way and extends down Golden Gate Way. These narrow, slow-paced streets promote walking, bicycling and a relaxed pedestrian-friendly environment. Development should complement the historical buildings and take advantage of its relationship to the plaza and the creek. Buildings should be sited close to the sidewalk with variations in building height to create a vibrant pedestrian environment. Fencing along the flood control channel should meet public safety requirements while reflecting a pedestrian-friendly character. In addition to the guidelines below, development in this character area must also comply with the Plaza Way Overlay Design Guidelines.

Page 31 – New guidelines to follow guideline #3:

Use landscaping to reinforce the riparian character of the flood control channel.

Fencing and railing along the Lafayette Creek flood control channel should have a uniform material and design that supports the vision of the Plaza District and meets the requirements of the Contra Costa County Flood Control District.

TRAILS MASTER PLAN/TRAILS IMPLEMENTATION PLAN, adopted November 27, 2006, oversight by Park Trails & Recreation Commission.

City trail policies are contained in the Trails Master Plan and the Trails Implementation Plan. The Parks Trail and Recreation Commission is currently updating the Trails Master Plan. In addition to the Shield Block Creek Trails, the Downtown Creeks Plan proposes two new trails. The Commission should consider adding these new trails in the Trails Master Plan as described below.

Trails Master Plan Text

TRAIL NAME	LENGTH (MILES)	DESCRIPTION	DEVELOPMENT PHASE
East Street Trail	*.12*	*From the north end of East Street, through the Methodist Church parking lot to Lafayette Circle.*	*No easement acquired*
Lafayette Creek Trail	*.45*	*From the east side of Moraga Road at the Happy Valley Creek culvert, along the culvert to the north side of Lafayette Creek to the EBRPD Briones-Las Trampas Regional Trail.*	*No easement acquired*

TREE PROTECTION ORDINANCE, Lafayette Municipal Code Chapter 6-17, oversight by Planning Commission.

The Downtown Creeks Plan contains a new City requirement for creekside development projects to revegetate their creek with native riparian plant species. Revegetation involves removing invasive non-native plant species from the riparian zone. These invasive non-native plants include tree species identified in the Plan on *Table 5-1: Target Invasive Plant Species Treatment Details.* An amendment to the Tree Protection Ordinance is proposed to allow persons to seek an exception from the provisions of the Tree Protection Ordinance if the tree removal involves trees listed on Table 5-1 of the Plan.

Ordinance Text

Chapter 6-17 - TREE PROTECTION

Sections:

6-1701 - Purpose and findings.

(a) Purpose. The City of Lafayette consists of oak woodland and savannah covered hills, and valleys that originally contained many large and majestic trees, orchards and creeks lined with giant valley oak, madrone, buckeye and black walnut trees. Historically, in the course of development, especially for residential purposes, many of these original trees were destroyed. It is now recognized that the preservation of trees enhances the natural scenic beauty, increases property values, encourages quality development, aids in tempering the effect of extreme temperatures, helps to reduce air and noise pollution, furnishes habitat for wildlife and gives Lafayette an identity and quality that enhances the environment for all residents and the business community. As seen in the master and specific plans adopted by the city, trees are vital to the community. The downtown street improvement master plan has a number of objectives to improve the appearance of the downtown and reinforce the visual character of the community which includes the widespread planting of trees in the downtown. The downtown specific plan has goals and policies aimed to preserve the downtown's trees so that they continue to contribute to the character of the community's quality of life. The general plan has goals and policies for the preservation of the community's biological resources, including its trees, and it is the purpose of this ordinance to implement these goals and policies.

(b) Findings. The city council finds that:

(1) The policies of the city are to protect existing woodlands and their associated vegetation, protect native trees, preserve riparian habitat, encourage the planting of native species, and avoid the cutting of mature trees.

(2) In order to implement these policies and to promote the public health, safety and welfare, it is necessary to protect existing trees and require the replacement of trees that have been destroyed or removed.

(3) Protected trees are valuable assets to the city and the community, and the public shall be compensated when a protected tree is destroyed or removed in a manner that is not in compliance with this chapter.

(Ord. No. 593, § 1(Exh. A), 3-22-2010; Ord. No. 633, § 4(exh. A), 10-14-2014)

6-1702 - Definitions.

In this chapter, unless the context otherwise requires:

(a) "Arborist" is a person having one of the following qualifications:

(1) Current listing as a certified arborist by the International Society of Arboriculture; or

(2) Current American Society of Consulting Arborists registered consulting arborist.

(b) "Arborist report" means a report of an arborist developed in a manner consistent with the guidelines for report writing by the American Society of Consulting Arborists on the following:

(1) Description of the tree's location, genus, species, diameter and dripline;

(2) Health and condition of the tree, including existing hazards to the tree;

(3) Potential impact of development on the tree or existing tree condition;

(4) Evaluation of preservation potential based on the tree's existing condition and in relation to any potential development; and

(5) Recommendations for protection and preservation techniques and requirements, including restorative or other remedial actions that might be feasible to maintain and improve tree health or to assure survival.

(c) "Commercial zoning district" means business and commercial districts as further defined in Chapter 6-9 of the Lafayette Municipal Code.

(d) "Construction" means the act of placing, erecting, modifying or relocating a structure or the act of preparing property for such work, including clearing, stockpiling, trenching, grading, compaction, paving or change in ground elevation.

(e) "Defensible space" means the area within the perimeter of a parcel providing a key point of defense from an approaching wildland or escaping structure fire, as defined by Section 316.2 of the California Fire Code. Defensible space rarely requires the complete removal of a tree. Trees may be maintained provided they are well spaced, well pruned, and do not create a 'fire ladder' that would promote the spread of fire to a structure. When defensible space warrants complete removal of a tree, the tree is typically of a non-native species, is completely dead, or contains substantial amounts of dead branches or leaves/needles that would readily burn.

(f) "Destroy" means an action that kills or endangers the health or vigor of a tree, and includes removal, relocation, excessive or improper pruning, topping, grading, irrigation, application of chemicals, trenching within the drip line or protected perimeter, soil compaction within the protected perimeter, or damage caused to the trunk or primary limbs during construction.

(g) "Developed property" means an existing lot of record that has an existing legal dwelling unit as defined in Section 6-320.

(h) "Development application" means an application to subdivide, alter, develop or use a property that, if approved, will require the issuance of a development permit, including a building or grading permit that may potentially result in the removal or destruction of a protected tree.

(i) "Diameter" means the distance across the tree from outside bark to outside bark with the distance being determined by the circumference of the tree measured at 4.5 feet above the natural grade of the tree (also known as diameter at standard height) and divided by π (3.1416). The diameter of a multi-trunk tree is the sum of the diameters of its component trunks multiplied by two-thirds (.66).

(j) "Director" means the planning and building department director or the director's designee.

(k) "Dripline area" means the area surrounding tree trunk whose outer perimeter is defined by the length of the outermost branch tips.

(l) "Major tree removal project" means a request for a tree permit by a public or private entity, utility company, or individual that may potentially result in the removal or destruction of more than 25 protected trees on public and/or private property from one or more associated projects either in one occurrence or multiple occurrences over the span of five years.

(m) "Native riparian species" means a tree or plant indigenous to a riparian habitat along a perennial or intermittent creek, stream or other watercourse and that is within 30 feet of the top of a creek bank or that is beyond 30 feet but in such proximity to a creek bank that it requires or tolerates soil moisture levels in excess of that available in adjacent uplands.

(n) "Native species" means a tree or plant indigenous to a Lafayette oak woodland, chaparral, grassland or riparian habitat.

(o) "Planting program" means the planting of native species on public or private property, including but not limited to trails, parks, and creeks, for the purposes of restoration, re-vegetation, and/or landscaping for the benefit of the public.

(p) "Protected area" means the delineated area encompassing the rooting zone of a tree to be protected from encroachment by construction activities. The area is determined by projecting from the base of the trunk two feet for every one inch of trunk diameter.

(q) "Protected tree" means a tree on public or private property meeting one or more of the following standards:

(1) Developed Property. Located on a developed property, that has a trunk diameter of 12 inches or more, and that is one of the following species:

- *coast live oak (Quercus agrifolia);*
- *Canyon oak (Quercus chrysolepis);*
- *Blue oak (Quercus douglasii);*
- *White oak (Quercus garryana);*
- *Black oak (Quercus kelloggii);*
- *Valley oak (Quercus lobata);*
- *Interior live oak (Quercus wislizenii);*
- *California bay (Umbellularia californica);*
- *California buckeye (Aesculus californica);*
- *Madrone (Arbutus menziesii).*

(2) Approved Development Application. Of any size or species and designated to be protected and preserved as part of an approved development application;

(3) Riparian Tree. Is a native riparian tree with a trunk diameter of six-inches or more or one component trunk of a multi-trunked tree with a diameter of four-inches or more and that is one of the following species:

- *Bigleaf maple (Acer macrophyllum);*
- *Boxelder (Acer negundo);*
- *White alder (Alnus rhombifolia);*
- *Black walnut (Juglans hindsii);*
- *Cottonwood (Populus fremontii);*
- *Red willow (Salix laevigata);*
- *Arroyo willow (Salix lasiolepis);*
- *Coast live oak (Quercus agrifolia);*
- *Valley oak (Quercus lobata);*

- *California bay (Umbellularia californica);*
- *California buckeye (Aesculus californica);*
- *Blue Elderberry (Sambucus Mexicana, aerulea, or glauca).*

(4) Undeveloped Property. Of any species with a diameter of six inches or more and located on an undeveloped property;

(5) Replacement Tree. Is a replacement tree planted as restitution for a violation of this chapter;

(6) Restricted Ridgeline Area. Is a native tree of any size or species within a restricted ridgeline area;

(7) Street tree. Is a tree of any size or species and is located within a public right-of-way or a private access easement; or

(8) Downtown tree. Is a tree of any size or species within a commercial zoning district.

(r) "Pruning" means the removal of tree parts. Proper pruning is performed in a manner intended to achieve a specific goal while minimizing the negative effects on the tree. Excessive or improper pruning is that which employs techniques that result in negative physiological or structural impacts on the tree. Improper pruning includes topping. Excessive or improper pruning includes removing one-fourth (25 percent) or more, of the functioning leaf, stem or root area.

(s) "Relocate" means to move a tree from one location to another, either on-site or off-site.

(t) "Remove" means to cut down completely or extract a tree.

(u) "Restricted ridgeline area" means a class III ridgeline or an area within 400-feet of a class I ridge or 250-feet of a class II ridge, as designated on the Lafayette Area Ridge Map pursuant to subsection 6-2004(A.1.)

(v) "Topping" means a pruning cut that removes the main stem or stems between nodes, buds or laterals or a to lateral branch or limb not large enough to assume the terminal role that would result in serious decay and/or permanent alteration of the tree's structure.

(w) "Tree" means a large woody perennial plant with one or more trunks that generally reaches a minimum height of ten-feet at maturity. It does not include shrubs shaped to tree forms.

(x) "Tree education program" means the preparation of materials, holding of workshops, and other methods to disperse information to provide public knowledge and outreach about the maintenance, preservation, and benefits of native species.

(y) "Undeveloped property" means a vacant parcel without an existing legal dwelling unit as defined in Section 6-320.

(Ord. No. 593, § 1(Exh. A), 3-22-2010; Ord. No. 633, § 4(exh. A), 10-14-2014)

6-1703 - Destruction of a protected tree.

It is a violation of this chapter for any person to remove or destroy a protected tree without a category I or category II permit under Section 6-1706 or 6-1707, or without the approval of an exception under Section 6-1705.

(Ord. No. 593, § 1(Exh. A), 3-22-2010; Ord. No. 633, § 4(exh. A), 10-14-2014)

6-1704 - Permit required to remove a protected tree.

A category I or category II permit under Section 6-1706 or 6-1707 is required to remove or destroy a protected tree.

(Ord. No. 593, § 1(Exh. A), 3-22-2010; Ord. No. 633, § 4(exh. A), 10-14-2014)

6-1705 - Exceptions.

(a) A person seeking an exception to the requirements of this chapter shall file a written request with the director, together with the necessary information that sets forth the basis upon which the applicant believes an exception warranted. The director shall review the information submitted and may request additional documentation. The director will evaluate the request as it relates to the five circumstances outlined Part B of this section and shall either approve, conditionally approve, or deny the exception. The applicant shall be required to pay all costs of the city's processing of the request including verification of the information submitted.

(b) An exception to the requirements of this chapter may be granted:

(1) When a hazardous or dangerous condition requires immediate action to protect life or property as determined by the director or when the imminent threat is certified by an arborist and an emergency tree removal permit is granted by the director. The director may impose reasonable conditions, such as planting trees pursuant to subsection 6-1707(G);

(2) Under emergency conditions when ordered by the director, an official of the Contra Costa County Fire Protection District, or an official of the Contra Costa County Building Department;

(3) To maintain defensible space on land covered by flammable material, as required by Public Resources Code § 4291 and evaluated and approved by the director with consultation with the Contra Costa County Fire Protection District;

(4) To maintain an unobstructed flow of water for flood control safety in a creek or other waterway as determined by the city engineer or the public works director; ~~or~~

(5) To control and eradicate an invasive tree species listed in the Downtown Creeks Plan, provided that the exception is located within one of the four downtown commercial zoning districts as outlined in Chapter 6-2, Section 6-272; or

(~~5~~6) When the city must remove a protected tree to protect the health, safety and general welfare of the community.

(Ord. No. 593, § 1(Exh. A), 3-22-2010; Ord. No. 633, § 4(exh. A), 10-14-2014)

6-1706 - Permit category I: Protected tree on property not associated with development application.

(a) Permit required. A category I permit is required to remove or destroy a protected tree on property not currently associated with a development application or that will not be associated with a development application for a minimum of one-year from the date of the issuance of the permit.

(b) Application. An application for a category I permit shall be filed with the director on a form approved by the city together with a fee fixed by resolution of the city council. The application shall include the following information:

(1) Identification of the location, species and diameter of each protected tree to be removed;

(2) Statement justifying the permit request; and

(3) Supplemental information as may be necessary for the director to properly review the application, such as photographs or an arborist report concerning the health and quality of the tree and possible alternative actions.

(c) Application Review. The director shall review the application and inspect the subject tree. The director may refer the application to the downtown street improvement master plan implementation committee (DSIMPIC), design review commission, planning commission, or city council. The director may refer the application to an arborist or landscape consultant with arborist certification for additional review and report. The applicant shall pay the costs of this additional review and report.

(d) Determination. Within 30 days of deeming an application complete, the director shall approve, conditionally ap-

prove, or deny the application. If the application is referred to the DSIMPIC, design review commission, planning commission, or city council, then the application shall be approved, conditionally approved, or denied within 60 days of the date the application is deemed complete. In acting on the application, the director, design review commission, planning commission, or city council shall consider the following:

(1) Health, condition and form of the tree;

(2) Number, size and location of other trees to remain in the area;

(3) Relationship of the property to riparian corridors, a scenic or biological resource area or a restricted ridgeline area;

(4) Role of the tree in a tree grove or woodland habitat;

(5) Value of the tree to the neighborhood in terms of visual effect, wind screening and privacy;

(6) Damage caused by the tree to utilities, streets, sidewalks or existing private structures or improvements;

(7) Role of the tree in mitigating drainage, erosion or geologic stability impacts; and

(8) Health and condition of the area within the protected perimeter.

(e) Permit Conditions. The permit may include reasonable conditions, such as planting replacement trees pursuant to subsection 6-1707(G).

(f) Expiration of Permit. The permit is valid for 60 days from the date of issuance unless a longer period is stated in the permit. If the applicant does not begin the work authorized by the permit by the expiration date, the permit shall expire.

(Ord. No. 593, § 1(Exh. A), 3-22-2010; Ord. No. 633, § 4(exh. A), 10-14-2014)

6-1707 - Permit category II: Protected tree on developed or undeveloped property associated with development application.

(a) Permit Required. A category II permit is required if the proposed construction may result in the destruction or removal of a protected tree.

(b) Application. An application for a category II permit shall be filed with the director concurrently with the development application. The category II application shall be on a form approved by the city together with a fee fixed by resolution by the city council. The application shall include the following information:

(1) Depending on the type of development application, one of the following is required:

(A) Site plan showing the trunk location, diameter, species and dripline of each protected tree within 50 feet of any proposed construction on the subject property and adjacent properties and indicating which protected tree is proposed to be pruned or removed; or

(B) For those development applications that require a survey by a licensed surveyor or engineer, a field-verified topographical survey showing the trunk location, elevation at the base, diameter, species and accurate dripline of each protected tree within 100 feet of any proposed construction on the subject property and adjacent properties, and a table that identifies each protected tree, its diameter and species, and whether the tree is proposed to be pruned or removed; and

(2) Arborist report; and

(3) Statement justifying the removal of each protected tree; and

(4) Evidence of compliance with the requirements of responsible agencies for the removal of a protected tree if applicable; and

(5) Supplemental information required by the director.

(c) Application Review. The category II permit application shall be reviewed concurrently with the development application by the director, DSIMPIC, design review commission, planning commission or city council as required by type of development application. The director may refer the applicant's arborist report to an arborist for peer review. The applicant shall pay the cost of a peer review.

(d) Determination. Within 30 days of deeming an application complete or within the time limit associated with the review of the discretionary development application, the director, design review commission, planning commission, or city council shall approve, conditionally approve, or deny the application based on the factors in subsection 6-1706(D) and the following additional factors:

(1) Necessity for the pruning or removal in order to construct a required improvement on public property or within a public right-of-way or to construct an improvement that allows reasonable economic enjoyment of private property;

(2) Extent to which a proposed improvement may be modified to preserve and maintain a protected tree; and

(3) Extent to which a proposed change in the existing grade within the protected perimeter may be modified to preserve and maintain a protected tree.

The city shall not issue a building permit or a grading permit until after the director, design review commission, planning commission, or city council makes a determination on the category II permit.

(e) Permit Condition. An approved category II permit shall include a condition where the applicant shall guarantee the health and vigor of each protected tree to be preserved during construction as provided in subsection (f) of this section and shall enter into a landscape maintenance agreement with the city assuring the long-term maintenance of the protected trees. The applicant shall replace a protected tree that is removed or destroyed without approval as provided in section 6-1710.

(f) Tree Protection During Construction. The applicant shall comply with the following requirements:

(1) Before the start of construction, the applicant shall install fencing per city specifications at the perimeter of the protected area, or other area identified in an arborist report, of each protected tree to be preserved as shown on the approved construction plans. The director shall inspect and approve the fencing and its location before the issuance of a development permit.

(2) No construction may occur within the perimeter of the protected area unless approved as a condition of the application. The director may require an arborist to be present to observe the construction and prepare a report identifying further requirements for tree protection upon completion of construction.

(3) No construction may occur within the perimeter of the protected area until pruning of the tree required for access of construction equipment is completed under the supervision of an arborist.

(4) Under each circumstance where an arborist is required to supervise or observe construction, the arborist may require additional mitigation measures or halt construction if necessary to protect the subject trees. The applicant shall pay the costs of an arborist's supervision or observation.

(5) The parking or storing of a vehicle, construction trailer, equipment and material shall not be allowed within the perimeter of the protected area of a tree to be preserved.

(g) Protected Tree Replacement. When the removal or destruction of a protected tree is permitted, the applicant shall comply with the following requirements:

(1) For each six-inches or its fraction of the diameter of the tree to be removed, two 15-gallon trees shall be planted. If the tree that is removed is listed in subsections 6-1702(Q)(1) and 6-1702(Q)(3), each replacement tree shall be:

(A) The same genus and species as the removed or destroyed tree; or

(B) An alternative species approved by the director.

(2) The director may require larger trees for the benefit of the project. In addition, the director, design review commission, planning commission or city council may substitute a lesser number of larger trees or another species based on the finding from an arborist that such a substitution will be more beneficial to the health and vigor of other protected trees on the property. The following qualify as substitution ratios.

(A) One 24-inch box sized tree equals two 15-gallon replacement trees;

(B) One 36-inch box sized tree equals four 15-gallon replacement trees;

(C) One 48-inch box sized tree equals eight 15-gallon replacement trees;

(D) One 60-inch box sized tree equals 16 15-gallon replacement trees; or

(E) One 72-inch box sized tree equals 32 15-gallon replacement trees.

(3) If the property associated with the development application cannot accommodate a replacement tree, as a condition of the permit, the applicant shall make an in-lieu payment of an amount set by resolution by the city council for each 15-gallon replacement tree. The in-lieu payment shall be used by the city for a tree education and planting program. The director may waive the in-lieu payment when the protected tree is not a native species.

(4) The director, design review commission, planning commission or city council may reduce the amount of required replacement trees at its discretion due to the project's site conditions and if it finds that the reduction will be beneficial to the health and vigor of other protected trees on the property.

(5) If the city approves a tree removal request as part of a major tree removal project, the mitigation shall be the payment or planting, or combination thereof, equal to the full appraised value of the trees removed. The value of replacement trees shall be as set forth on the city's adopted fee schedule. The appraised value shall be determined by the city based on the council of tree and landscape appraisers guide for plant appraisal.

(h) Permit Expiration. A permit is valid for the same period of time as the approved development permit. If the work authorized by the permit is not started before the expiration date, the permit expires.

(Ord. No. 593, § 1(Exh. A), 3-22-2010; Ord. No. 633, § 4(exh. A), 10-14-2014)

6-1708 - Tree maintenance by private parties.

Except for trees planted by the City, it shall be the property owner's responsibility to maintain trees within the public right-of-way directly adjacent to private property.

(Ord. No. 593, § 1(Exh. A), 3-22-2010; Ord. No. 633, § 4(exh. A), 10-14-2014)

6-1709 - Restriction on the issuance of a development permit.

A development permit may not be issued for construction on a property upon which a protected tree was destroyed or removed without a permit for a period of five years from the date of violation as determined by the director. The director may waive this time limit if the tree is replaced as provided in Section 6-1710. The restriction on the issuance of a development permit applies to a successor-in-interest in the subject property. Upon transfer of the property, the owner shall notify the successor-in-interest of the violation of this chapter. The Director may record a notice of violation on the property with the Contra Costa County Recorder.

(Ord. No. 593, § 1(Exh. A), 3-22-2010; Ord. No. 633, § 4(exh. A), 10-14-2014)

6-1710 - Restitution and replacement of protected trees.

A person who destroys or removes a protected tree in violation of this chapter shall pay restitution to the city by replacing each six inches or its fraction of the diameter of the protected tree with four replacement 24-inch box trees of the same species. The replacement trees shall be planted on the property on which the protected tree was destroyed or removed. Based on a report by an arborist that includes an appraisal of the damage, where feasible, and recommendations for replacement, the Director may impose additional requirements to ensure the health of the replacement trees for a minimum of two years and/or may authorize the substitution of a greater number of smaller trees, lesser number of larger trees or on another property if it is found that a substitution is more beneficial to health and vigor of other protected trees on the property. The person responsible for the destruction or removal of a protected tree shall pay the cost of the arborist report.

If the director determines the property cannot accommodate replacement trees, an in-lieu payment of an amount set by resolution by the city council shall be required for each replacement tree. All in-lieu payments shall be used by the city for tree education programs or planting programs.

A person who destroys or removes more than 25 protected trees, a major tree removal project, in violation of this chapter shall pay restitution to the city by replacing each six inches or its fraction of the diameter of the protected tree with four replacement 24-inch box trees of the same species and pay the appraised values of the trees removed. The appraised value shall be determined by the city based on the council of tree and landscape appraisers guide for plant appraisal.

(Ord. No. 593, § 1(Exh. A), 3-22-2010; Ord. No. 633, § 4(exh. A), 10-14-2014)

6-1711 - Enforcement.

A person who violates this chapter is liable in a civil action in an amount set by resolution by the city council for each violation.

(Ord. No. 593, § 1(Exh. A), 3-22-2010; Ord. No. 633, § 4(exh. A), 10-14-2014)

6-1712 - Appeal.

An appeal of a decision made pursuant to this chapter is governed by Sections 6-217 through 6-238 or Section 8-2110.

(Ord. No. 593, § 1(Exh. A), 3-22-2010; Ord. No. 633, § 4(exh. A), 10-14-2014)

6-1713 - Nonliability of the city.

Nothing in this chapter imposes liability upon the city or its officers or employees, or relieves the owner or occupant of private property from the duty to keep in safe condition a tree or other vegetation upon private property or upon or within a public right-of-way or easement adjacent to the private property.

(Ord. No. 593, § 1(Exh. A), 3-22-2010; Ord. No. 633, § 4(exh. A), 10-14-2014)

FLOOD DAMAGE PREVENTION ORDINANCE, Lafayette Municipal Code Chapter 6-18, oversight by Planning Commission. (04-12-2017 revision)

The Downtown Creeks Plan recommends the City consider allowing certain creek enhancements consistent with the Downtown Creeks Plan within the creek setback area. These enhancements include public access paths, platforms or other improvements to allow viewsheds into a creek or watercourse, or substantially improve the natural functions of the creek or watercourse. Amendments are proposed to the Flood Damage Prevention Ordinance to provide this flexibility to the City. While reviewing the ordinance, opportunities were discovered to improve consistency between the ordinance and other City plans, regulations and guidelines that were adopted subsequent to the last update to the ordinance in 2000.

Ordinance Text

Chapter 6-18 - FLOOD DAMAGE PREVENTION AND WATERCOURSE PROTECTION

Sections:

Article 1. - General Provisions

6-1801 - Findings of fact.

(a) The flood hazard areas of the city of Lafayette are subject to periodic inundation which could result in loss of life and property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety and general welfare.

~~(b)~~ These flood losses are caused by the cumulative effect of obstructions in areas of special flood hazards which increase flood heights and velocities, and when inadequately anchored, damage uses in other areas. Uses that are inadequately floodproofed, elevated or otherwise protected from flood damage also contribute to the flood loss.

(b) The riparian lands and watercourses of the City may be subject to mandatory compliance with Federal and State environmental laws and regulations and any amendments or additions thereto as may be established from time to time.

(c) Flood hazard areas, riparian lands and watercourses of the City are subject to the goals, policies, requirements and guidelines of the General Plan, Downtown Specific Plan, Downtown Creeks Preservation, Restoration and Development Plan, and any amendments or additions thereto as may be established in order to protect the public health, safety and general welfare.

(Ord. 512 § 1 (Appx. A (part)), 2000)

6-1802 - Statement of purpose.

It is the purpose of this chapter to promote the public health, safety and general welfare, to implement compliance with applicable environmental and water quality laws and regulations, to effectuate applicable provisions of the General Plan, Downtown Specific Plan, Downtown Creeks Preservation Restoration and Development Plan, and other applicable land use ordinances and guidelines, and to minimize public and private losses due to flood conditions in specified areas by provisions designed to:

(a) Protect human life and health;

(b) Minimize expenditure of public money for costly flood-control projects;

(c) Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;

(d) Minimize prolonged business interruptions;

(e) Minimize damage to public facilities and utilities such as water and gas mains; electric, telephone and sewer lines; and streets and bridges located in areas of special flood hazard;

(f) Help maintain a stable tax base by providing for the second use and development of areas of special flood hazard so as to minimize future flood blight areas;

(g) Ensure that potential buyers are notified that property is in an area of special flood hazard;

(h) Ensure that those who occupy the areas of special flood hazard assume responsibility for their actions;

(i) Protect persons and property along creek channels; and

(j) ~~Protect~~ Preserve and restore the natural environment along creeks, watercourses and riparian lands in accordance with applicable laws, regulations, plans and guidelines and enumerated in 6-1801 hereinabove ~~to the extent feasible~~.

(Ord. 512 § 1 (Appx. A (part)), 2000)

6-1803 - Methods of reducing flood losses.

In order to accomplish its purposes, this chapter includes methods and provisions for:

(a) Restricting or prohibiting uses which are dangerous to health, safety and property due to water or erosion hazards, or which result in damaging increases in erosion or in flood heights or velocities;

(b) Requiring that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;

(c) Controlling the alteration of natural floodplains, stream channels, and natural protective barriers which help accommodate or channel floodwaters;

(d) Controlling filling, grading, dredging and other development which may increase flood damage; and

(e) Preventing or regulating the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards in other areas.

(Ord. 512 § 1 (Appx. A (part)), 2000)

6-1804 - Definitions.

In this chapter, unless the context otherwise requires:

"Accessory Use" means a use which is incidental and subordinate to the principal use of the parcel of land on which it is located.

"Alluvial fan" means a geomorphologic feature characterized by a cone or fan-shaped deposit of boulders, gravel, and fine sediments that have been eroded from mountain slopes, transported by flood flows, and then deposited on the valley floors, and which is subject to flash flooding, high velocity flows, debris flows, erosion, sediment movement and deposition, and channel migration.

"Apex" means the point of highest elevation on an alluvial fan, which on undisturbed fans is generally the point where the major stream that formed the fan emerges from the mountain front.

"Appeal" means a request for a review of the city engineer's interpretation of a provision of this chapter or a request for a variance.

"Area of shallow flooding" means a designated AO or AH Zone on the flood insurance rate map (FIRM). The base flood depths range from one to three feet; a clearly defined channel does not exist; the path of flooding is unpredictable and indeterminate; and velocity flow may be evident. Such flooding is characterized by ponding or sheet flow.

Area of Special Flood Hazard. See "Special flood hazard area."

"Area of special flood-related erosion hazard" means the land within a community which is most likely to be subject to severe flood-related erosion losses. The area may be designated as Zone E on the flood insurance rate map (FIRM).

"Base flood" means the flood having a one-percent chance of being equaled or exceeded in any given year (also called the "100-year flood"). Base flood is the term used throughout this chapter.

"Basement" means any area of the building having its floor subgrade (below ground level) on all sides.

"Breakaway walls" means any walls, whether solid or lattice, and whether constructed of concrete, masonry, wood, metal, plastic or any other suitable building material, which are not part of the structural support of the building and which are designed to break away without causing any damage to the structural integrity of the building on which they are used or any buildings to which they might be carried by floodwaters. A breakaway wall shall have a safe design loading resistance of not less than ten and no more than 20 pounds per square foot. Use of breakaway walls must be certified by a registered engineer or architect and shall meet the following conditions:

(1) Breakaway wall collapse shall result from a water load less than that which would occur during the base flood; and

(2) The elevated portion of the building shall not incur any structural damage due to the effects of wind and water loads acting simultaneously in the event of the base flood.

Building. See "Structure."

Development" means any manmade change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment materials.

"Encroachment" means the advance or infringement of uses, plant growth, fill, excavation, buildings, permanent structures or development into a floodplain which may impede or alter the flow capacity of a floodplain.

"Existing manufactured home park or subdivision" means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed before the effective date of the floodplain management regulations adopted by a community.

"Expansion to an existing manufactured home pard or subdivision" means the preparation of additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads.)

"Flood," "flooding" or "floodwater" means:

(1) A general and temporary condition of partial or complete inundation of normally dry land areas from the overflow of inland or tidal waters; the unusual and rapid accumulation or runoff of surface waters from any source; and/or mudslides (i.e., mudflows); and

(2) The condition resulting from flood-related erosion;

(3) The collapse or subsidence of land along a body of water as a result of erosion or undermining caused by waves or currents of water exceeding anticipated cyclical levels or suddenly caused by an unusually high water level in a natural body of water, accompanied by a severe storm, or by an unanticipated force of nature, such as flash flood, or by some similarly unusual and unforeseeable event which results in flooding as defined in this definition.

"Flood boundary and floodway map (FBFM)" means the official map on which the Federal Emergency Management Agency or Federal Insurance Administration has delineated both the areas of flood hazards and the floodway.

"Flood hazard boundary map" means the official map on which the Federal Emergency Management Agency or Federal Insurance Administration has delineated the areas of flood hazards.

"Flood insurance rate map (FIRM)" is the official map on which the Federal Emergency Management Agency or Federal Insurance Administration has delineated both the areas of special flood hazards and the risk premium zones applicable to the city.

"Flood Insurance Study" is the official report provided by the Federal Insurance Administration that includes flood profiles, the flood insurance rate map, the flood boundary and floodway map, and the water surface elevation of the base flood.

"Flood-related erosion" means the collapse or subsidence of land along the shore of a lake or other body of water as a result of undermining caused by waves or currents of water exceeding anticipated cyclical level or suddenly caused by an unusually high water level in a natural body of water, accompanied by a severe storm, or by an unanticipated force of nature, such as a flash flood or an abnormal tidal surge, or by some similarly unusually and unforeseeable event which results in flooding.

"Flood-related erosion area" of "flood-related erosion prone area" means a land area adjoining the shore of a lake or other body of water, which due to the composition of the shoreline or bank and high water levels or wind-driven currents, is likely to suffer flood-related erosion damage.

"Flood-related erosion area management" means the operation of an overall program of corrective and preventive measures for reducing flood-related erosion damage, including but not limited to emergency preparedness plans, flood-related erosion control works, and floodplain management regulations.

"Floodplain" or "flood-prone area" means any land area susceptible to being inundated by water from any source (see definition of "Flooding").

"Floodplain administrator" means the individual appointed to administer and enforce the floodplain management regulations.

"Floodplain management" means the operation of an overall program of corrective and preventive measures for reducing flood damage and preserving and enhancing, where possible, natural resources in the floodplain, including but not limited to emergency preparedness plans, flood control works, floodplain management regulations and open space plans.

"Floodplain management regulations" means this chapter and other zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances (such as grading ordinance and erosion control ordinance) and other applications of police power which control development in flood-prone areas. This term describes such federal, state or local regulations in any combination thereof, which provide standards for the purpose of preventing and reducing flood loss and damage.

"Floodproofing" means any combination of structural and nonstructural additions, changes or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures and their contents. (Refer to FEMA Technical Bulletins TB 1-93, TB 3-93 and TB 7-93 for guidelines on dry and wet floodproofing.)

"Floodway" means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot. The floodway is delineated on the flood boundary and floodway map. Also referred to as "regulatory floodway."

"Floodway fringe" means that area of the floodplain on either side of the "regulatory floodway" where encroachment may be permitted.

"Fraud and victimization" as related to Article 6, Flood Hazard Variance Procedure, of this chapter, means that the variance granted must not cause fraud on or victimization of the public. In examining this requirement, the city council will consider the fact that every newly constructed building adds to government responsibilities and remains a part of the community for 50 to 100 years. Buildings that are permitted to be constructed below the base flood elevation are subject during all those years to increased risk of damage from floods, while future owners of the property and the community as a whole are subject to all the costs, inconvenience, danger, and suffering that those increased flood damages bring. In addition, future owners may purchase the property, unaware that it is subject to potential flood damage, and can be insured only at very high flood insurance rates.

"Functionally dependent use" means a use which cannot perform its intended purpose unless it is located or carried out in close proximity to water. The term includes only docking facilities, but does not include long-term storage or related manufacturing facilities.

"Governing body" is the local governing unit, i.e., county or municipality, that is empowered to adopt and implement regulations to provide for the public health, safety and general welfare of its citizenry.

"Hardship" as related to Article 6, Flood Hazard Variance Procedure, of this chapter means the exceptional hardship that would result from a failure to grant the requested variance. The city council requires that the variance be exceptional, unusual, and peculiar to the property involved. Mere economic or financial hardship alone is not exceptional. Inconvenience, aesthetic considerations, physical handicaps, personal preferences, or the disapproval of one's neighbors likewise cannot, as a rule, qualify as an exceptional hardship. All of these problems can be resolved through other means without granting a variance, even if the alternative is more expensive, or requires the property owner to build elsewhere or put the parcel to a different use than originally intended.

"Highest adjacent grade" means the highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.

"Historic structure" means any structure that is:

(1) Listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;

(2) Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;

(3) Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of Interior; or

(4) Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either by an approved state program as determined by the Secretary of the Interior or directly by the Secretary of the Interior in states without approved programs.

"Lowest floor" means the lowest floor of the lowest enclosed area (including basement) (see "Basement" definition).

(1) An unfinished or flood resistant enclosure below the lowest floor that is usable solely for parking of vehicles, building access or storage in an area other than a basement area is not considered a building's lowest floor; provided, that such enclosure is not built so as to render the structure in violation of the applicable nonelevation design requirements of this chapter, including but not limited to:

(A) The wet floodproofing standard in Section 6-1834(d);

(B) The anchoring standards in Section 6-1832;

(C) The construction materials and methods standards in Section 6-1833; and

(D) The standards for utilities in Section 6-1836.

(2) For residential structures, all subgrade enclosed areas are prohibited as they are considered to be basements (see "Basement" definition). This prohibition includes below-grade garages and storage areas.

"Manufactured home" means a structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. The term "manufactured home" does not include a "recreational vehicle."

"Manufactured home park or subdivision" means a parcel (or contiguous parcels) of land divided into two or more manufactured home lots for sale or rent.

"Market value" shall be determined by estimating the cost to replace the structure in new condition and adjusting that cost figure by the amount of depreciation which has accrued since the structure was constructed. The cost of replacement of the structure shall be based on a square foot cost factor determined by reference to a building cost estimating guide recognized by the building construction industry. The amount of depreciation shall be determined by taking into account the age and physical deterioration of the structure and functional obsolescence as approved by the floodplain administrator, but shall not include economic or other forms of external obsolescence. Use of replacement costs or accrued depreciation factors different from those contained in recognized building cost estimating guides may be considered only if such factors are included in a report prepared by an independent professional appraiser and supported by a written explanation of the differences.

"Mean sea level" means, for purposes of the National Flood Insurance Program, the National Geodetic Vertical Datum (NGVD) of 1929 or other datum, to which base flood elevations shown on a community's flood insurance rate map are referenced.

"New construction" means, for flood management purposes, structures for which the "start of construction" commenced on or after the effective date of the ordinance codified in this chapter, and includes any subsequent improvements to such structures.

"New manufactured home park or subdivision" means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed on or after the effective date of the ordinance codified in this chapter.

"Obstruction" includes, but is not limited to, any dam, wall, wharf, embankment, levee, dike, pile, abutment, protection, excavation, channelization, bridge, conduit, culvert, building, wire, fence, rock, gravel, refuse, fill, structure, vegetation or other material in, along, across or projecting into any watercourse which may alter, impede, retard or change the direction and/or velocity of the flow of water, or due to its location, its propensity to snare or collect debris carried by the flow of water, or its likelihood of being carried downstream.

One-hundred-year-flood or 100-year-flood. See "Base flood."

"Person" means an individual or his agent, firm, partnership, association or corporation, or agent of the aforementioned groups, or this state or its agencies or political subdivisions.

"Public safety and nuisance" as related to Article 6, Flood Hazard Variance Procedure, of this chapter means that the granting of a variance must not result in anything which is injurious to safety or health of an entire community or neighborhood, or any considerable number of persons, or unlawfully obstructs the free passage or use, in the customary manner, of any navigable lake, or river, bay, stream, canal or basin.

"Recreational vehicle" means a vehicle which is

(1) Built on a single chassis;

(2) 400 square feet or less when measured at the largest horizontal projection;

(3) Designed to be self-propelled or permanently towable by a light-duty truck; and

(4) Designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.

"Regulatory floodway" means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot.

"Remedy a violation" means to bring the structure or other development into compliance with state or local floodplain management regulations, or, if this is not possible, to reduce the impacts of its noncompliance. Ways that impacts may be reduced include protecting the structure or other affected development from flood damages, implementing the enforcement provisions of this chapter or otherwise deterring future similar violations, or reducing state or federal financial exposure with regard to the structure or other development.

"Riparian lands" means land comprised of the vegetative and wildlife areas adjacent to perennial and intermittent streams. Riparian lands are delineated by the existence of plant species normally found near freshwater.

"Riverine" means relating to, formed by or resembling a river (including tributaries), stream, creek, brook, etc.

Sheet Flow Area. See "Area of shallow flooding."

"Special flood hazard area (SFHA)" means an area in the floodplain subject to a one percent or greater chance of flooding in any given year. It is shown on an FHBM or FIRM as Zone A, A1 - 30, AE, AO, A99 or AH.

"Start of construction" includes substantial improvement and other proposed new development, and means the date the building permit was issued, provided, the actual start of construction, repair, reconstruction, rehabilitation, addition, placement or other improvement was within 180 days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of a slab or footings, installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling, nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footing, piers or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor or other structural part of a building, whether or not that alteration affects the external dimensions of the building. For a structure (other than a manufactured home) without a basement or poured footings, the "start of construction" includes the first permanent framing or assembly of the structure or any part thereof on its piling or foundation. For manufactured homes not within a manufactured home park or manufactured home subdivision, "start of construction" is the date on which the construction of facilities for serving the site on which the manufactured home is to be affixed (including, at a minimum, the construction of streets, either final site grading or the pouring of concrete pads and installation of utilities) is completed.

"Structure" means (a) a walled and roofed building that is principally above ground; this includes a gas or liquid storage tank as well as a manufactured home; (b) any other roofed building supported by columns, walls, or other foundation systems, intended for the shelter, housing, or enclosing of persons, animals, or property; (c) retaining walls, foundations, and systems intended to be load bearing; or (d) any other construction determined by the city engineer to be consistent with essence of items defined above.

"Substantial damage" means damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.

"Substantial improvement" means any reconstruction, rehabilitation, addition or other proposed new development of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the "start of construction" of the improvement. This term includes structures which have incurred "substantial damage," regardless of the actual repair work performed. The term does not, however, include either:

(1) Any project for improvement of a structure to comply with existing state or local health, sanitary or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions, or

(2) Any alteration of a structure listed on the National Register of Historic Places or a State Inventory of Historic Places or designated by the city as an Historical Landmark; provided, that the alteration will not preclude the structure's continued designation as a "historic structure."

"Variance" or "flood hazard variance" means a grant of relief from the requirements of this chapter which permits construction in a manner that would otherwise be prohibited by this chapter.

"Violation" means the failure of a structure or other development to be fully compliant with the city's floodplain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required in this chapter is presumed to be in violation until such time as that documentation is provided.

"Water surface elevation" means the height, in relation to the National Geodetic Vertical Datum (NGVD) of 1929, (or other datum, where specified) of floods of various magnitudes and frequencies in the floodplains of coastal or riverine areas.

"Watercourse" means a lake, river, creek, stream, wash, arroyo, channel or other topographic feature on or over which waters flow naturally, or once naturally, at least ~~periodically~~intermittently. Watercourse includes specifically designated areas in which substantial flood damage may occur.

(Ord. 512 § 1 (Appx. A (part)), 2000)

Article 2. - Applications

6-1811 - Lands to which this chapter applies.

~~This chapter applies to all areas of special flood hazards within the jurisdiction of the city of Lafayette, California.~~ This chapter applies to all areas of special flood hazards or abutting creeks or watercourses containing riparian features within the jurisdiction of the City of Lafayette, California. All properties abutting creeks or watercourses containing riparian features shall be subject to the creek setback provisions defined in this chapter. All properties within flood hazard areas shall be additionally subject to the standards for flood hazard reduction defined in this chapter.

(Ord. 512 § 1 (Appx. A (part)), 2000)

6-1812 - Basis for establishing the areas of special flood hazard.

The areas of special flood hazard identified by the Federal Insurance Administration (FIA) of the Federal Emergency Management Agency (FEMA) in the "Flood Insurance Study—City of Lafayette, California, Contra Costa County," (FIS) dated July 2, 1987, and accompanying flood insurance rate map (FIRMs) and flood boundary and floodway maps (FBFMs), dated July 25, 1988, and all subsequent amendments and/or revisions, are adopted by reference and declared to be a part of this chapter. This FIS and attendant mapping is the minimum area of applicability of this chapter and may be supplemented by studies for other areas which allow implementation of this chapter and which are recommended to the city council by the floodplain administrator. The flood insurance study, FIRMs and FBFMs are on file at the City Office, 3675 Mt. Diablo Blvd., Suite 210, Lafayette, CA 94549.

(Ord. 512 § 1 (Appx. A (part)), 2000)

6-1813 - Compliance.

No structure or land shall hereafter be constructed, located, extended, converted or altered, or any other development shall occur without full compliance with the terms of this chapter and other applicable regulations and federal and state laws. Violations of the provisions of this chapter by failure to comply with any of its requirements (including violations of conditions and safeguards established in connection with conditions) shall constitute a misdemeanor. Nothing herein shall prevent the city council of the city from taking such lawful action as is necessary to prevent or remedy any violation.

(Ord. 512 § 1 (Appx. A (part)), 2000)

6-1814 - Abrogation and greater restrictions.

This chapter is not intended to repeal, abrogate or impair existing easements, covenants or deed restrictions. However, where this chapter and other ordinance, easement, covenant or deed restriction conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

(Ord. 512 § 1 (Appx. A (part)), 2000)

6-1815 - Interpretation.

In the interpretation and application of this chapter, all provisions shall be:

(a) Considered as minimum requirements;

(b) Liberally construed in favor of the governing body; and

(c) Deemed neither to limit nor repeal any other powers granted under state statutes.

(Ord. 512 § 1 (Appx. A (part)), 2000)

6-1816 - Warning and disclaimer of liability.

The degree of flood protection required by this chapter is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by manmade or natural causes. This chapter does not imply that land outside the areas of special flood hazards or uses permitted within such areas will be free from flooding or flood damages. This chapter shall not create liability on the part of the city of Lafayette, any officer or employee thereof, the state of California, or the Federal Insurance Administration, Federal Emergency Management Agency for flood damage that results from reliance on this chapter or an administrative decision lawfully made hereunder.

(Ord. 512 § 1 (Appx. A (part)), 2000)

6-1817 - Severability.

This chapter and the various parts thereof are declared to be severable. Should any section of this chapter be declared by the courts to be unconstitutional or invalid, such decision shall not affect the validity of the chapter as a whole, or any portion thereof other than the section so declared to be unconstitutional or invalid.

(Ord. 512 § 1 (Appx. A (part)), 2000)

Article 3. - Administration

6-1821 - Establishment of development permit.

A development permit must be obtained before construction or development begins ~~within any area of special flood hazard established in Section 6-1812~~. Application for a development permit shall be made on forms furnished by the city engineer and may include, but not be limited to: plans in duplicate drawn to scale showing the nature, location, dimensions and elevation of the area in question; existing or proposed structures, fill, storage of materials, drainage facilities; and the location of the foregoing. Specifically, the following information is required:

(a) Site plan, including but not limited to:

(1) For all proposed structures, spot ground elevations at building corners and 20-foot or smaller intervals along the foundation footprint, or one foot contour elevations throughout the building site; and

(2) Proposed locations of water supply, sanitary sewer and utilities; and

(3) If available, the base flood elevation from the flood insurance study and/or flood insurance rate map; and

(4) If applicable, the location of the regulatory floodway; and

(5) Proposed impervious paving or other impervious surfaces; and

(b) Foundation design detail, including but not limited to:

(1) Proposed elevation, in relation to mean sea level, of the lowest floor (including basement) of all structures;

(2) For a crawl-space foundation, location and total net area of foundation openings as required in Section 6-1834(d) and FEMA Technical Bulletins 1-93 and 7-93; and

(3) For foundations placed on fill, the location and height of fill, and compaction requirements (compacted to 95 percent using the Standard Proctor Test method); and

(c) Proposed elevation, in relation to mean sea level, to which any nonresidential structure will be floodproofed as required in Section 6-1834(c) and FEMA Technical Bulletin TB 3-93;

(d) All appropriate certifications listed in Section 6-1823(c) of this chapter; and

(e) Description of the extent to which any watercourse will be altered or relocated as a result of proposed development.

(Ord. 512 § 1 (Appx. A (part)), 2000)

6-1822 - Designation of the floodplain administrator.

The Lafayette city engineer is appointed to administer, implement and enforce this chapter by granting or denying development permit applications in accordance with its provisions.

(Ord. 512 § 1 (Appx. A (part)), 2000)

6-1823 - Duties and responsibilities of the floodplain administrator.

The duties of the floodplain administrator include but are not limited to:

(a) Permit Review. Review of development permits to determine that:

(1) The permit requirements of this chapter are satisfied;

(2) All other required state and federal permits have been obtained;

(3) The site is reasonably safe from flooding; ~~and~~

(4) The proposed development does not adversely affect the carrying capacity of areas where base flood elevations have been determined but a floodway has not been designated. For purposes of this chapter, "adversely affects" means that the cumulative effect of the proposed development when combined with all other existing and anticipated development will increase the water surface elevation of the base flood more than one foot at any point; and

(5) The permits do not adversely affect the implementation of the applicable provisions of the General Plan, Downtown Specific Plan, Downtown Creeks Preservation, Restoration and Development Plan, and other applicable land use ordinances and guidelines.

(b) Review, Use, and Development of Other Base Flood Data.

(1) When base flood elevation data has not been provided in accordance with Section 6-1812, "Basis for establishing the areas of special flood hazard," the city engineer shall obtain, review and reasonably utilize any base flood elevation and floodway data available from a federal or state agency, or other source, in order to administer Article 4 of this chapter. Any such information shall be submitted to the city council of the city for adoption.

(2) If no base flood elevation data is available from a federal or state agency or other source, then a base flood elevation shall be obtained using one of two methods from the FEMA publication "Managing Floodplain Development in Approximate Zone A Areas - A Guide for Obtaining the Developing Base (100-year) Flood Elevations" dated July 1995 in order to administer Article 4:

(A) Simplified Method.

(i) 100 year or base flood discharge shall be obtained using the appropriate regression equation found in a U.S. Geological Survey publication, or the discharge-drainage area method; and

(ii) Base flood elevation shall be obtained using the Quick-2 computer program developed by FEMA; or

(B) Detailed Method.

(i) 100 year or base flood discharge shall be obtained using the U.S. Army Corps of Engineers' HEC-HMS computer program; and

(ii) Base flood elevation shall be obtained using the U.S. Army Corps of Engineers' HEC-RAS computer program.

(c) Information to be Obtained and Maintained. The city engineer shall obtain and maintain for public inspection and make available as needed the following:

(1) The certified elevation required in Section 6-1834(a) and (b), and Section 6-1838 (Lowest-floor elevations);

(2) The floodproofing certification required in Section 6-1834(c) (Elevation or floodproofing of nonresidential structures);

(3) The certification required in Section 6- 1834(d) (Wet floodproofing standard);

(4) The certification required in Section 6-1837(b) (Subdivision standards);

(5) The certification required in Section 6-1839(a) (Floodway encroachments);

(6) The certification required in Section 6-1834(a), (b), or (c) (Elevations in areas of shallow flooding).

(d) Alteration of Watercourses. Whenever a watercourse is to be altered or relocated, the city engineer shall:

(1) Notify adjacent communities and the California Department of Water Resources prior to any alteration or relocation of a watercourse,

(2) Submit evidence of such notification to the Federal Insurance Administration, Federal Emergency Management Agency; and

(3) Require that the flood-carrying capacity of the altered or relocated portion of such watercourse is maintained.

(e) Interpretation of FIRM Boundaries. The city engineer shall make interpretations where needed, as to the exact location of the boundaries of the areas of special flood hazard. Where there appears to be a conflict between a mapped boundary and actual field conditions, grade and base flood elevations shall be used to determine the boundaries of the special flood hazard area. The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in Section 6-1852(b).

(f) Take action to remedy violations of this chapter as specified in Section 6-1813 of this chapter.

(Ord. 512 § 1 (Appx. A (part)), 2000)

6-1824 - Interpretation.

Where uncertainty exists regarding the interpretation of a provision of this chapter or its application to a specific site, the city engineer shall determine the intent of the provision. The city council shall hear and decide appeals when it is alleged there is an error in any requirement, decision or determination made by the floodplain administrator in the enforcement or administration of this chapter.

(Ord. 512 § 1 (Appx. A (part)), 2000)

Article 4. - Standards for Flood Hazard Reduction

6-1831 - Applications.

In all areas of special flood hazards the standards set forth in this article are required.

(Ord. 512 § 1 (Appx. A (part)), 2000)

6-1832 - Anchoring.

(a) All new construction and substantial improvements shall be adequately anchored to prevent flotation, collapse or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy.

(b) All manufactured homes shall meet the anchoring standards of Section 6-1838.

(Ord. 512 § 1 (Appx. A (part)), 2000)

6-1833 - Construction materials and methods.

(a) All new construction and substantial improvements shall be constructed:

(1) With flood resistant materials as specified in FEMA Technical Bulletin TB 2-93, and utility equipment resistant to flood damage;

(2) Using methods and practices that minimize flood damage;

(3) With electrical, heating, ventilation, plumbing and air conditioning equipment and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding; and if

(4) Within Zone AO or Zone AH, adequate drainage paths shall be provided around structures on slopes to guide floodwaters around and away from proposed structures.

(Ord. 512 § 1 (Appx. A (part)), 2000)

6-1834 - Elevation and floodproofing.

(See Section 6-1804 definitions for "basement," "lowest floor," "new construction," "substantial damage" and "substantial improvement".)

(a) Residential construction, in cases of new or complete reconstruction, shall have the lowest floor, including basement,

(1) In an AO zone, elevated above the highest adjacent grade to a height exceeding the depth number specified in feet on the FIRM by at least two feet, or elevated at least four feet above the highest adjacent grade if no depth number is specified.

(2) In an A zone, elevated at least two feet above the base flood elevation, as determined by the community; the base flood elevation shall be determined by one of the methods in Section 6-1823(b).

(3) In all other zones, elevated at least two feet above the base flood elevation.

Upon completion of the structure, the elevation of the lowest floor including the basement shall be certified by a registered professional engineer or surveyor, and verified by the community building inspector, to be properly elevated. Such certification and verification shall be provided to the city engineer.

(b) Residential construction, in cases of substantial improvement, shall have the lowest floor, including basement:

(1) In an AO zone, elevated above the highest adjacent grade to a height equal to or exceeding the depth number specified in feet on the FIRM, or elevated at least two feet above the highest adjacent grade if no depth number is specified.

(2) In an A zone, elevated to or above the base flood elevation; said base flood elevation shall be determined by one of the methods in Section 6-1823(b).

(3) In all other zones, elevated to or above the base flood elevation.

Upon completion of the structure, the elevation of the lowest floor including the basement shall be certified by a registered professional engineer or surveyor, and verified by the community building inspector, to be properly elevated. Such certification and verification shall be provided to the city engineer.

(c) Nonresidential construction, new or substantial improvement, shall either be elevated in conformance with Section 6-1834(a) or (b), together with attendant utility and sanitary facilities:

(1) Be floodproofed so that below the elevation recommended in Section 6-1834(a) or (b), the structure is watertight with walls substantially impermeable to the passage of water;

(2) Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy; and

(3) Be certified by a registered professional engineer or architect that the standards of Section 6-1834(c) are satisfied. Such certifications shall be provided to the city engineer.

(d) All new construction and substantial improvements, fully enclosed areas below the lowest floor (excluding basement) that are usable solely for parking of vehicles, building access or storage, and which are subject to flooding, shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement shall follow the guidelines in FEMA Technical Bulletins TB 1-93 and TB 7-93, and must exceed the following minimum criteria:

(1) A minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided. The bottom of all openings shall be no higher than one foot above grade. Openings may be equipped with screens, louvers, valves or other coverings or devices, provided that they permit the automatic entry and exit of floodwaters; or

(2) Be certified by a registered professional engineer or architect.

(e) Manufactured homes shall meet the standards in this section and also the standards in Section 6-1838.

(Ord. 512 § 1 (Appx. A (part)), 2000)

6-1835 - Standards for storage of materials and equipment.

(a) The storage or processing of materials that are in time of flooding buoyant, flammable or explosive or could be injurious to human, animal or plant life is prohibited.

(b) Storage of other material or equipment may be allowed if not subject to major damage by floods and firmly anchored to prevent flotation or if readily removable from the area within the time available after flood warning.

(Ord. 512 § 1 (Appx. A (part)), 2000)

6-1836 - Standards for utilities.

(a) All new and replacement water supply and sanitary sewage systems shall be designed to minimize or eliminate:

(1) Infiltration of floodwaters into the system, and

(2) Discharge from systems into floodwaters.

(b) On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.

(Ord. 512 § 1 (Appx. A (part)), 2000)

6-1837 - Standards for subdivisions.

(a) All preliminary subdivision proposals shall identify the flood hazard area and the elevation of the base flood.

(b) All subdivision plans will provide the elevation of proposed structure(s) and pad(s). If the site is filled above the base flood elevation, the lowest floor and pad elevations shall be certified by a registered professional engineer or surveyor and shall be provided to the city engineer.

(c) All subdivision proposals shall be consistent with the need to minimize flood damage.

(d) All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize flood damage.

(e) All subdivision proposals shall provide adequate drainage to reduce exposure to flood hazards.

(Ord. 512 § 1 (Appx. A (part)), 2000)

6-1838 - Standards for manufactured homes and recreational vehicles.

(a) All manufactured homes that are placed or substantially improved, within Zones A1 - 30, AH and AE on the community's flood insurance rate map, on sites located:

(1) Outside of a manufactured home park or subdivision;

(2) In a new manufactured home park or subdivision;

(3) In an expansion to an existing manufactured home park or subdivision; or

(4) In an existing manufactured home park or subdivision on a site upon which a manufactured home has incurred "substantial damage" as the result of a flood,

shall be elevated on a permanent foundation such that the lowest floor of the manufactured home is elevated:

(1) At least two feet above the base flood elevation for cases of new placement; or

(2) At least above the base flood elevation for cases of substantial improvement; and be securely fastened to an adequately anchored foundation system to resist flotation, collapse and lateral movement.

(b) All manufactured homes to be placed or substantially improved on sites in an existing manufactured home park or subdivision within zones A1 - 30, AH and AE, on the community's flood insurance rate map that are not subject to the provisions of paragraph Section 6-1838(a) will be securely fastened to an adequately anchored foundation system to resist flotation, collapse, and lateral movement, and be elevated so that either the

(1) Lowest floor of the manufactured home is:

(A) At least two feet above the base flood elevation for new placement; or

(B) At least above the base flood elevation for substantial improvement; or

(2) Manufactured home chassis is supported by reinforced piers or other foundation elements of at least equivalent strength that are no less than 36 inches in height above grade.

(c) Upon the completion of the structure, the elevation of the lowest floor including basement shall be certified by a registered professional engineer or surveyor, and verified by the community building inspector to be properly elevated. Such certification and verification shall be provided to the floodplain administrator.

(d) All recreational vehicles placed on sites within zones A1 - 30, AH and AE on the community's flood insurance rate map will either:

(1) Be on the site for fewer than 180 consecutive days, and be fully licensed and ready for highway use; a recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices, and has no permanently attached additions; or

(2) Meet the permit requirements of Article 3 of this chapter and the elevation and anchoring requirements for manufactured homes in Section 6-838(a).

(Ord. 512 § 1 (Appx. A (part)), 2000)

6-1839 - Floodways.

Located within areas of special flood hazard established in Section 6-1812 are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of floodwaters which carry debris, potential projectiles, and erosion potential, the following provisions apply.

(a) Encroachment, including fill, new construction, substantial improvements, and other new development is prohibited, unless certification by a registered professional engineer is provided demonstrating that the encroachment will not result in any increase in (the base) flood elevation during the occurrence of the base flood discharge.

(b) No manufactured home may be placed in a floodway.

(c) If Section 6-1839(a) is satisfied, all new construction, substantial improvements, and other proposed new development shall comply with all applicable flood hazard reduction provisions of this article.

(Ord. 512 § 1 (Appx. A (part)), 2000)

6-1840 - Flood-related erosion-prone area.

Flood-related erosion-prone areas in Lafayette are typically creeks and should comply with Article 5 of this chapter.

(Ord. 512 § 1 (Appx. A (part)), 2000)

Article 5. - Creek Setback Requirements

6-1841 – Structure setback.

(a) ~~As defined by Section 6-312 and Section 6-355, buildings and structures~~ Structures shall be set back from a watercourse channel as follows:

(1) Channel Depth of Zero through 21 Feet. If the side slopes of the channel are steeper than 2:1 (horizontal:vertical), the width of the ~~structure~~ setback is determined by a line measured from the toe of the slope a distance of twice the channel depth plus the appropriate top-of-bank setback as follows:

Channel Depth (Feet)	Top of Bank Setback Minimum Width (Feet)
0—6	12 each side
6—12	15 each side
12—18	18 each side
18—21	21 each side

If the side slopes of the channel are flatter than 2:1 (horizontal:vertical) the ~~structure~~ setback is ~~the appropriate setback~~ as indicated in the table above, measured from the top of the bank.

(2) Channel Depth Exceeding 21 Feet. If the depth of a channel exceeds 21 feet, the width of the ~~structure~~ setback is determined by measuring from the toe of the slope a distance of three times the channel depth.

(b) If a parcel is subject to subdivision easements or setback requirements under Contra Costa County Ordinance Code Sections 914-14.002 through 14.014 which are inconsistent with Section 6-1841(a), those subdivision requirements control.

(c) No permanent structure, *~~building~~ or other development other than fences, pervious surface, paths, bioretention basins, bioswales, and drainage and erosion protection improvements may be constructed within the setback area. Landscaping (including trees and shrubs) is permitted within the setback area.*

(Ord. 512 § 1 (Appx. A (part)), 2000)

6-1842 - Exception.

(a) The city engineer may approve exceptions to the requirements of Section 6-1841 to allow construction of structures *or other development within the setback area if:*

(1) The submitted materials under Section 6-1842(c) are complete and adequate; and

(2) The property owner agrees to enter into and record an agreement holding the city and other public agencies harmless in the event of flood or erosion damage. The agreement shall bind successors in interest and be in a form acceptable to the city attorney; and as applicable Section 6-1842 (b).

(b) In approving an exception, the city engineer may impose conditions deemed necessary for creek~~side~~ or watercourse erosion protection and on-site drainage, and for compliance with applicable laws, regulations, plans and guidelines. For parcels located in one of the four downtown commercial zoning districts as defined in Chapter 6, Section 6.272(a) (2), and in compliance with the Downtown Specific Plan, Downtown Design Guidelines, and Downtown Creeks Preservation, Restoration and Development Plan, the city engineer may impose additional conditions that include public access paths, platforms or other improvements to allow viewsheds into a creek or watercourse.

(c) A person requesting an exception under this section shall submit to the city engineer:

(1) A topographical survey of the lot precisely showing the creek bottom, sides, top of bank and proposed and existing structures *or other development;*

(2) A soils report prepared by a licensed geotechnical ~~civil~~ engineer ~~specializing in soils analysis~~ which describes the soils condition for the proposed structure and analyzes and makes recommendations as to the creek bank stability and erosion hazard; and

(3) Certification signed by the engineer who prepares the soils report that, in the professional opinion of the engineer, there is no likelihood of a hazard to persons or property resulting from the proposed construction.

(d) The decision of the city engineer may be appealed ~~in~~ to the city council as provided in Section 6-1852(b).

(Ord. 512 § 1 (Appx. A (part)), 2000)

Article 6. - Flood Hazard Variance Procedure

6-1851 - Nature of variances.

The variance criteria set forth in this section are based on the general principle of zoning law that variances pertain to a piece of property and are not personal in nature. A variance may be granted for a parcel of property with physical characteristics so unusual that complying with the requirements of this chapter would create an exceptional hardship to the applicant or the surrounding property owners. The characteristics must be unique to the property and not be shared by adjacent parcels. The unique characteristic must pertain to the land itself, not to the structure, its inhabitants, or the property owners.

It is the duty of the city council to help protect its citizens from flooding. This need is so compelling and the implications of the cost of insuring a structure built below flood level are so serious that variances from the flood elevation or from other requirements in the flood ordinance are quite rare. The long term goal of preventing and reducing flood loss and damage can only be met if variances are strictly limited. Therefore, the variance guidelines provided in this chapter are more detailed and contain multiple provisions that must be met before a variance can be properly granted. The criteria are designed to screen out those situations in which alternatives other than a variance are more appropriate.

(Ord. 512 § 1 (Appx. A (part)), 2000)

6-1852 - Appeals.

(a) The city council shall hear and decide appeals and requests for flood hazard variances from the requirements of this chapter. The city council shall hold a public hearing on an application for a flood hazard variance. The notice required for the public hearing is the same as the notice required for a variance permit under Section 6-211 of this title. The city engineer shall give notice of the public hearing for a flood hazard variance.

(b) The city council shall hear and decide appeals when it is alleged there is an error in a requirement, decision or determination made by the city engineer in the enforcement or administration of this chapter. Such appeals must be made in writing to the city council within fourteen calendar days of written notice of the city engineer's action.

(Ord. 512 § 1 (Appx. A (part)), 2000)

6-1853 - Standards for review.

In passing upon an application for a flood hazard variance under this chapter, the city council shall consider all the technical evaluations, all relevant factors, standards specified in other sections of this code, and:

(a) The danger that materials may be swept onto other lands to the injury of others;

(b) The danger to life and property due to flooding or erosion damage;

(c) The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner and future owners of the property;

(d) The importance of the services provided by the proposed facility to the community;

(e) The availability of alternative locations for the proposed use which are not subject to flooding or erosion damage;

(f) The compatibility of the proposed use with existing and anticipated development;

(g) The relationship of the proposed use to the comprehensive plan and floodplain management program for that area;

(h) The safety of access to the property in times of flood for ordinary and emergency vehicles;

(i) The expected heights, velocity, duration, rate of rise and sediment transport of the floodwaters, if applicable, expected at the site;

(j) The costs of providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities such as sewer, gas, electrical and water system, and streets and bridges; ~~and~~

(k) The necessity to the facility of a waterfront location, where applicable; and

(l) Substantial compliance with applicable laws, regulations, plans and guidelines.

(Ord. 512 § 1 (Appx. A (part)), 2000)

6-1854 - Issuance of flood hazard variances.

(a) A flood hazard variance may be issued for new construction, substantial improvements and other proposed new development to be erected on a lot of one-half acre or less in size contiguous to and surrounded by lots with existing structures constructed below the base flood level, providing the standards in Section 6-1853 are fully considered. As the lot size increases beyond one-half acre, the technical justification required for issuing the flood hazard variance increases.

(b) Upon consideration of the factors of Section 6-1853 and the purposes of this chapter, the city council may attach such conditions to the granting of flood hazard variances as it considers necessary to further the purposes of this chapter.

(c) The city engineer shall maintain the records of flood hazard variance actions, including justification for their issuance, and report any approved flood hazard variances to the Federal Insurance Administration, Federal Emergency Management Agency upon request.

(Ord. 512 § 1 (Appx. A (part)), 2000)

6-1855 - Conditions for issuance of flood hazard variances.

(a) A flood hazard variance may be issued for the reconstruction, rehabilitation or restoration of a structure listed on the National Register of Historic Places, the state Inventory of Historic Places, or the Lafayette historic landmark ordinance upon a determination that the proposed repair or rehabilitation will not preclude the structure's continued designation as an historic structure and the variance is the minimum necessary to preserve the historic character and design of the structure.

(b) A flood hazard variance shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.

(c) A flood hazard variance shall only be issued upon a determination that the flood hazard variance is the minimum necessary, considering the flood hazard, to afford relief. "Minimum necessary" means to afford with a minimum of deviation from the requirements of this chapter. For example, in the case of variances to an elevation requirement, this means the city council need not grant permission for the applicant to build at grade, or even to whatever elevation the applicant proposes, but only to that elevation which the city council believes will both provide relief and preserve the integrity of the local ordinance.

(Ord. 512 § 1 (Appx. A (part)), 2000)

6-1856 - Showing necessity for flood hazard variance.

(a) A flood hazard variance shall only be issued upon:

(1) A showing of good and sufficient cause;

(2) A determination that failure to grant the flood hazard variance would result in exceptional hardship (as defined in Section 6-1804) to the applicant; and

(3) A determination that the granting of a flood hazard variance will not result in increased flood heights, additional threats to public safety or extraordinary public expense, create nuisances (as defined in Section 6-1804) under "Public safety or nuisance"), cause fraud on or victimization of the public (as defined in Section 6-1804), or conflict with existing local laws or ordinances.

(b) Flood hazard variances may be issued for new construction, substantial improvements, and for other proposed new development necessary for the conduct of a functionally dependent use provided that the provisions of this section and Section 6-1855 are satisfied and that the structure or other development is protected by methods that minimize flood damages during the base flood and create no additional threats to public safety and does not create a public nuisance.

(Ord. 512 § 1 (Appx. A (part)), 2000)

6-1857 - Information to accompany flood hazard variance.

(a) An applicant to whom a flood hazard variance is granted shall be given written notice over the signature of a community official that:

(1) The structure will be permitted to be built with a lowest floor elevation below the regulatory flood elevation and that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced lowest floor elevation; and

(2) Such construction below the base flood level increases risks to life and property.

(b) A copy of the notice shall be recorded by the city clerk in the office of the Contra Costa County recorder and shall be recorded in a manner so that it appears in the chain of title of the affected parcel of land.

(Ord. 512 § 1 (Appx. A (part)), 2000)

STORMWATER MANAGEMENT AND DISCHARGE CONTROL ORDINANCE, Lafayette Municipal Code Chapter 5-4, oversight by Planning Commission.

The Downtown Creeks Plan recommends that any application for downtown development include one or more of the following measures to improve water quality in the creeks:

- direct roof runoff into cisterns or rain barrels for reuse;
- direct roof runoff into vegetated areas;
- direct runoff from sidewalks, walkways and/or patios onto vegetated areas;
- direct runoff from driveways and/or uncovered parking lots onto vegetated areas;
- construct sidewalks, walkways, and/or patios with permeable surfaces; and
- construct bike lanes, driveways, and/or uncovered parking lots with permeable surfaces.

The City's National Pollutant Discharge Elimination System permit has a similar requirement for all development projects, which create and/or replace > 2,500 ft2 to < 10,000 ft2 of impervious surface, and detached single-family home projects. The Downtown Creeks Plan recommends expanding this requirement to development projects with < 2,500 ft2 of impervious surface for potential water quality benefits since runoff from all downtown commercial development drains into downtown creeks. Projects the comply with this expanded requirement qualify as projects under the NPDES Green Infrastructure Plan requirement. The recommended amendments that apply this requirement to any development project on a downtown parcel are described below:

Ordinance Text

Chapter 5-4 - STORMWATER MANAGEMENT AND DISCHARGE CONTROL

Sections:

5-401 - Intent and purpose.

(a) The intent of this chapter is to protect and enhance the water quality in the city of Lafayette's watercourses pursuant to, and consistent with the Porter-Cologne Water Quality Control Act (Water Code Section 13000 et seq.) and the Federal Clean Water Act (33 U.S.C. Section 1251 et seq.).

(b) This chapter also carries out the conditions in the city's National Pollutant Discharge Elimination System (NPDES) permit that require implementation of appropriate source control and site design measures and stormwater treatment measures for development projects.

(c) It is the purpose of the city council in enacting this chapter to protect the health, safety and general welfare of Lafayette's citizens by:

(1) Minimizing non-stormwater discharges, whose pollutants would otherwise degrade the water quality of local streams, to the stormwater system.

(2) Minimizing increases in nonpoint source pollution caused by stormwater runoff from development that would otherwise degrade local water quality.

(3) Controlling the discharge to the city's stormwater system from spills, dumping or disposal of materials other than stormwater.

(4) Reducing stormwater run-off rates and volumes and nonpoint source pollution whenever possible, through stormwater management controls and ensuring that these management controls are properly maintained and pose no threat to public safety.

(5) Taking initial steps to incorporate green infrastructure and low impact development measures in all downtown development projects to improve local water quality.

(Ord. No. 628, § 1, 3-24-2014)

5-402 - Definitions.

The following words and phrases when used in this chapter shall be as defined herein. Words and phrases in this chapter and not otherwise defined shall be interpreted as defined in the regulations issued by the U.S. Environmental Protection Agency to implement the provisions of the Federal Clean Water Act, and as defined by the State Water Resources Control Board to implement the Porter-Cologne Act:

(a) Best management practices or "BMP" are structural devices, measures, stormwater management facilities, activities, prohibitions, or practices; general good housekeeping, pollution prevention practices, maintenance procedures, and other management practices, to prevent or reduce the discharge of pollutants directly or indirectly to watercourses, water bodies, and wetlands.

(b) City's NPDES permit shall mean the NPDES permit issued to the city of Lafayette, Permit No. CAS612008 and any subsequent amendment, reissuance or successor to this NPDES permit.

(c) Development runoff requirements shall mean the provisions in the city's NPDES permit that contain performance standards to address both the construction and post-construction phase impacts of new projects and redeveloped projects on stormwater quality.

(d) Director shall mean the public works director of the city of Lafayette or his or her designee.

(e) Enforcement officer or officer shall mean those individuals designated by the Director to act as authorized enforcement officers.

(f) Guidebook shall mean the most recent version of the Contra Costa Clean Water Program Stormwater C.3. Guidebook.

(g) Non-stormwater discharge is any addition of any pollutant to the city's stormwater system, except discharges pursuant to a NPDES permit, or discharges further exempted in Section 5-406(c) and (d) of this chapter.

(h) Pollutant shall mean any material other than stormwater including, but not limited to, petroleum products or by-products, solid waste, incinerator residue, sewage, sewage sludge, heat, chemical waste, biological materials, radioactive materials, wrecked or discarded equipment, rock, sand, soil and industrial, municipal or agricultural waste discharged into the water or stormwater system.

(i) Premises shall mean any land, building, structure, facility, or installation, (including a building's grounds or other appurtenances), and adjacent sidewalks and parking strips.

(j) Responsible person shall mean the owner or occupant of any premises or who engages in or permits any activity from which there is or may be a non-stormwater discharge or any person who releases pollutants to the city's stormwater system.

(k) Site Design Measures for Small Projects and Detached Single-Family Home Projects means one or more of the following site design measures: direct roof runoff into cisterns or rain barrels for reuse; direct roof runoff into vegetated areas; direct runoff from sidewalks, walkways and/or patios onto vegetated areas; direct runoff from driveways and/or uncovered parking lots onto vegetated areas; construct sidewalks, walkways, and/or patios with permeable surfaces; construct bike lanes, driveways, and/or uncovered parking lots with permeable surfaces. Permeable surfaces include pervious concrete, pervious asphalt, pervious pavers, and granular materials.

(l) Stormwater shall mean flow on the surface of the ground resulting from precipitation.

(~~l~~m) Stormwater control plan shall mean a plan that meets those criteria contained in the most recent version of the Contra Costa Clean Water Program Stormwater C.3. Guidebook.

(~~m~~n) Stormwater management facility shall mean any device that utilizes detention, retention, filtration, harvest for reuse, evapotranspiration or infiltration to provide treatment (and/or control volume, flows, and durations) of stormwater for purposes of compliance with development runoff requirements.

(~~n~~o) Stormwater system is that system of facilities by which stormwater may be conveyed to any stream, watercourse, other body of water or wetlands, including flood control channels, any roads with drainage systems, city streets, catch basins, curbs, gutters, ditches, improved channels, storm drains or storm drain system, which are not part of a Publicly Owned Treatment Works ("POTW") as that term is defined in 40 CFR section 122.2.

(Ord. No. 628, § 1, 3-24-2014)

5-403 - Responsibility for administration.

The Director or his designee shall administer this chapter for the city.

(Ord. No. 628, § 1, 3-24-2014)

5-404 - Construction and application.

This chapter shall be construed consistent with the requirements of the Federal Clean Water Act and amendments thereto or applicable implementing regulations and the city's NPDES permit.

(Ord. No. 628, § 1, 3-24-2014)

5-405 - Stormwater control plan required.

(a) In accordance with thresholds and effective dates in the city's NPDES Permit, every application for a development project, including but not limited to a rezoning, tentative map, parcel map, conditional use permit, variance, site development permit, design review, or building permit that is subject to the development runoff requirements in the city's NPDES permit shall be accompanied by a stormwater control plan that meets the criteria in the most recent version of the Contra Costa Clean Water Program Stormwater C.3. Guidebook. An application for a development project that is not covered by the city's NPDES permit and is located within one of the four downtown commercial zoning districts as defined in Chapter 6, Section 6-272(a) (2), shall include one or more of the Site Design Measures for Small Projects and Detached Single-Family Homes.

(b) Implementation of an approved stormwater control plan and submittal of an approved stormwater control operation and maintenance plan by the applicant shall be a condition precedent to the issuance of a certificate of occupancy for a project subject to this section.

(c) All stormwater management facilities shall be designed in a manner to minimize the need for maintenance and reduce the chances of failure. Design guidelines are outlined in the Guidebook.

(d) All stormwater management facilities shall be maintained according to the Guidebook and the approved stormwater control operation and maintenance plan. The person(s) or organization(s) responsible for maintenance shall be designated in the stormwater control operation and maintenance plan. Unless a different time period is provided for in the plan, those responsible for maintenance shall inspect the stormwater management facility at least annually. The stormwater operation and maintenance plan shall also describe how the maintenance costs will be funded. Upon the failure of a responsible person to maintain a stormwater management facility in accordance with this chapter or the plan, the city may perform the maintenance and recover its costs from the responsible person as provided in Sections 5-417 and 5-418.

(e) For access to stormwater management facilities for inspections and maintenance, recorded covenants or easements shall be provided by the property owner for access by the city, the Contra Costa Mosquito and Vector Control District, and the Regional Water Quality Control Board.

(Ord. No. 628, § 1, 3-24-2014)

5-406 - Prohibited Discharges.

(a) The release of non-stormwater discharges to the city stormwater system is prohibited.

(b) The discharge of stormwater from premises or an activity that causes or contributes to a violation of receiving water limitations in the city's NPDES permit is prohibited.

(c) The following discharges are exempt from the prohibition set forth in subsection (a) above, unless determined by the director to be a source of pollutants to or from the stormwater system or to receiving waters:

(1) Any discharge in compliance with a NPDES permit issued to the discharger.

(2) Flows from riparian habitats and wetlands, diverted stream flows, flows from natural springs, rising ground waters, uncontaminated and unpolluted groundwater infiltration, single-family homes' pumped groundwater, foundation drains, and water from crawl space pumps and footing drains, and pumped groundwater from drinking water aquifers.

(d) The following discharges are exempt from the prohibition set forth in subsection (a) above if and only if the director identifies such discharge as not being a source of any pollutant to the stormwater system or to a receiving water or if control measures required by the director are implemented and discharges are in accordance with conditions, including but not limited to specific conditions, for each type of discharge set forth in Section C.15 of the city's NPDES permit: pumped groundwater from non-drinking-water aquifers; pumped groundwater from other sources, foundation drains, and water from crawl space pumps and footing drains; air conditioning condensate; planned discharges from routine operation and maintenance activities in the potable water distribution system; unplanned discharges from breaks, leaks, overflows, fire hydrant shearing, or emergency flushing of the potable water distribution system; emergency discharges of the potable water distribution system as a result of firefighting, unauthorized hydrant openings, or natural or man-made disasters; individual residential car washing; swimming pool, hot tub, spa, and fountain water discharges, and discharges from irrigation water, landscape irrigation, and lawn or garden watering.

(Ord. No. 628, § 1, 3-24-2014)

5-407 - Discharge in violation of NPDES permit.

Any discharge that would result in or contribute to a violation of the city's NPDES permit either separately considered or when combined with other discharges, is prohibited. Liability for any such discharge shall be the responsibility of the person causing or responsible for the discharge, and such person shall defend, indemnify and hold harmless the city in any administrative or judicial enforcement action relating to such discharge.

(Ord. No. 628, § 1, 3-24-2014)

5-408 - Unlawful discharge and unlawful connections.

(a) It is unlawful to establish, use, maintain or continue unauthorized drainage connections to the city's stormwater system, and to commence or continue any unauthorized discharges to the city's stormwater system.

(b) No discharge shall cause the following conditions, create a nuisance, or adversely affect beneficial uses of waters of the state:

(1) Floating, suspended or deposited macroscopic matter or foam;

(2) Bottom deposits or aquatic growth;

(3) Alterations of temperature, sediment load, nutrient load, or dissolved oxygen, which cause significant adverse impacts to native aquatic biota;

(4) Visible, floating, suspended or deposited oil or products of petroleum origin; or

(5) Substances present in concentrations or quantities which cause deleterious effects on aquatic biota, wildlife or waterfowl, or which render any of these unfit for human consumption.

(Ord. No. 628, § 1, 3-24-2014)

5-409 - Best management practices and standards.

(a) Generally. Any person owning or operating premises that may contribute pollutants to the city's stormwater system shall undertake best management practices to reduce the potential for pollutants entering the system to the maximum extent practicable. Examples of such premises include, but are not limited to, parking lots, gasoline stations, industrial facilities, and other commercial enterprises. Examples of best management practices include, but are not limited to, those described in publications by the United States Environmental Protection Agency, the California Water Boards, the California Stormwater Quality Association, the Bay Area Stormwater Management Agencies Association, the Contra Costa Clean Water Program, and, the city of Lafayette.

(b) Litter. No person shall throw, deposit, leave, keep or permit to be thrown, deposited, placed, left or maintained, any refuse, rubbish, garbage or other discarded or abandoned objects, articles or other litter in or upon any street, alley, sidewalk, business place, creek, stormwater system, fountain, pool, lake, stream, river or any other body of water, or upon any public or private parcel of land so that the same might become a pollutant, except in containers or in lawfully established waste disposal facilities.

(c) Sidewalks. The occupant or tenant, or in the absence of occupant or tenant, the owner or proprietor of any real property in front of which there is a paved sidewalk shall maintain said sidewalk free of dirt or litter to the maximum extent practicable. Sweepings from the sidewalk shall not be swept or otherwise made or allowed to go into the gutter or roadway, but shall be disposed of in receptacles maintained as required for the disposal of solid waste. This section constitutes an alternative procedure and shall not limit or restrict the city from the civil, criminal or administrative enforcement of this or other city ordinances in any other matter provided by law.

(d) Maintenance of Facilities and Landscaped Areas. Best management practices shall be implemented to minimize the release of pesticides, fertilizers, herbicides, and other related materials used to maintain landscaping and facilities.

(e) Parking Lots, Paved Areas and Related Stormwater Systems. Persons owning, operating or maintaining a paved parking lot, the paved areas of a gasoline station, a paved private street or road, or similar structure, and related stormwater systems shall clean those premises as frequently and thoroughly as practicable in a manner that does not result in the discharge of pollutants to the city's stormwater system. The Director may require installation and maintenance of BMPs, devices, or facilities to prevent the discharge of trash or other pollutants from private parking lots, streets, roads, and drainage facilities into the stormwater system. Failure or refusal to comply with such requirement is prohibited and shall constitute a violation of this chapter.

(f) Construction Activities. All construction projects shall incorporate site-specific BMPs, which can be a combination of BMPs from the California BMP Handbook, Construction, January 2003, the Caltrans Stormwater Quality Handbooks, Construction Site Best Management Practices Manual, March 2003, the San Francisco Bay Regional Water Quality Control Board Erosion and Sediment Control Field Manual, 2002, the city's grading and erosion control ordinance and other generally accepted engineering practices for erosion control as required by the director. The director may establish controls on the rate, volume, and duration of stormwater runoff from new developments as may be appropriate to minimize the discharge and transport of pollutants.

(g) Notification of Intent and Compliance with General Permits. Each discharger associated with construction activity or other discharger described in any general stormwater permit addressing discharges, as may be adopted by the United States Environmental Protection Agency, the State Water Resources Control Board, or the California Regional Water Quality Control Board, San Francisco Bay Region, shall provide the director with the notice of intent, comply with and undertake all other activities required by any general stormwater permit applicable to such dischargers. Each discharger identified in an individual NPDES permit relating to stormwater discharges shall comply with and undertake all activities required by the permit.

(h) Development Runoff Requirements. For each new development project subject to the development runoff requirements, every applicant will submit a stormwater control plan and implement conditions of approval that reduce stormwater pollutant discharges through the construction, operation and maintenance of treatment measures and other appropriate source control and site design measures. Similarly, increases in runoff volume, flows, and durations shall be managed in accordance with the development runoff requirements.

(i) Stormwater Pollution Prevention Plan. The director may require any business or utility in the city that is engaged in activities that may result in non-stormwater discharges or runoff pollutants to develop and implement a stormwater pollution prevention plan, which must include an employee training program. Business activities which may require a stormwater pollution prevention plan include maintenance, storage, manufacturing, assembly, equipment operations, vehicle loading, fueling, vehicle maintenance, food handling or processing, or cleanup procedures, carried out partially or wholly out of doors.

(j) Coordination with Hazardous Material Release Response and Inventory Plans. Any business subject to the Hazardous Material Release Response and Inventory Plan, Division 20, Chapter 6.95 of the California Health and Safety Code (commencing with Section 25500), shall include, in that plan, provision for compliance with this chapter, including the prohibitions of non-stormwater discharges and the requirement to reduce release of pollutants to the maximum extent practicable.

(Ord. No. 628, § 1, 3-24-2014)

5-410 - Authority to inspect.

(a) Generally. The director shall have the authority to enter property and make an inspection to enforce and carry out the provisions of the chapter. Routine or scheduled inspections shall be based upon as reasonable a selec-

tion process as may be deemed necessary to carry out the intent of this chapter, including, but not limited to, random sampling or sampling in areas with evidence of stormwater contamination, evidence of the discharge of non-stormwater to the stormwater system, inspection of stormwater treatment and flow-control facilities for proper operation and evidence of routine and corrective maintenance, or similar activities. Inspections may also be conducted in conjunction with routine or scheduled inspections conducted by other public agencies or special districts, including but not limited to the Central Contra Costa Sanitary District, the Contra Costa County Fire Protection District, County Environmental Health Department, the Contra Costa Mosquito and Vector Control District, or the Regional Water Quality Control Board. The city council may by resolution establish a schedule of fees for inspections.

(b) Authority to Sample and Establish Sampling Devices. With the consent of the owner or occupant, or pursuant to a search or inspection warrant, any officer may establish on any property such devices as are reasonably necessary to conduct sampling or metering operations. During all authorized inspections, the officer may take any sample deemed necessary to aid in the pursuit of the inquiry or in the recordation of the activities on site.

(c) Notification of Spills. All persons in charge of the premises or responsible for emergency response for the premises have a responsibility to train premises' personnel and maintain notification procedures to ensure that immediate notification is provided to the city of any suspected, confirmed or unconfirmed release of pollutants creating a risk of non-stormwater discharge into the city stormwater system.

As soon as any person in charge of the premises or responsible for emergency response for the premises has knowledge of any suspected, confirmed or unconfirmed release of non-stormwater discharge entering the city stormwater system, such person shall take all necessary steps to ensure the detection and containment and clean up of such release and shall notify the city of the occurrence by telephoning the director. This notification requirement is in addition to and not in lieu of other required notifications.

(d) Requirement to Test or Monitor. Any officer may require that any person engaged in any activity or owning or operating any premises that may cause or contribute to non-stormwater discharges, undertake such monitoring activities or analysis and furnish such reports as the officer may specify. The burden, including costs of these activities, analysis and reports shall bear a reasonable relationship to the need for the monitoring, analysis and reports and the benefits to be obtained. The recipient of such request shall undertake and provide the monitoring, analysis and reports required.

(Ord. No. 628, § 1, 3-24-2014)

5-411 - Violations.

(a) The violation of any provision of this chapter, or failure to comply with any of the mandatory requirements of this article shall constitute a misdemeanor, except that notwithstanding any other provisions of this article, any violation constituting a misdemeanor under this chapter may, at the discretion of the officer or city attorney, be charged and prosecuted as an infraction.

(b) Any person required to perform monitoring, analysis, reporting or corrective activity pursuant to this chapter by any officer may be informed of such decision, in writing, by a notice of violation. Any person aggrieved by the decision of the officer, may file a written appeal of the notice of violation to the director or his or her designee within ten days following the date of the notice of violation. Upon receipt of such request, the director shall request a report and recommendation from the officer and shall set the matter for hearing at the earliest practical date. At said hearing, all evidence and testimony deemed relevant and admissible by the director shall be considered, and the director may reject, affirm, or modify the officer's decision. Formal rules of evidence shall not apply. The decisions of the director shall be final. Failure to request a hearing or appear at the hearing shall constitute a waiver and failure to exhaust administrative remedies.

(c) In addition to the penalties and procedures provided herein, any condition caused or permitted to exist in violation of any of the provisions of this chapter is a threat to the public health, safety and welfare. Such condition is hereby declared and deemed to be a nuisance, which may be abated as provided in Chapter 8-21 Code Enforcement of this code including the assessment of the costs of abatement which may be collected at the same time and in the same manner as ordinary municipal taxes as provided by Government Code Section 38773.5, and by civil action to abate, enjoin or otherwise compel the cessation of such nuisance by the city attorney.

(Ord. No. 628, § 1, 3-24-2014)

5-412 - Penalties for violation.

(a) Upon conviction of a misdemeanor, a person shall be subject to payment of a fine, or imprisonment, or both, not to exceed the limits set forth in California Government Code Section 36901.

(b) Upon conviction of an infraction, a person shall be subject to payment of a fine, not to exceed the limits set forth in California Government Code Section 36900.

(Ord. No. 628, § 1, 3-24-2014)

5-413 - Continuing violation.

Every day that any violation of this chapter shall continue shall constitute a separate offense.

(Ord. No. 628, § 1, 3-24-2014)

5-414 - Concealment.

Concealing, aiding or abetting a violation of any provision of this chapter shall constitute a violation of such provision.

(Ord. No. 628, § 1, 3-24-2014)

5-415 - Acts potentially resulting in violation of the Federal Clean Water Act or Porter-Cologne Act.

Any person who violates any provision of this chapter, or the provisions of any permit issued pursuant to this chapter, or who releases a non-stormwater discharge, or who violates any cease and desist order, prohibition or effluent limitation, may also be in violation of the Federal Clean Water Act or the Porter-Cologne Act and may be subject to the enforcement provisions of those acts, including civil and criminal penalties. Any enforcement actions authorized pursuant to this chapter may also include notice to the violator of such potential liability pursuant to federal or state law.

(Ord. No. 628, § 1, 3-24-2014)

5-416 - Civil actions.

(a) In addition to any other remedies provided in this chapter, any violation of this chapter may be enforced by civil action brought by the city. In any such action, the city may seek, as appropriate, any and all of the following remedies:

(1) A temporary restraining order, preliminary injunction and permanent injunction;

(2) An action for an unlawful business practice pursuant to Business and Professions Code Section 17206;

(b) In addition any person violating this chapter shall be liable for:

(1) Reimbursement for the costs of any investigation, inspection or monitoring which led to the discovery of the violation;

(2) Costs incurred in removing, correcting, or terminating the adverse effect(s) resulting from the violation;

(3) Compensatory damages for the loss of, or destruction to, water quality, wildlife, fish or aquatic life. Costs and damages under this subsection shall be paid to the city and shall be used exclusively for costs associated with monitoring and establishing a stormwater discharge pollution control system and implementing or enforcing the provisions of this chapter;

(4) The cost of maintenance and repair of any BMP or stormwater management facility that is not maintained in accordance with the guidebook or the stormwater control plan;

(5) The reasonable costs of preparing and bringing administrative action under this chapter.

5-417 - Administrative remedies.

In addition to any other remedies provided in this chapter, any violation of this chapter may be enforced through administrative remedies, including any of the following:

(a) Stop Work Order. The director may issue a stop work order to the owner and contractors on a construction site, by posting the order at the construction site and distributing the order to all city departments whose decisions may affect any activity at the site. Unless express written exception is made, the stop work order shall prohibit any further construction activity at the site and shall bar any further inspection or approval necessary to commence or continue construction or to assume occupancy at the site until written authorization to continue is received from the director. A cease and desist order shall accompany the stop work order, and shall define the compliance requirements.

In addition to other enforcement powers and remedies established by this chapter, an authorized enforcement officer may issue a cease and desist order:

(b) Cease and Desist Order. When an authorized enforcement officer finds that an illicit discharge has taken place or is likely to take place, the officer may issue a written order to cease and desist the illicit discharge, practice or operation likely to cause the illicit discharge and direct that a person, business, corporation or other entity subject to the cease and desist order shall comply with one or more of the following:

(1) Take appropriate immediate remedial action to stop and prevent further contamination of the city's stormwater system;

(2) Take immediate action to remove any and all contaminates from the city's stormwater system;

(3) Develop and implement an plan or controls required by the city;

(4) Comply with a time schedule for compliance.

The cease and desist order shall identify:

(1) The name of the responsible person;

(2) The date and location of the violation;

(3) A description of the violation;

(4) Actions that must be taken by the responsible person to remedy the violation;

(5) The deadline within which the required actions must be completed;

(6) Enforcement actions that may be taken by the city.

(c) Administrative Citation. Designated enforcement personnel may issue an administrative citation for any violation of this chapter as allowed by Chapter 1-9 of this code.

(d) Abatement of a Violation on Private Property. The city's authorized representatives are authorized to enter upon private property and to take any and all measures required to remediate any violation of this code. Any expense related to such remediation undertaken by the city shall be fully reimbursed by the property owner and/or responsible party. Any relief obtained under this section shall not prevent the city from seeking other and further relief authorized by this code.

(e) Requirement to Test and/or Monitor. Director or designated enforcement personnel may require that a person, business, corporation or other entity engaged in an activity or owning or operating a facility that may cause or contribute to an illicit discharge, shall monitor activity and/or undertake an analysis, and furnish a report as required. The property owner's burden including the cost of this activity, analysis and report shall bear a reasonable relationship to the need for monitoring, analysis and report and the benefit to be obtained as defined by the director.

(f) Termination of Utility Services. After lawful notice to the customer and property owner concerning the proposed disconnection, the director shall have the authority to order the disconnection of water, sanitary sewer and/or sanitation services, upon a finding by the director that the disconnection of utility services will remove a violation of this chapter that poses a public health hazard or environmental hazard.

(Ord. No. 628, § 1, 3-24-2014)

5-418 - Fees, charges, fines, penalties, recovery of cost to city to abate, special assessment.

(a) Fees and charges for administration and enforcement of the provisions of this chapter shall be as specified by Chapter 1-6 of this code and as further specified herein.

(b) Any expense related to administration, enforcement and abatement pursuant to the provisions of this chapter by the city shall be fully reimbursed by the owner, business, contractor, utility company or entity.

(c) Within 90 days after abatement by city representatives, the director shall notify the property owner of the costs of abatement, including administrative costs, legal fees, and the deadline for payment. The property owner may protest the amount of the abatement cost before the city council. The written protest must be received by the city manager's office within 15 days of the date of the notification. A hearing on the matter will be scheduled before the city council. The decision of the city council shall be final.

(d) If the amount due is not paid within the protest period or within ten days following of the decision of the city council, a special assessment shall be filed against the property and shall constitute a lien on the property for the amount of the assessment. A copy of the resolution shall be turned over to the county clerk so that the clerk may enter the amounts of the assessment against the parcel as it appears on the current assessment roll, and the treasurer shall include the amount of the assessment on the bill for taxes levied against the parcel of land.

(Ord. No. 628, § 1, 3-24-2014)

5-419 - Remedies Not Exclusive.

The remedies identified in this chapter are in addition to, and do not supersede or limit, any and all other remedies, administrative, civil or criminal. The remedies provided for herein shall be cumulative and not exclusive.

(Ord. No. 628, § 1, 3-24-2014)

5-420 - Judicial Review.

The provisions of Code of Civil Procedure Section 1094.5 are applicable to judicial review of determinations made by the director pursuant to this chapter.

(Ord. No. 628, § 1, 3-24-2014)