



## CITY COUNCIL AGENDA REPORT

**Meeting Date:** 6/3/2021

**From:** Noreen Leek, Parks & Recreation Director

**Subject:** Receive and approve final Crocker Trail Master Plan

### **Community Goal/Result**

Community Building

### **Purpose**

Develop the City's trail system through the master planning process in order to protect environmentally sensitive areas, enhance connectivity, incorporate art, and provide additional opportunities for recreation.

### **Recommendation**

Receive a presentation from the consultant (RRM Design Group) for the final Crocker Trail Master Plan and approve the plan.

### **Background**

In 2018-2019, representatives from the Parks & Recreation Commission and Open Space and Ecology Committee met to determine how proceeds from the sale of the 280 South Hill property were to be allocated. The direction from the City was such that funds spent would serve to benefit both Open Space and Ecology as well as Parks & Recreation. It was determined that a portion of the funds (not to exceed \$100,000) would be allocated towards the master planning of Crocker Trail. City Council affirmed their support for this project as part of the CIP review process in 2019.

In 2020, the City issued a formal Request For Proposals (RFP) to prospective bidders and ultimately awarded the contract to RRM Design Group. A Technical Advisory Committee (TAC) was formed including representatives from the Parks & Recreation Commission, the Open Space and Ecology Committee, the Public Art Advisory Group, and Complete Streets Safety Committee.

Over the past year, the Consultant conducted site reconnaissance, collected background data, facilitated stakeholder interviews and discussions, hosted community workshops, distributed surveys, solicited input from residents, businesses, and trail users, and has produced a comprehensive master plan. At the City Council Workshop in March, the consultants gathered additional input from the public and members of the Council to inform the final plan. The final Master Plan considers the City's desired trail features and project objectives: connectivity, environmental preservation, art, recreation and safety. To help evoke the vision and character of key areas along the trail, the Consultant has prepared character perspective sketches,

sections, and imagery. They have also provided a summary of probable costs and a grant funding overlay.

**Discussion**

The Council is being asked to receive and approve the final Master Plan for Crocker Trail.

**Fiscal Impact**

An opinion of probable costs and grant funding overlay has been provided as part of the final Master Plan. At this time, funding for implementation beyond trail resurfacing is not allocated. With the approval of the Master Plan, staff will be able to pursue alternative funding sources and grant opportunities to support future implementation.

**Attachments**

1. Crocker Trail Master Plan Booklet



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Noreen Leek, Parks & Recreation Director



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Clay Holstine, City Manager



# CROCKER PARK RECREATIONAL TRAIL MASTER PLAN



★ ACTIVE ★ CONNECTION ★ PRESERVATION ★ BRISBANE ★ ART ★ CONNECTION ★ PRESERVATION ★ BRISBANE ★ ART ★ CONNECTION ★ PRESERVATION ★ BRISBANE ★ ACTIVE ★





# City of Brisbane Crocker Park Recreational Trail Master Plan

## Acknowledgments

The City of Brisbane would like to thank all members of the stakeholder groups and the community members who helped guide the development of this plan.

APPROVED BY:	
AMENDED BY:	
PREPARED FOR:	 <p>City of Brisbane Parks &amp; Recreation Department 50 Park Place, Brisbane, CA 94005</p>
FUNDED BY:	Sale of the 280 South Hill Property
PREPARED BY:	

STAKEHOLDER GROUP	<p>Lyle Covino, Kevin Fryer, and Renee Marmion representing the Parks and Recreation Commission</p> <p>Carl Lam and Mary Rogers representing the Open Space and Ecology Committee</p> <p>Patrick Tainter representing the Complete Streets Safety Committee</p> <p>Camille Salmon representing the Public Art Advisory Committee</p> <p>Ariel Cherbowsky representing San Bruno Mountain Watch</p>										
City STAFF	<table border="0"> <tr> <td>Noreen Leek</td> <td>Director of Parks and Recreation</td> </tr> <tr> <td>Karen Kinser</td> <td>Deputy Director of Public Works</td> </tr> </table>	Noreen Leek	Director of Parks and Recreation	Karen Kinser	Deputy Director of Public Works						
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City COUNCIL	<table border="0"> <tr> <td>Karen Cunningham</td> <td>Mayor</td> </tr> <tr> <td>Clifford R Lentz</td> <td>Mayor Pro Tempore</td> </tr> <tr> <td>Madison Davis</td> <td>Councilmember</td> </tr> <tr> <td>Coleen Mackin</td> <td>Councilmember</td> </tr> <tr> <td>Terry O'Connell</td> <td>Councilmember</td> </tr> </table>	Karen Cunningham	Mayor	Clifford R Lentz	Mayor Pro Tempore	Madison Davis	Councilmember	Coleen Mackin	Councilmember	Terry O'Connell	Councilmember
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Coleen Mackin	Councilmember										
Terry O'Connell	Councilmember										
CONSULTANTS	<p>RRM Design Group - Trail planning, Master Plan, Cost Opinion</p> <p>WRA - Environmental</p> <p>W-Trans - Traffic</p>										





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# EXECUTIVE SUMMARY

## Overview

Nestled at the foot of the San Bruno Mountain, the Crocker Park Recreational Trail (also known as Guadalupe Valley Trail) is a 2.25-mile loop trail in the former Southern Pacific Railroad right-of-way located in the City of Brisbane, California. The existing gravel trail winds through the spine of the adjacent Industrial Park providing scenic views of San Bruno Mountain and a fairly level surface, providing families, locals, and employees a place to walk or jog year-round. The current trail head is located on Park Lane directly across the street from the dog park. Access is also provided from one of the five trail crossings at South Hill Drive, North Hill Drive, West Hill Drive, and Cypress Lane. While the corridor contains undesirable invasive and non-native species, trail-goers focus their attention on the pockets of native flora and fauna and utilize the standard amenities including benches, mutt mutt dispensers, and trash receptacles.

In 2007, the trail was previously converted from a rail to trail working with the nonprofit, Iron Horse Preservation Society to remove the tracks and ties for salvage value and repair in addition to grading and compacting the roadbed as a trail. Acknowledging the desire to improve the trail surface, in 2017, the City applied for and was recommended to receive grant funding from the federally funded One Bay Area Grant Cycle 2 (OBAG 2). This funding will be used to install crushed aggregate surfacing over the railroad ballast rock to make the trail passable to pedestrian and bicycle commuters and users, including those using wheeled transportation and parents with strollers. An improved path will provide a safe connection between a residential development (Landmark and Altamar subdivisions of the Northeast Ridge) and Brisbane schools. It will also facilitate short trips from residential areas to the center of town and activity centers, such as parks, the library, transit stops, and future development in the Priority Development Area.

With the trail resurfacing project in place, the City initiated and prioritized this project to develop an informed and practical master plan for the Crocker Park Recreational Trail. The master plan will highlight opportunities desired by the community and stakeholders to improve the connectivity and safety, preserve local sensitive environments, promote recreation on the trail, embrace public art and interpretive education, and plan for the trail's legacy.

## Master Plan Purpose

The purpose of this Master Plan is to bring to life the wants and needs of the community of Brisbane. Through implementing accessibility, safety and connectivity, ecological responsibility and education, recreational opportunity and the chance to support local artists, the Crocker Park Trail aims to improve the quality of life for all its visitors. The plan addresses the current planning issues and needs for restoration and safety along the trail and presents feasible solutions for its design and long-term operation and maintenance. The focus is to create both active and contemplative experiences for all of Crocker Park Trail users- including the Industrial Park employees and local Brisbane residents. This trail will promote a connection back to nature and community through the inclusive Master Plan programming that aims to improve everyone's Crocker Park Trail experience.

## Planning Process

To start the process, a Technical advisory committee formed including representatives from Parks and Recreation Commission, Open Space Ecology Committee, Public Art Advisory Group and Complete Streets Safety Committee. The master planning process included site reconnaissance, background data review, a biological constraints assessment, traffic memorandum, stakeholder interviews and discussions, public works coordination, community workshops, surveys and input solicited from residents, businesses and trail users, cost analysis, and grant funding research. Data, input, and suggestions received throughout the process informed the master plan presented in this document. The plan considers the City's desired trail features and project objectives which included connectivity, environmental preservation, art, recreation, and safety to help evoke the vision and character of key areas along the trail. The consultant has prepared character perspective sketches, section, and imagery.

## Objectives

The principal objectives of the Crocker Park Recreational Trail Master Plan are to:

- Identify locations of environmentally sensitive areas that need additional infrastructure such as bridges and boardwalks to enhance preservation.
- Identify opportunities for additional recreational amenities.
- Identify locations for the development of trail heads, public trail access points, and complementary open green space nodes.
- Examine and consider improvements to the adjacent Quarry Road Trail.
- Consider crosswalk and safety improvements where the trail intersects with paved roads.
- Provide design standards for the development of the trail and associated existing trail enhancements and access improvements.
- Provide cost ranges; phasing timeline; and maintenance considerations for use in securing funding to implement the plan.
- Include potential funding sources and a suggested phased approach to implementation for financing purposes.

## Project Costs and Funding

Guided by the City's leadership and significant community involvement, the Crocker Park Recreational Trail planning team explored a range of ideas with community members to improve the existing trail system, culminating in a comprehensive set of trail enhancements in the form of a Master Plan. The Crocker Park Recreational Trail Master Plan lays out the vision to improve recreational opportunities, safety, connectivity, ecological responsibility and education, and accessibility while providing ample opportunity areas to support local artists. The next steps to implementing the Master Plan will focus on securing funding through various sources. Appendix C includes an opinion of probable cost associated with completing the Crocker Park Recreational Trail and Appendix D summarizes the eligible funding sources available at this time. The City will endeavor to leverage multiple local, regional, state, and federal funds to implement various improvements in the Master Plan.

## Next Steps

This Master Plan is a planning-level study of the location and configuration of the Crocker Park Trail. A primary objective of the Master Plan is to identify and, if possible, avoid significant constraints, and address the anticipated implementation criteria and requirements. The project will require thorough environmental study and documentation, review, and permitting consistent with the complexity of the improvements, sensitive resources, and regulatory and easement requirements.



# OUTREACH PROCESS

As we all pivoted and adjusted to changing health guidelines revolving around Covid-19, the outreach process for the Crocker Park Trail shifted to a virtual platform. A project website was set up for the public to be informed on project information, project progress, and updates regarding participation at virtual community workshops. Zoom meetings were advertised to the public through the City of Brisbane on multiple platforms including flyers, social media, bulletin boards, and signs throughout the City. During the virtual workshops, participants had the opportunity to discuss important matters and concerns, and participate in surveys that inform the design of the Master Plan. Hard copies of the survey were also available through the City for those unable to participate online.

## Outreach Methods

Below is a list of methods used to notify the community and local businesses:

- Project Website
- Social Media - Facebook, Instagram, Twitter
- Signs placed on the trail
- Flyer postings at the Library, City Hall, and Brisbane Community Park
- Project business cards distributed at Farmers Market
- Updates to subscribers in the City Manager's weekly email newsletter, The Blast
- Mailings in the local STAR newsletter, also available digitally on City website
- Community surveys during public workshops and online via project website
- Community hard copy surveys available at Sunrise Room, City Hall, Farmers Market, and included with Meals for Seniors Lunch Program
- Local business surveys
- Publication in The Luminary via Chamber of Commerce

## Stakeholder Meetings

The interviews were conducted virtually via video conference on October 4, 2020 and one additional meeting conducted on October 5, 2020. Ten participants representing the following five stakeholder groups were interviewed:

- Complete Streets Safety Committee
- Open Space Ecology Committee
- Parks and Recreation Commission
- Public Art Advisory Committee
- San Bruno Mountain Watch

The interviewers began with a summary of the project by City staff. Following this introduction, the consulting planning team discussed with each stakeholder group their interest in the project, familiarity with the project, specific technical issues, perceived opportunities, and constraints, and final remarks. The stakeholder's comments were noted on interview forms by the planning team members.

The information provided ranged from specific local valley history, trail design standard suggestions and surfacing materials to trail connections and adjacent land uses, safety concerns, amenities, native plant materials and recommendation the City consider renaming the trail. Overall, the interviews yielded useful information for the planning team to consider as the plan is developed. The interviews also afforded a unique opportunity to meet and talk with the trail corridor's key members.

## Community Workshop 1: Background, Goals, and Visioning

Date: October 21, 2020

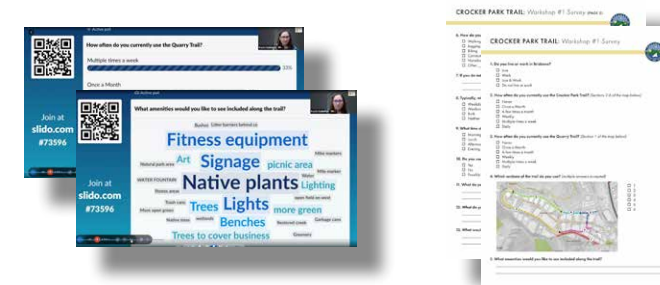
Time: 6:30 – 8:00 PM

Location: Held virtually via Zoom video conference

Participants: 19 live

Survey 1 Participants: 97 total

During the first virtual community workshop, community members were able to share their vision for the future of Crocker Trail. A live survey was held, followed by an open discussion with the community. The topic of this first workshop focused on the current uses of the trail, what folks enjoy now, what they see needing improvement, and what amenities the City would like to be included on the Master Plan. Following the live survey, the survey was distributed and available in hardcopy and also available online via the project website until November 4, 2020 resulting in 97 total participants.



**Input Summary:**

1. Connectivity – Between the Ridge and Downtown, local trail
2. Education – Historical, native plants, creeks/wetlands
3. Art Opportunities – permanent or temporary & any scale
4. Environmental – More native plants and remove invasives and non-natives
5. Safety – Lighting, trail surface, interface with roadway
6. Linear Park – Amenities for seating, exercise, signage, meadow
7. Desire to Rename the Trail

## Community Workshop 2: Community Views Preliminary Master Plan

Date: January 19, 2021

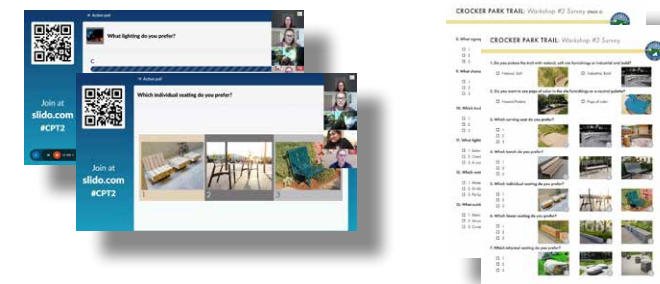
Time: 6:30 – 8:00 PM

Location: Held virtually via Zoom video conference

Participants: 22 live

Survey Participants: 79 total

During the second virtual community workshop, community members were shown the preliminary master plan design developed by RRM Design Group. This was followed by a live survey and an open discussion with the community discussing the character of the trail and some potential features. Following the live survey on January 19, 2021, the survey was distributed and available in hardcopy and also available online via the project website until February 3, 2021 resulting in 79 total participants.



**Input Summary:**

1. Trail Plan Elements and Programming
2. Preferred Trail Character – Different furniture family comparisons
3. Preferred Fitness Equipment – Static, dynamic and combination
4. Preferred Amenities – Lighting, trash & water stations
5. Desire to Rename the Trail



Shown here is an overview of the Crocker Park Recreational Trail Master Plan. The following pages present the future development opportunities of the trail through a series of diagrammatic plan overlays separated into categories. Each category includes a plan overlay graphic and supporting imagery that portray the trail character. Collectively, the elements portrayed provide guidance and direction to the City for the future implementation of the Crocker Park Recreational Trail based on City, stakeholder, and community desires.

**LEGEND**

-  NATURE PLAY
-  OUTDOOR FITNESS STATION LOCATION
-  POLLINATOR GARDEN & HABITAT ENHANCEMENT
-  POTENTIAL SEASONAL WETLANDS
-  CROSSING SAFETY ENHANCEMENT
-  CONNECTING STAIRS
-  LARGE SEATING & GATHERING SPACE
-  SKILLS TRAINING
-  SITE BOULDERS
-  SPLIT RAIL FENCE







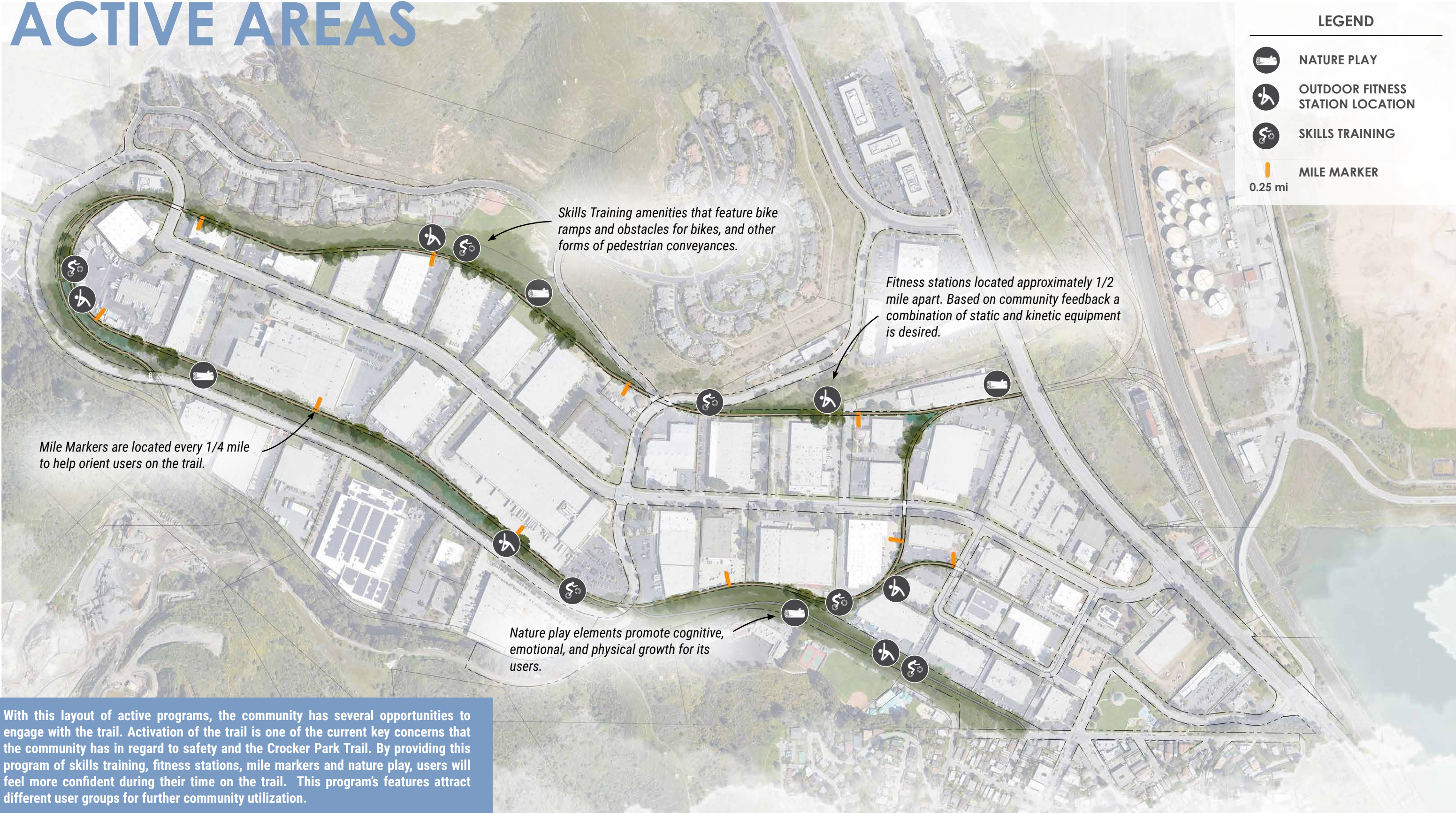
**MASTER PLAN**



# ACTIVE AREAS

## LEGEND

-  NATURE PLAY
-  OUTDOOR FITNESS STATION LOCATION
-  SKILLS TRAINING
-  MILE MARKER  
0.25 mi



With this layout of active programs, the community has several opportunities to engage with the trail. Activation of the trail is one of the current key concerns that the community has in regard to safety and the Crocker Park Trail. By providing this program of skills training, fitness stations, mile markers and nature play, users will feel more confident during their time on the trail. This program's features attract different user groups for further community utilization.



## FITNESS STATION

Fitness stations will have multiple functions. There are different types of fitness equipment, both static and kinetic, and there is also flex space to do workouts without equipment.

Additionally, a wall will surround the space working as a retaining wall, seating opportunities, and defining the area.



## SKILLS TRAINING



0.25 mi **MILE MARKERS** - Located every quarter mile



## OUTDOOR FITNESS EQUIPMENT - Based on community feedback a combination of static and kinetic equipment is desired



## NATURE PLAY





# CONTEMPLATIVE REST AREAS

## LEGEND

-  POLLINATOR GARDEN AND HABITAT ENHANCEMENT
-  POTENTIAL SEASONAL WETLANDS
-  SEATING AND TRASH ENCLOSURE
-  LARGE SEATING AND OUTDOOR GATHERING



Upper Crocker Park, the former railroad spur and adjacent City owned slopes, is a flexible space with various amenity options in the future. If the current leased City property is converted to public open space, there are many amenities to consider that may coexist together such as large gathering spaces, pollinator gardens, open lawn area, and restoration.

Seating along the trail may be provided in a variety of forms from a singular bench for more contemplative rest to seatwalls integrated around recreational amenities to serve multiple functions.

Opportunity for self mitigating design by raising the trail via boardwalk, allowing for the natural drainage flow to the potential seasonal wetlands. Further environmental analysis and mitigation measures to be determined through future Project Approval and Environmental Document (PA&ED) phase.

A flexible large gathering space located near the junction of the Crocker Park Trail and the Quarry Road Trail can be utilized as a large seating space for lunch break employees, outdoor education for the adjacent middle school, performing areas, and other informal events.

The City may remove invasive species from their owned properties along the trail corridor (see Appednix A for mapped ownership). Additionally, the City may work with and recommend the local adjacent property owners remove invasive species from their properties. If deemed unfeasible to perform all invasive removals at one time, the recommendation is to focus removals in areas with habitat enhancements.

In close proximity to the existing community garden, this is an ideal location for a pollinator garden to attract pollinators and ultimately, encouraging growth and health for both gardens by becoming a pollinator hot spot.



## HABITAT ENHANCEMENT NEAR CYPRESS LANE

Educational opportunities present themselves when the potential wetlands flourish with the *pseudacris regilla*, commonly known as the Pacific Chorus Frog. Crocker Park users can learn about the sensitive environment around the trail through educational signage. The lifted serene seating areas also allow for observation above the habitat region. These experiences and knowledge about habitat preservation are extremely valuable within the community.



**SEATING AND TRASH AMENITIES** - May be provided in a variety of forms. Survey results indicate a community desire for furnishings with a natural appearance



## HABITAT ENHANCEMENT



## POLLINATOR GARDEN AND EDUCATIONAL SIGNAGE





# TRAIL SURFACING AND SECTIONS

## Crusher Fines Trail Surfacing

Sample trail surfacing product specification for reference:

A. Clean, hard, durable particles or fragments of ¼ inch minus crushed granite, basalt, or other suitable hard stone. Fines shall be evenly mixed throughout the aggregate. When produced from gravel, fifty percent (50%) by weight, of the material retained on a Number four (4) sieve shall have one fractured face.

B. The portion retained on the Number four (4) sieve shall have a maximum percentage of wear of fifty (50) at five hundred (500) revolutions as determined by AASHTO T96-77

C. The portion passing a Number forty (40) sieve shall have a maximum liquid limit of twenty-five (25) and a maximum plasticity index of seven (7), as determined by AASHTO T89-81, respectively.

D. The crushed aggregate screenings shall be free from clay lumps, vegetable matter, and deleterious material.

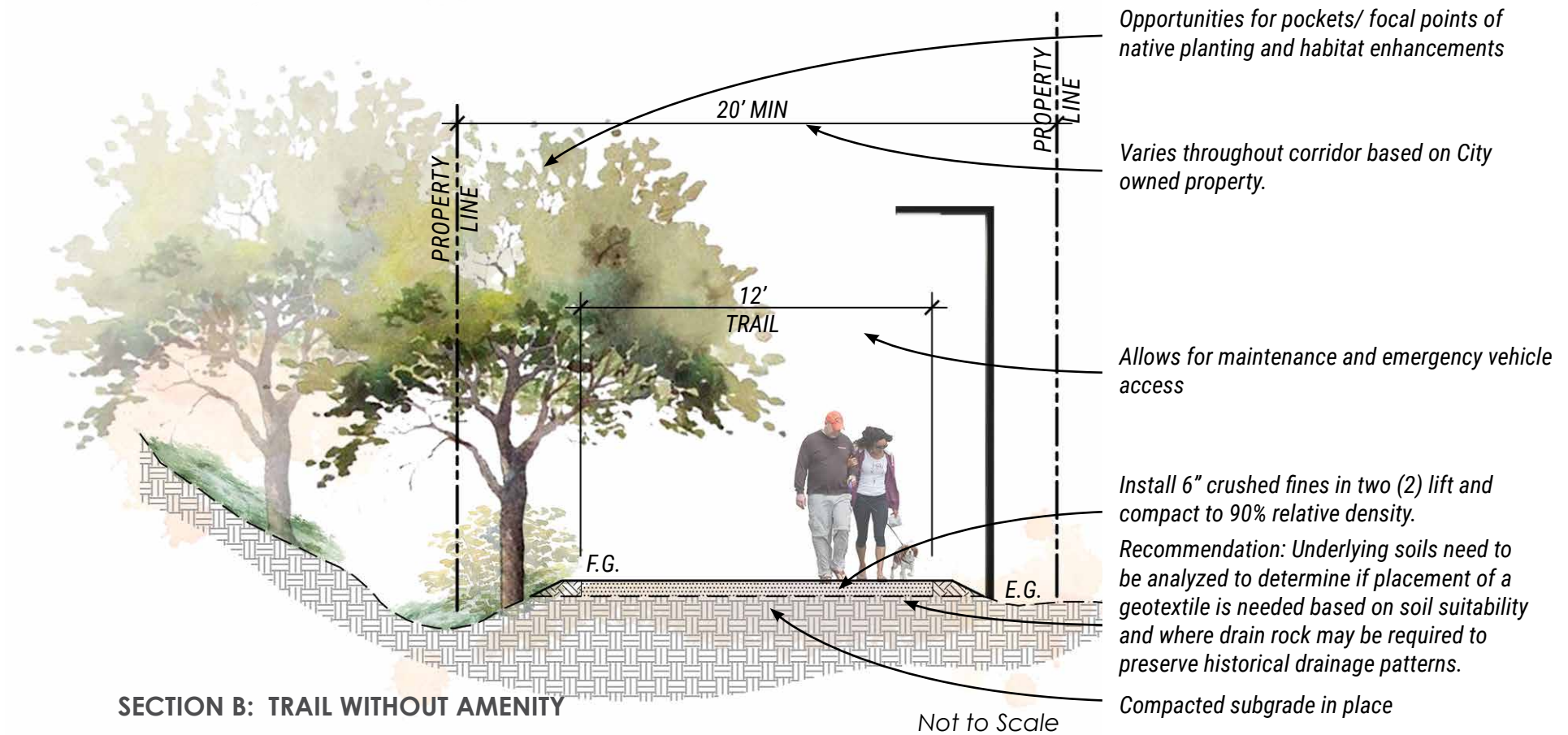
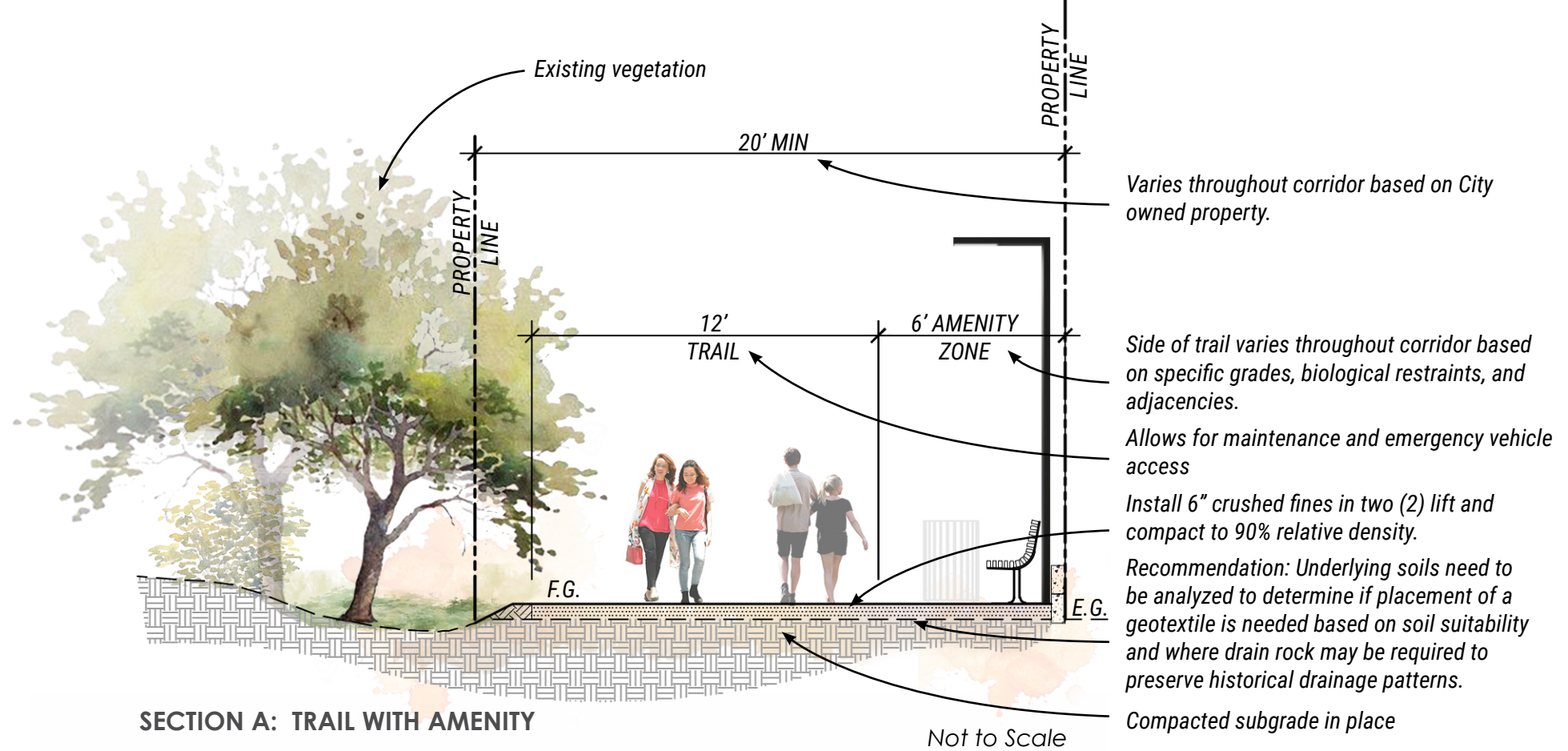
E. Grading requirements are as follows:

1. Percentage of Weight Passing a Square Mesh Sieve
  2. AASHTO T11-82 and T27-82
- | Sieve Designation | Percent passing Sieve Designation |
|-------------------|-----------------------------------|
| 3/8" 100          | 100                               |
| No. 4 95-100%     | 95-100%                           |
| No. 8 75-80%      | 75-80%                            |
| No. 16 55-65%     | 55-65%                            |
| No. 30 40-50%     | 40-50%                            |
| No. 50 25-35%     | 25-35%                            |
| No. 100 20-25%    | 20-25%                            |
| No. 200 5-15%     | 5-15%                             |

If the gradation of crusher fines does not meet the 6% passing the #200, clay fines may be added and mixed with the aggregate to do the job.

## Crusher Fines For Accessible Trails

As stated by the American Trails, for accessible trails, try to keep the outslope and crown to 2% maximum. In locations where surface pitch could divert a wheelchair into a dangerous place, the cross slope should be as close to 0% as possible. To make the surface harder and smoother, lime or some other stabilizing agents may be added to the crusher fines so that it will be set up harder and remain that way for longer periods of time.





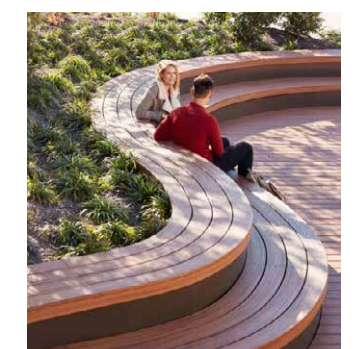
# ART OVERLAY OPPORTUNITIES



## PUBLIC-PRIVATE ART PARTNERSHIP OPPORTUNITIES

Art throughout the Crocker Park Recreational Trail can feature various art forms including temporary art, ephemeral art or permanent murals and installations. Public and private art partnerships can be formed via local business outreach. The City of Brisbane has collected contacts from local businesses interested in staying updated about future opportunities for a public-private partnership.

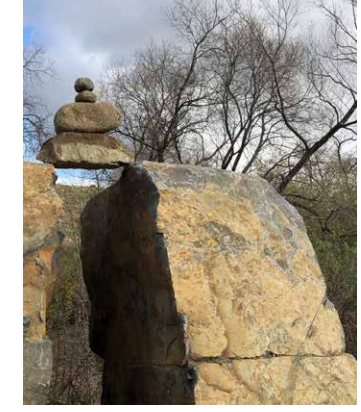
**PERFORMING ARTS** - Temporarily occupying a space for art expression for music, dance, and performance



**VISUAL ARTS** - Murals, sculptures and other more permanent art pieces



**EPHEMERAL ART** - Temporary art that is on display for a limited amount of time. Often created out of natural materials



**CROSSINGS DESIGNS** - To bring an identity to the trail while meeting visibility and safety standards





# ACCESS, SAFETY, AND WAYFINDING

LEGEND	
	TRAIL ACCESS
	CONNECTING STAIRS
	TRAIL LIGHTING
	MILE MARKER

0.25 mi

Wayfinding signs to be located at trail access points. Sign design seen on next page based on the City of Brisbane's 2017 final BPMP.

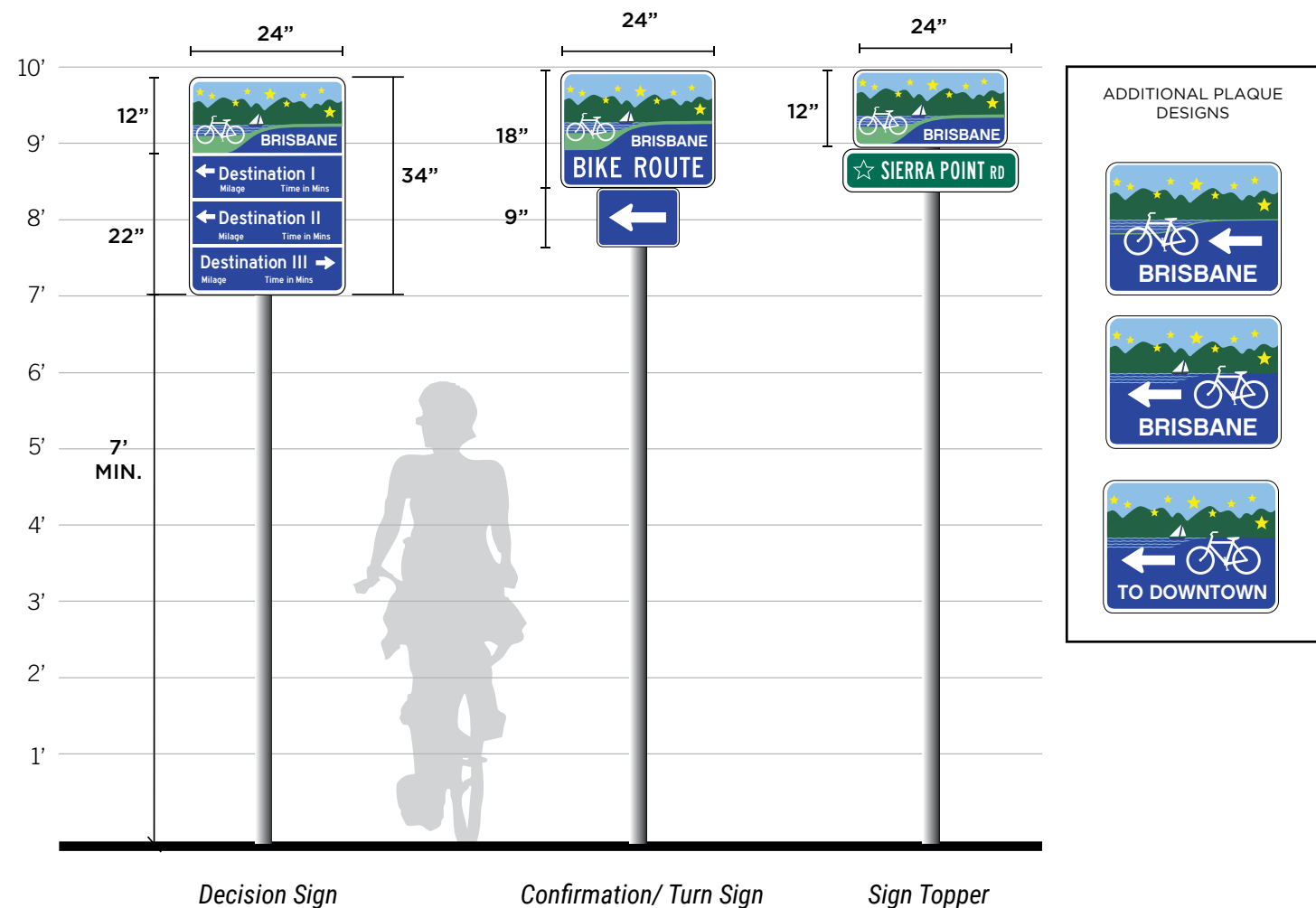
Opportunity to study a stair connection to create an additional exit/access point. These stairs can create an additional loop as well as a stair exercise.

Trail head sign that includes a trail map

This plan notes the desire for lighting within the corridor for safety, based on input received through the outreach process. Preferred lighting includes a combination of overhead and bollard lights. Lighting to be studied during the Project Approval and Environmental Document (PA&ED) phase of the design document preparation to comply with dark sky and pertinent standards. During the future planning, light locations, trail hours of operations, and additional features may be considered such as dimming and motion activated light systems.



**WAYFINDING AND TRAIL SIGNAGE**



\*Wayfinding Signage Sourced from Final 2017 Brisbane Bicycle and Pedestrian Master Plan

**TRAIL ETIQUETTE SIGNS** - developed based on City's desired trail use hierarchy.



**TRAIL LIGHTING** - Combo of bollard and overhead lights



**EMERGENCY SERVICES COORDINATION**  
Paint building address numbers on buildings as identification when calling emergency services

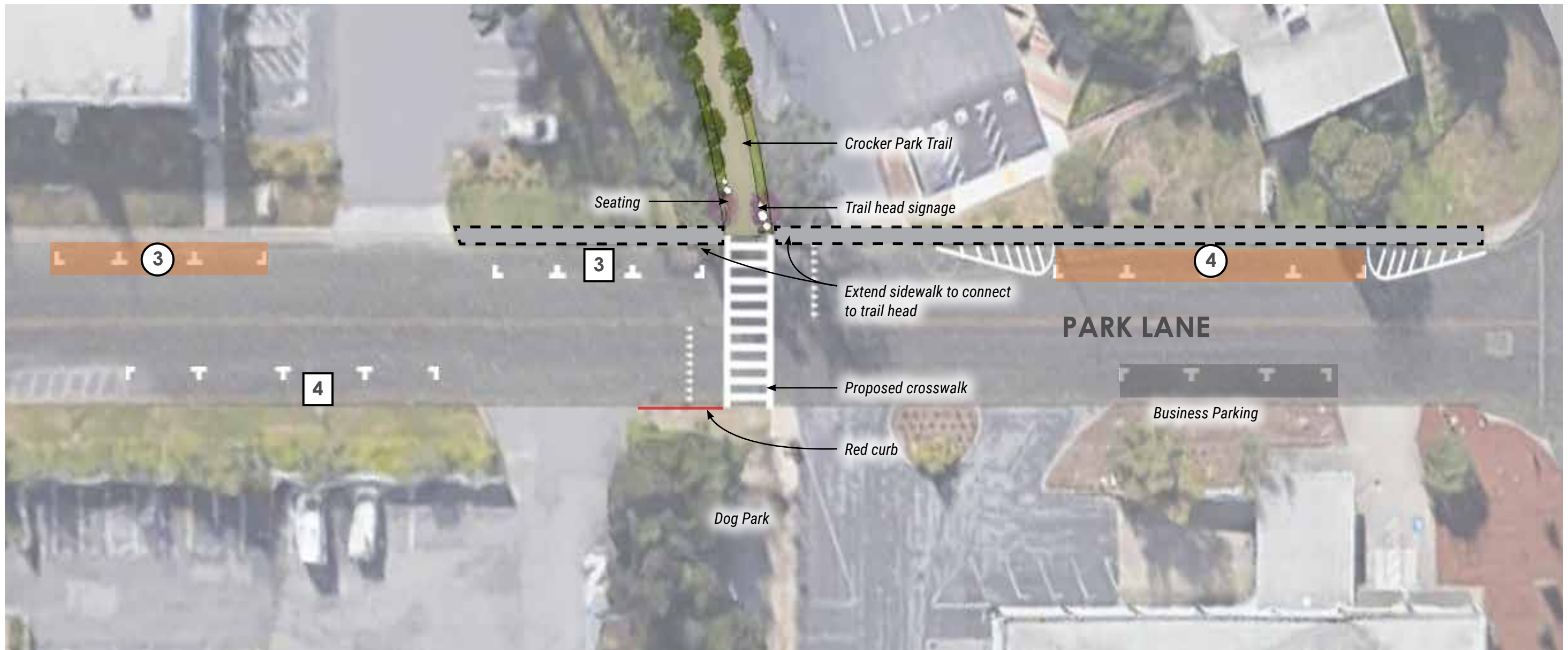


**MILE MARKERS** - located every quarter mile

**MEASURES TO PREVENT PRIVATE VEHICLE ACCESS** - Options for barriers along property line to prevent private vehicle access to trail while allowing for users to connect to the trail.










**PARKING OPPORTUNITIES LEGEND**

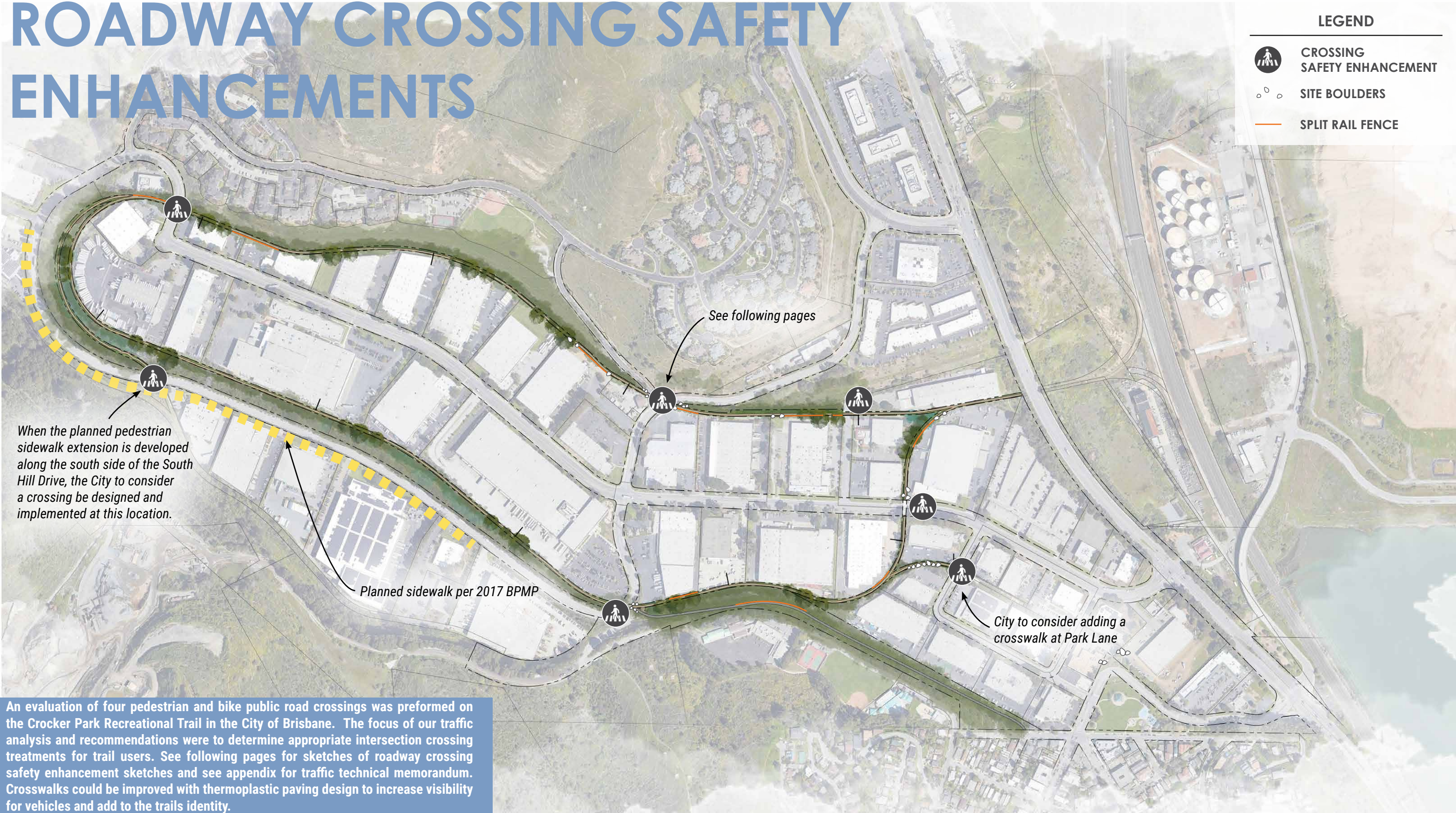
- 3 POTENTIAL NEW PARKING (7)
- BUSINESS PARKING
- X EXISTING TRAIL PARKING (7 SPACES) \*NO SHADING





# ROADWAY CROSSING SAFETY ENHANCEMENTS

LEGEND	
	CROSSING SAFETY ENHANCEMENT
	SITE BOULDERS
	SPLIT RAIL FENCE



When the planned pedestrian sidewalk extension is developed along the south side of the South Hill Drive, the City to consider a crossing be designed and implemented at this location.

Planned sidewalk per 2017 BPMP

See following pages

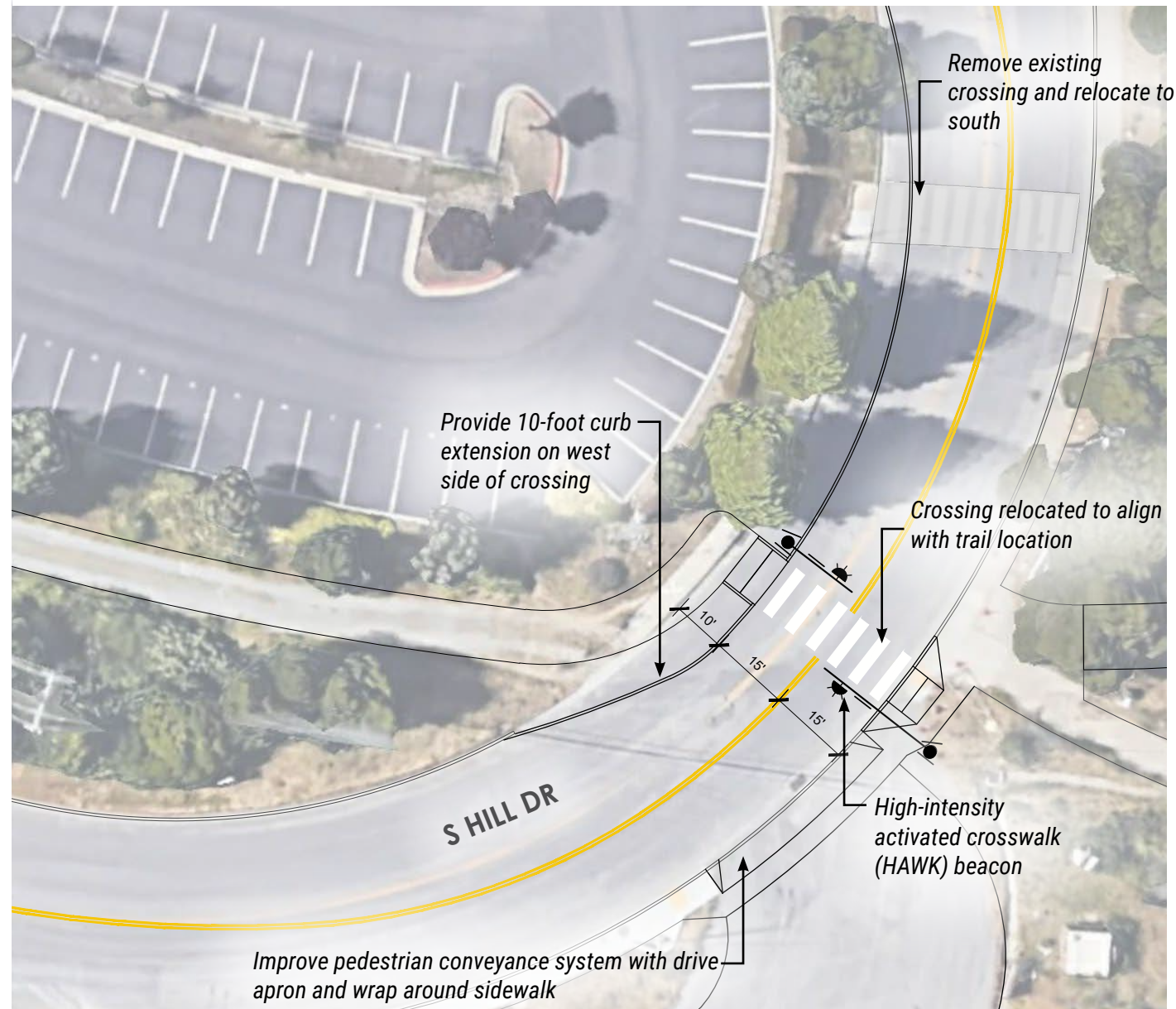
City to consider adding a crosswalk at Park Lane

An evaluation of four pedestrian and bike public road crossings was performed on the Crocker Park Recreational Trail in the City of Brisbane. The focus of our traffic analysis and recommendations were to determine appropriate intersection crossing treatments for trail users. See following pages for sketches of roadway crossing safety enhancement sketches and see appendix for traffic technical memorandum. Crosswalks could be improved with thermoplastic paving design to increase visibility for vehicles and add to the trails identity.



# PROPOSED SAFETY ENHANCEMENTS AT S HILL DRIVE

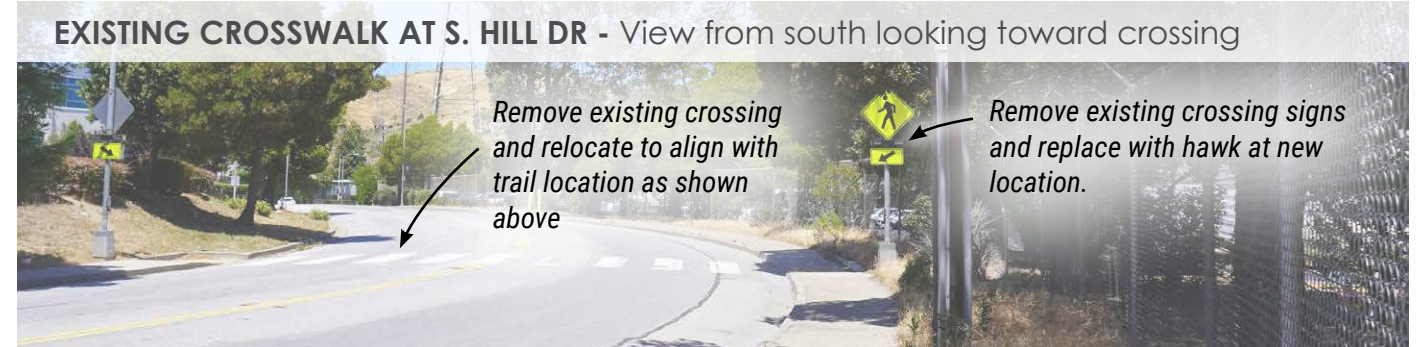
Sketches graphically represent the recommended safety enhancements from the traffic assessment memorandum



# PROPOSED SAFETY ENHANCEMENTS LOOKING EAST DOWN S. HILL DRIVE



## HAWK SIGNAL (High-Intensity Activated crosswalk)





# PROPOSED SAFETY ENHANCEMENTS AT W HILL DRIVE

Sketches graphically represent the recommended safety enhancements from the traffic assessment memorandum



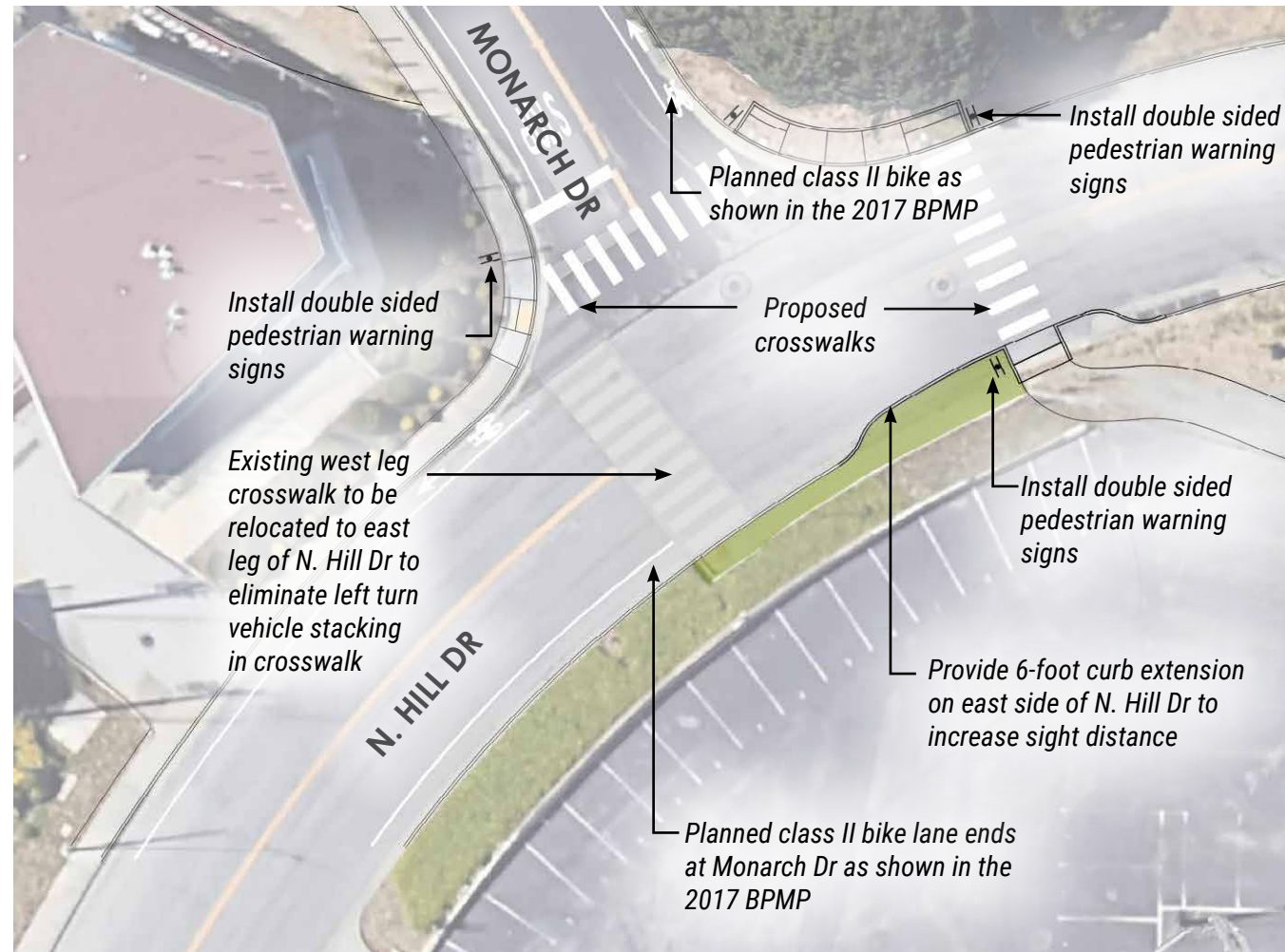
RECTANGULAR RAPID FLASHING BEACON (RRFB)  
PEDESTRIAN CROSSWALK SYSTEM



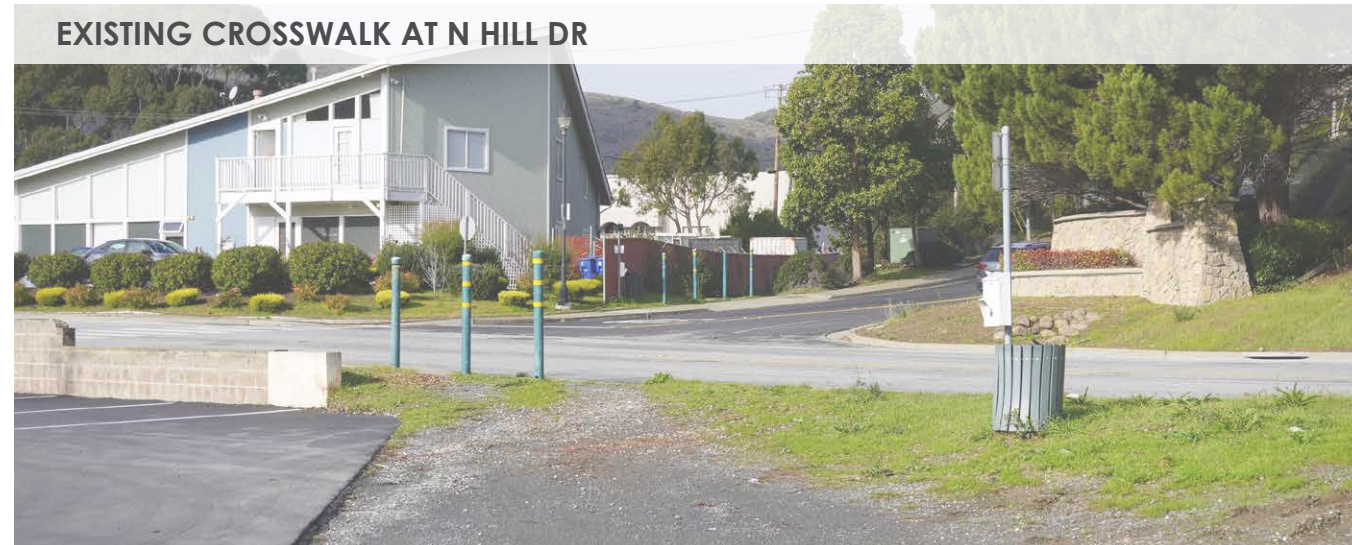
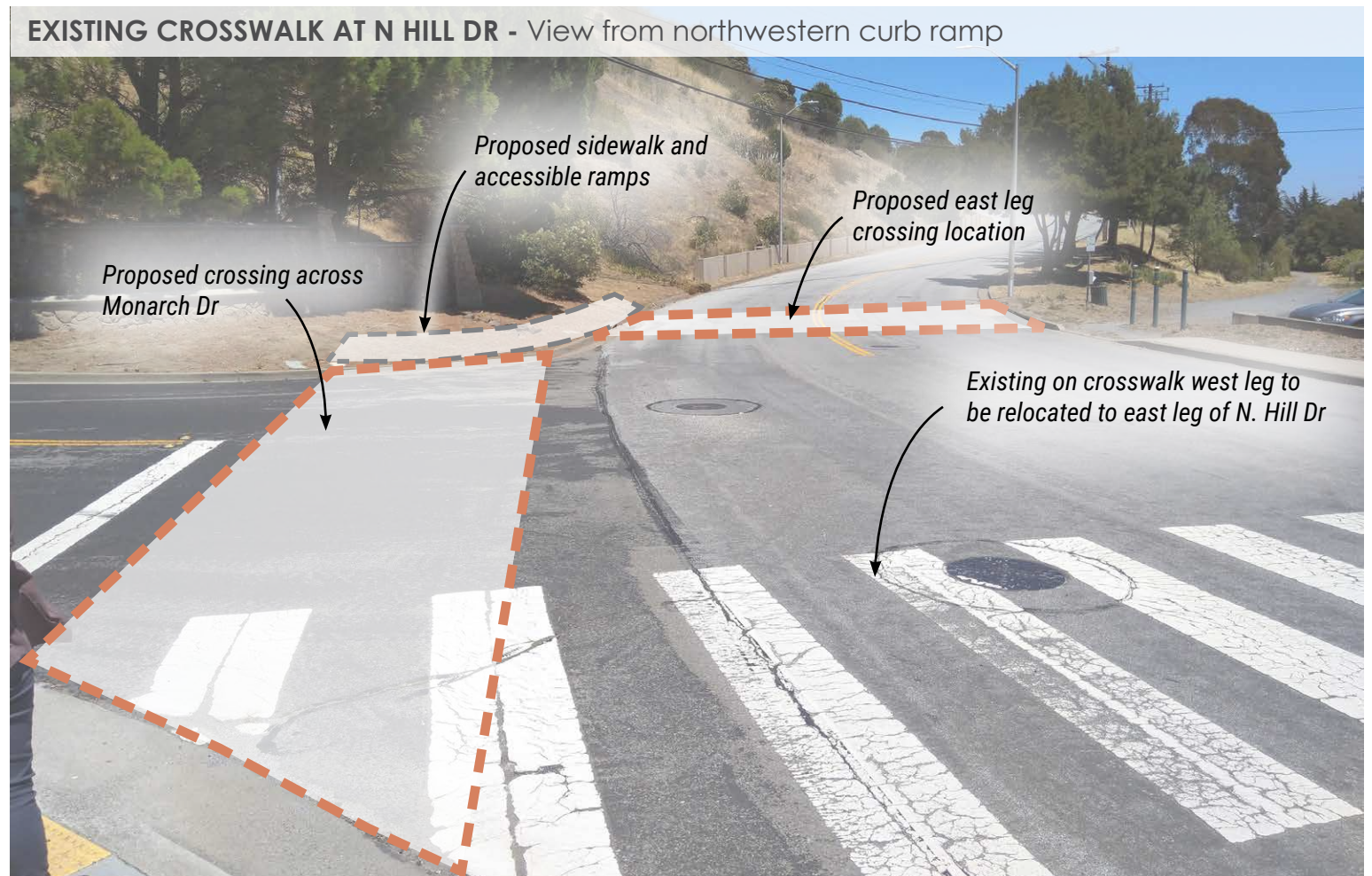


# PROPOSED SAFETY ENHANCEMENTS AT N HILL DRIVE - OPTION A

Sketches graphically represent the recommended safety enhancements from the traffic assessment memorandum



During the trail master planning process, the Public Works department and the project Traffic Engineer worked together to evaluate the trail crossing at N. Hill Drive. Based on their discussions, the following two crossing solutions are viable pending additional analysis. Both recommendations are focused on improving sight distances from the southern side of the crossing.

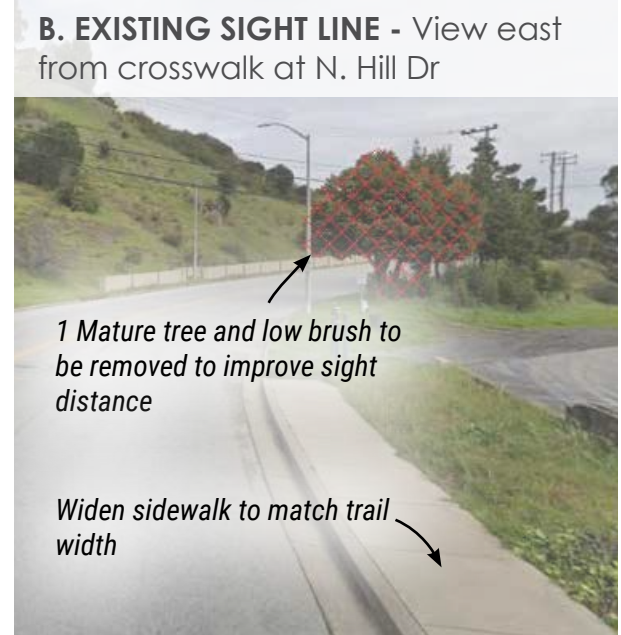
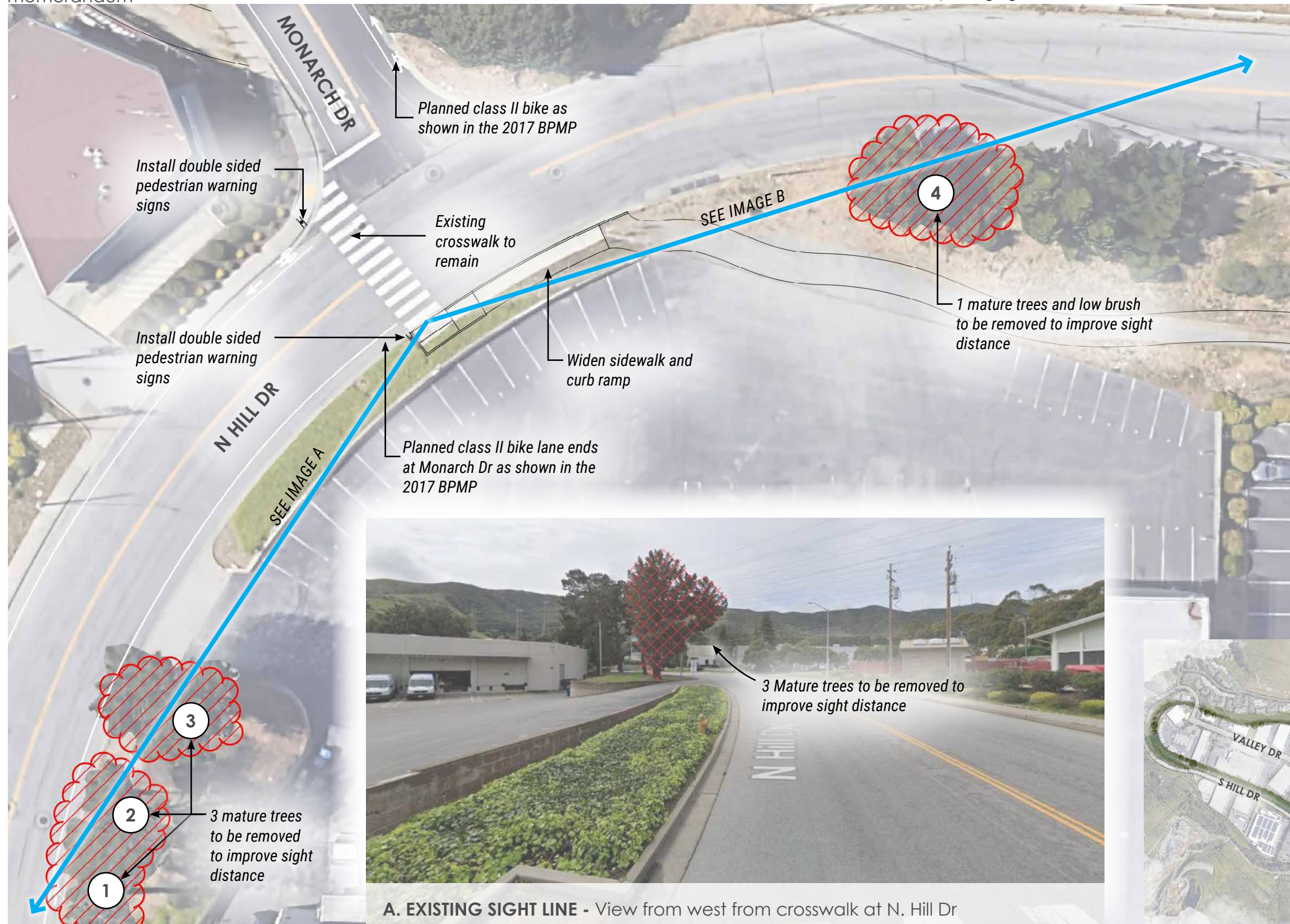




# PROPOSED SAFETY ENHANCEMENTS AT N. HILL DRIVE - OPTION B

Sketches graphically represent the recommended safety enhancements from the traffic assessment memorandum

During the trail master planning process, the Public Works department and the project Traffic Engineer worked together to evaluate the trail crossing at N. Hill Drive. Based on their discussions, the following two crossing solutions are viable pending additional analysis. Both recommendations are focused on improving sight distances from the southern side of the crossing.



### PEDESTRIAN CROSSING SIGNS



**A. EXISTING SIGHT LINE - View from west from crosswalk at N. Hill Dr**





# PROPOSED SAFETY ENHANCEMENTS AT CYPRESS LANE

Sketches graphically represent the recommended safety enhancements from the traffic assessment memorandum



EXISTING CROSSWALK AT CYPRESS LANE - View from east looking at crossing



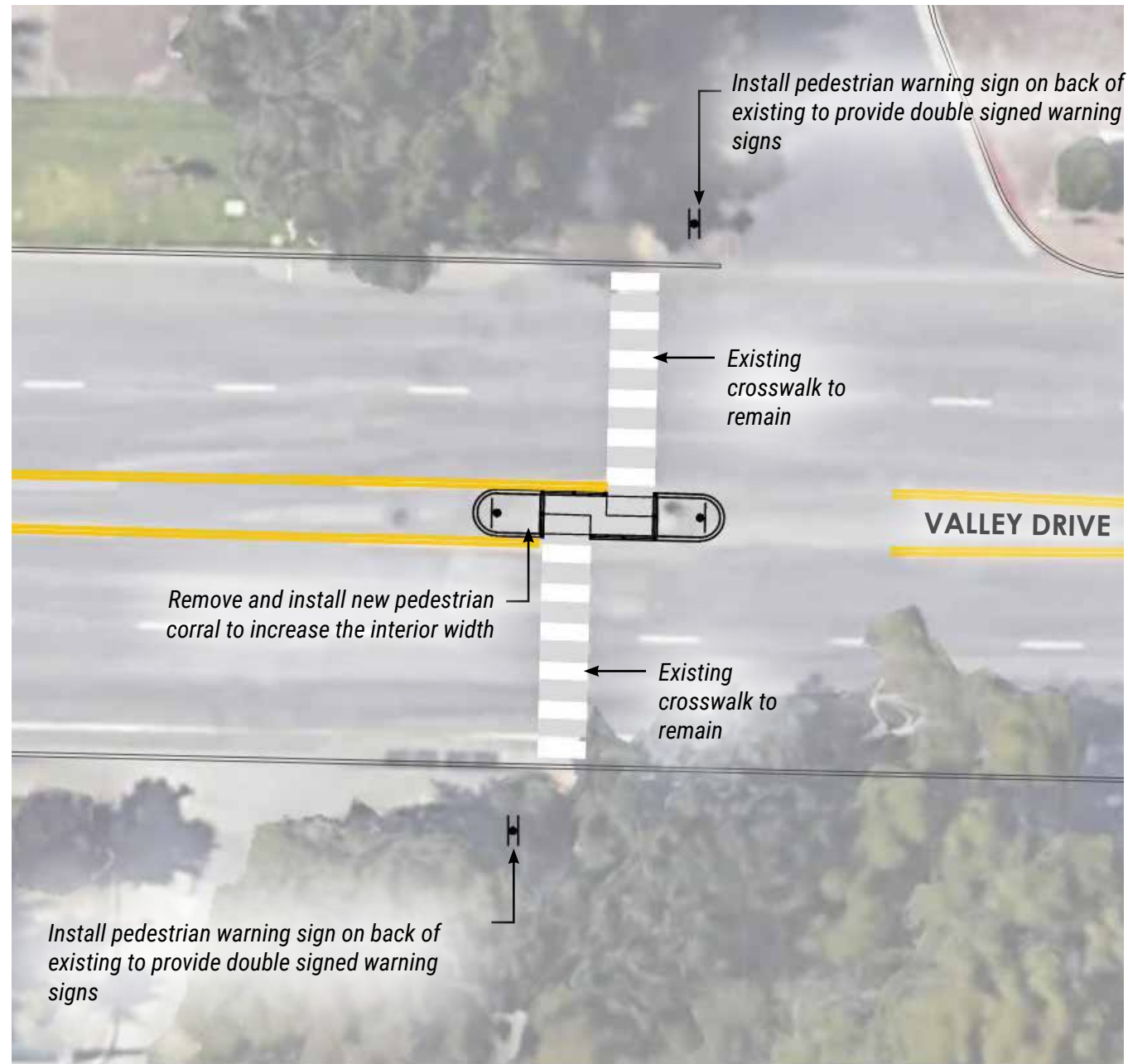
### PEDESTRIAN CROSSING SIGNS





# PROPOSED SAFETY ENHANCEMENTS AT VALLEY DRIVE

Sketches graphically represent the recommended safety enhancements from the traffic assessment memorandum



The Public Works Department and the project Traffic Engineer have evaluated the historical trail usage and average daily traffic counts to determine the warranted safety enhancements for the crossing. The City may elect to install the additional safety measure of a Rectangular Rapid Flashing Beacon (RRFB) device on the double sided pedestrian warning signs as trail usage and traffic patterns increase.







## APPENDICES

- A OPPORTUNITIES AND CONSTRAINTS
- B TRAFFIC ENHANCEMENT ASSESSMENT MEMORANDUM
- C BIOLOGICAL CONSTRAINTS ASSESSMENT
- D OPINION OF PROBABLE COST
- E TRAIL FUNDING OPPORTUNITIES





# APPENDIX A

## OPPORTUNITIES AND CONSTRAINTS

### General Notes:

\*The average trail right-of-way is 20' wide. All improvements will take place within City property

\*Carefully consider where to focus the invasive species removal and habitat improvements since the City won't fund improvements outside of the right-of-way nor pay to remove all the noninvasive within the entire corridor.

\*City ownership shown provided by City.

### LEGEND

City-OWNED PROPERTY

Large trapezoidal channel. Operations and Maintenance says that channel typically has enough capacity (no flooding).

Vegetation needs to be trimmed along curve for visibility.

A lot of runoff comes through this street.

First stretch off of W. Hill Drive is used as a road on a daily basis to access leased property

Area currently leased and permitted to tenant.

Large amount of City-owned property yields a large flex space for future development.

Opportunity to provide stairs for trail connectivity

Double Retaining wall for existing building and trail. No apparent drainage function.

Skills training elements may utilize natural slope

New shade trees planted on south side of trail would provide shade throughout this sunny microclimate

Ephemeral drainage along south side of trail see biological assessment for location and description.

Trail users crossing S. Hill at trail location rather than at crosswalk to north

24" Drain from Quarry Road Trail down to Crocker Trail

Outdoor learning opportunity between middle school and trail.

Public has requested linking recreation area to trail. Note: This is private property.

Ex SD inlets throughout for slope drainage. Maintenance cleans out occasionally.

Ex slope drain inlet behind sign

Existing wildlife creates opportunity for pollinator garden

Ex curb inlets are large

Planting improvement opportunities  
24" Down drain outlets into existing swale

Pavement failure/sinking  
12" Drain outlet on Quarry Road Trail

Raise up path in these areas/ consider elevated decking/bridge since area is flat and existing culverts are small/clogged/old

Best area for habitat improvements. Presence of wetland species.

Ex concrete swale is likely private-owned and not visually pleasing. End of Project at tunnel. Future connection to Brisbane Baylands

20' Trail Right of Way

Corral too narrow to accommodate bicycles. Lane widths are generous.

Keep existing street parking here, with new crosswalk. Currently bike traffic on Park Ln. Look at connecting trailhead to existing sidewalk to the southwest along Park Ln.

Delivery loading results in truck encroaching over trail.

Pollinator Garden opportunity due to proximity to community garden.

Ex. grate inlet at downstream end of swale



# APPENDIX B

## TRAFFIC ENHANCEMENT ASSESSMENT MEMORANDUM



### Memorandum

**Date:** April 22, 2021  
**Project:** BRI002  
**To:** Ms. Kayla Szubielski  
RRM Design Group  
**From:** Steve Weinberger  
sweinberger@w-trans.com  
**Subject:** Brisbane – Crocker Park Recreational Trail Traffic Recommendations

As requested, W-Trans completed an evaluation of four pedestrian/bike public road crossings on the Crocker Park Recreational Trail in the City of Brisbane. The focus of our traffic analysis and recommendations were to determine appropriate intersection crossing treatments for trail users.

### Study Area

The following four locations on the Crocker Park Recreational Trail were examined.

- Location A - South Hills Drive
- Location B - West Hill Drive, North of Valley Drive
- Location C - N Hill Drive
- Location D - Valley Drive midblock

### Analysis

#### Location A - South Hills Drive



The Crocker Park Recreational Trail crosses South Hill Drive at the apex of a curve. There is an existing marked crosswalk located approximately 80 feet north of the trail location. The crossing includes double sided pedestrian crossing signs with RRFB warning lights and advance pedestrian warning signs with RRFB warning lights in advance of the crossing in each direction. There are no signs which direct trail users to the marked crosswalk.

The speed limit to the north is 25 mph, and no speed limits are indicated to the south, but prevailing speeds are in the 35-mph range.

Sight distance between vehicles and the pedestrian waiting position at the existing location varies between 150 feet from the west side to 200 feet (minimum) on the east side. Based on current sight distant standards, 250 feet is needed for speeds of 35 mph. Therefore, the existing RRFB installations are an appropriate measure.

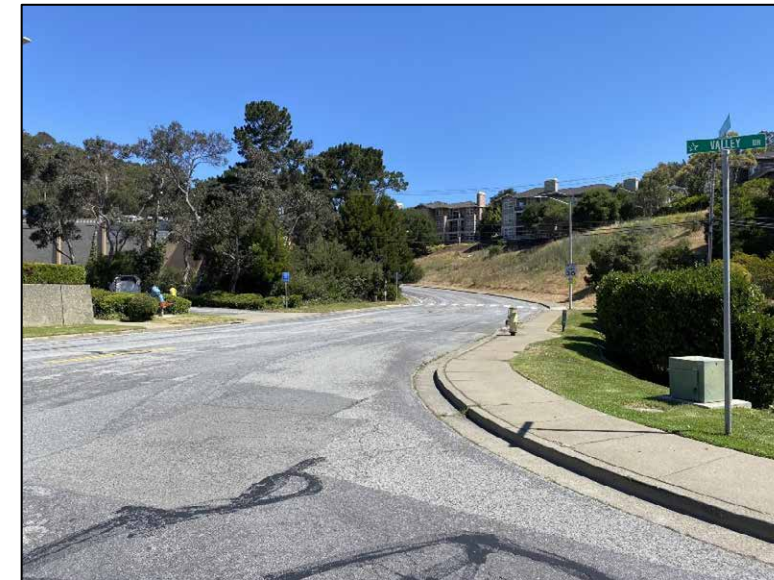
#### Potential Crossing Relocation

Assuming that the crosswalk is relocated towards the south at the existing trail location and a 10-foot curb extension is provided on the west side of the crossing, resulting sight distance would be: 190 feet (minimum) from the east side and 140 feet (minimum) from the west side. This condition would also require the installation of measures to reduce vehicle approach speeds. The street cross section could consist of (from west to east ) 10-foot curb extension, 15-foot travel lane, 15-foot travel lane with no parking allowed on this section of the street.

#### Recommendations

It should be noted that neither the existing crossing location nor the relocated crossing scenario provides the minimum stopping sight distance standards. Therefore, the City may wish to consider either a required stop control which can be achieved through the installation of a Hawk signal, or provide a raised crossing which would physically reduce speeds in the corridor to less than 25 mph.

#### **Location B - West Hill Drive, North of Valley Drive**



An existing midblock crossing is provided with pedestrian warning signs on each side of the crossing. Existing speed limits are 30 mph north of the crossing and 40 mph south of the crossing. Shoulder buffered striping is provided on the west side.



Existing sight distance conditions were measured from the east and west sides of the trail crossing in both directions.

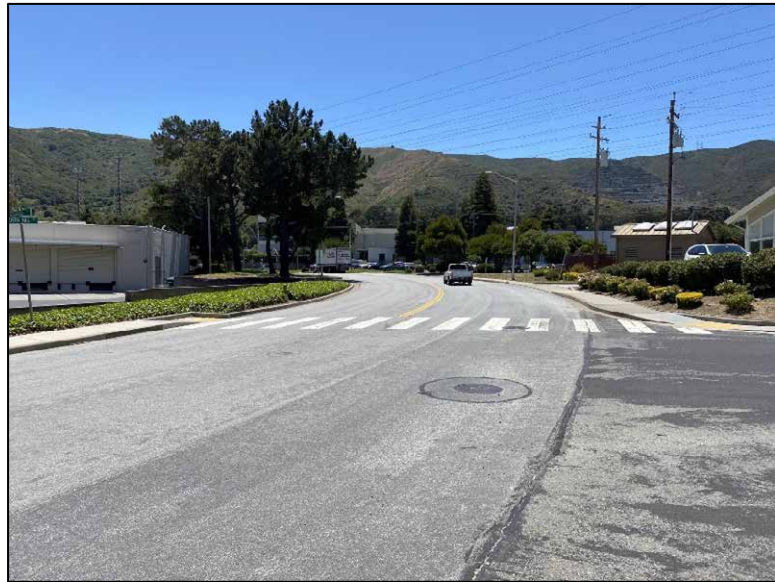
- East Side: 215 feet to the north, 180 feet to the south
- West Side: 135-150 feet to the north, 180 feet to the south

Existing sight distance is only adequate for a 25-mph stopping sight distance even considering the extended sight distance offered by the buffer space on the west side.

#### Recommendations

- Install double sided pedestrian warning signs on both sides of the crossing.
- As much as possible, remove vegetation on west side to increase sight distance to the north.
- Due to the restricted sight distance to the north due to the vegetation and curve, install Rectangular Rapid Flashing Beacons (RRFB) on both sides to be activated by pedestrian push buttons.

### **Location C - N Hill Drive**



The Crocker Park Recreational Trail crosses North Hill Drive on the south leg of the intersection with Monarch Drive. There is an existing marked crosswalk with no pedestrian warning signs. The existing speed limit is 35 mph.

Sight distance between vehicles and the pedestrian waiting position from the east side, which is limited by the curve on North Hill Drive, is approximately 180 feet to the south and 200 feet to the north. Based on current sight distant standards, 250 feet of sight distance is needed for speeds of 35 mph. Sight distance conditions from the west side meets these standards. Because of the restricted sight distance from the east side, either an RRFB or Hawk installation would be needed for enhanced pedestrian crossing safety. As an alternative, a raised crosswalk could be provided to reduce speeds.

#### Potential Crossing Relocation

Assuming that the crosswalk is relocated to the north leg of the intersection, the resulting site distance would be approximately 200 feet from the east side towards and north and the south. By adding a 6-foot curb extension on the eastside, the sight distance could be increased to 250 feet which would be adequate for the 35 mile per hour speeds. Again, sight distance conditions from the west side meet the required standards. This approach would not need additional measures to increase warning or reduce speeds.

#### Recommendations

- If the existing crosswalk is maintained, install RRFBs, HAWK, a raised crossing, or remove trees and vegetation to obtain adequate sight distance.
- If the crosswalk is relocated to the north leg of the intersection, provide a 6-foot curb extension on the east side to increase sight distance.
- Install double sided pedestrian warning signs under either scenario.

### **Location D - Valley Drive Midblock**



An existing midblock crossing is provided with pedestrian warning signs on each side of the crossing.

#### Existing Conditions

- Speed limits on the corridor are 40 mph
- Pedestrian corral provided at mid crossing
- Extended sight distance in both directions
- Edge line striping on the south side of the corridor and no edge striping on the north side
- Single sided pedestrian warning signs provided on both sides
- Bike plans calls for future Class II bike lanes on Valley Drive

#### Recommendations

- Install double sided pedestrian warning signs on both sides of the crossing.
- Install new pedestrian corral to increase the interior width.
- As part of future restriping on Valley Drive to provide Class II bike lanes on both sides including corridor striping from south to north: 6'-11'-11'-8'-11'-11'-6.'



# APPENDIX C

## BIOLOGICAL CONSTRAINTS ASSESSMENT

November 10, 2020

Kayla Szubielski  
RRM Design Group  
32332 Camino Capistrano, Suite 205  
San Juan Capistrano, CA 92675



**Re: Biological Constraints Assessment, Crocker Park Recreational Trail Master Plan, Brisbane, San Mateo County, CA**

Dear Ms. Szubielski,

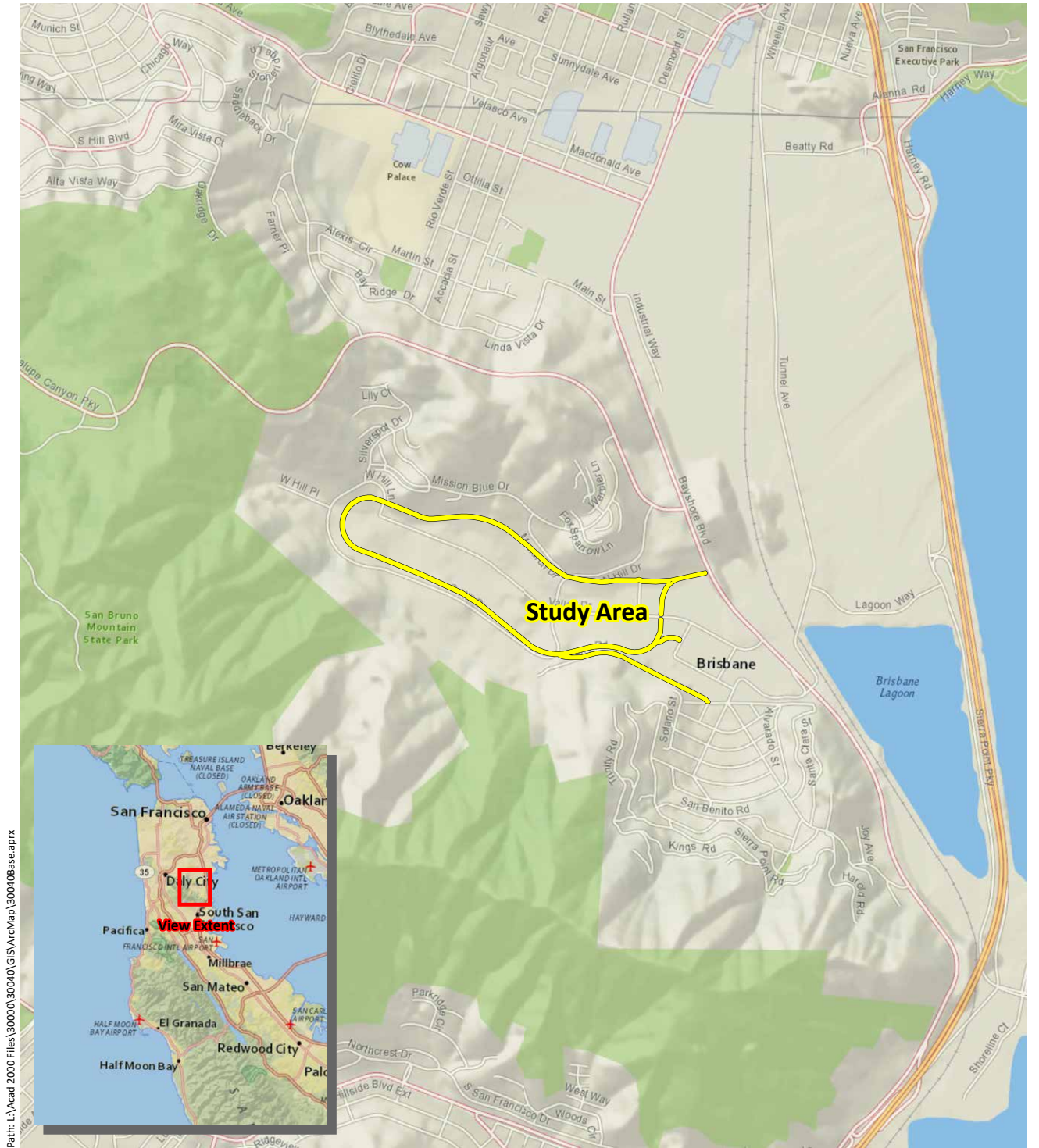
This letter report provides the results of the biological constraints assessment that was conducted at the Crocker Park Recreational Trail (Study Area; see Attachment 1 - Figure 1) located in the City of Brisbane, San Mateo County, California. This report describes the results of the assessment, which evaluated the Study Area for: (1) the potential to support special-status species, and (2) the potential presence of other sensitive biological resources protected by local, state, and federal laws and regulations. Examples include wetlands, riparian habitat, native grassland, and habitat for threatened or endangered species. Projects that result in impacts to these sensitive biological resources often require regulatory agency permits and/or specific mitigation measures developed through the CEQA process to minimize the impacts to a less than significant level. This assessment was based on information available at the time of the study and on-site conditions that were observed during the site visit.

The Study Area lies approximately 1.3 miles west of US Highway 101, within a greater area of commercial, industrial, urban, and residential development (Attachment 1 - Figure 1). The Study Area perimeter commercial businesses located off of Valley Drive. The Study Area is a developed, 2.2-mile recreational dirt-trail loop within a right of way (ROW) easement maintained by the City of Brisbane. The Study has been subject to historic grading and periodic vegetation management, and is mottled with narrow strips of nonnative and native vegetation on either side of the trail. The Study Area has been developed since at least 1968 (Nationwide Environmental Title Research [NETR] 2020).

Based on the site visit and a review of background literature and databases, the Study Area contains approximately 0.08 acres of potential seasonal wetlands, approximately 6,667 linear feet (0.15 acres) of ephemeral drainages, and 7.75 acres of developed land with ruderal vegetation. The Study Area is unlikely to support special-status plant or wildlife species; non-special-status nesting birds may be present in the Study Area during the breeding season.

### REGULATORY BACKGROUND

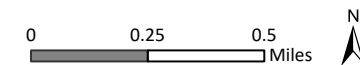
The following sections explain the regulatory context of the biological assessment, including applicable laws and regulations that were applied to the field investigations.



Sources: National Geographic, WRA | Prepared By: JSChuster, 11/10/2020

**Figure 1. Project Area Regional Location Map**

Crocker Park Recreational Trail  
Biological Constraints Assessment  
Brisbane, San Mateo County, CA







**Figure 2. Wetlands in the Study Area**

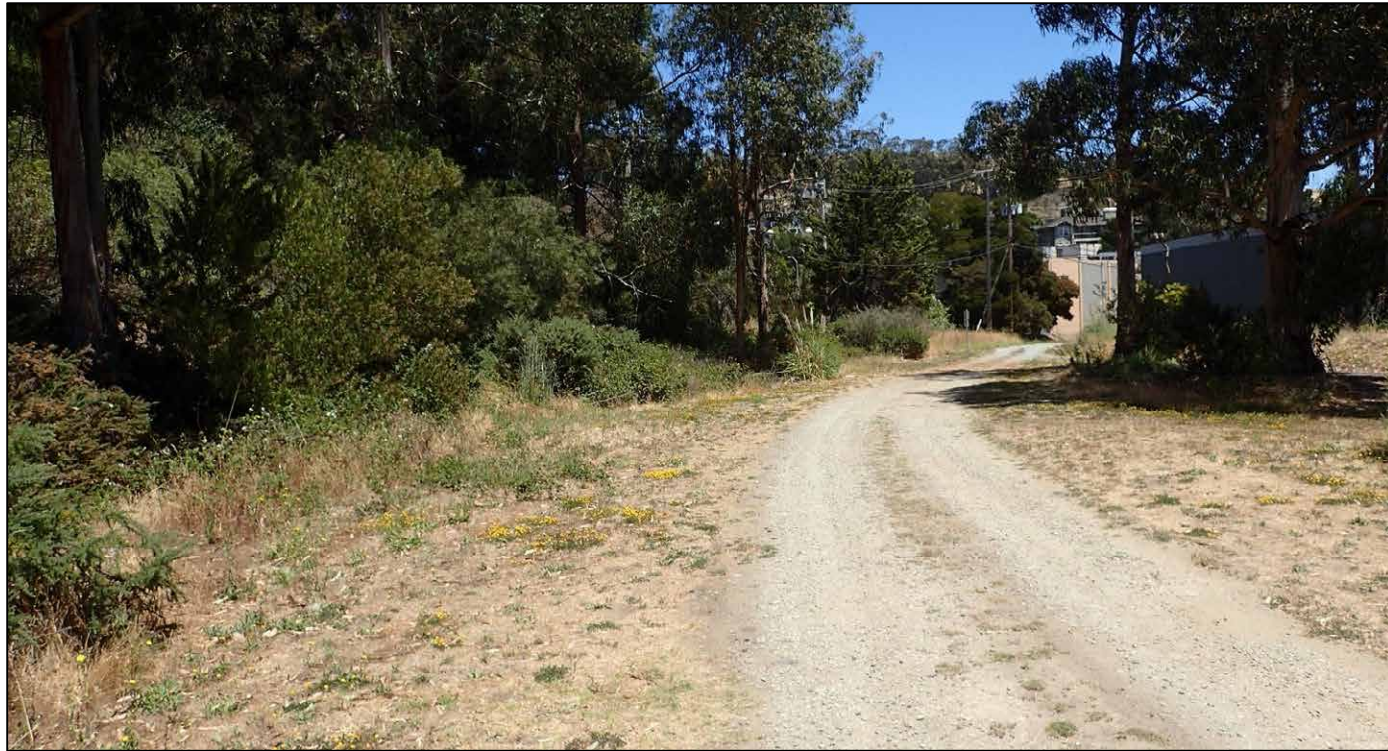


Photograph 1: Representative photograph of riparian vegetation along an ephemeral ditch and potential wetland within the Study Area.



Photograph 2: Representative photograph of hydrophytic vegetation (*Juncus effusus*, *Salix* sp., *Cyperus eragrostis*) in one of the potential wetlands within the Study Area.

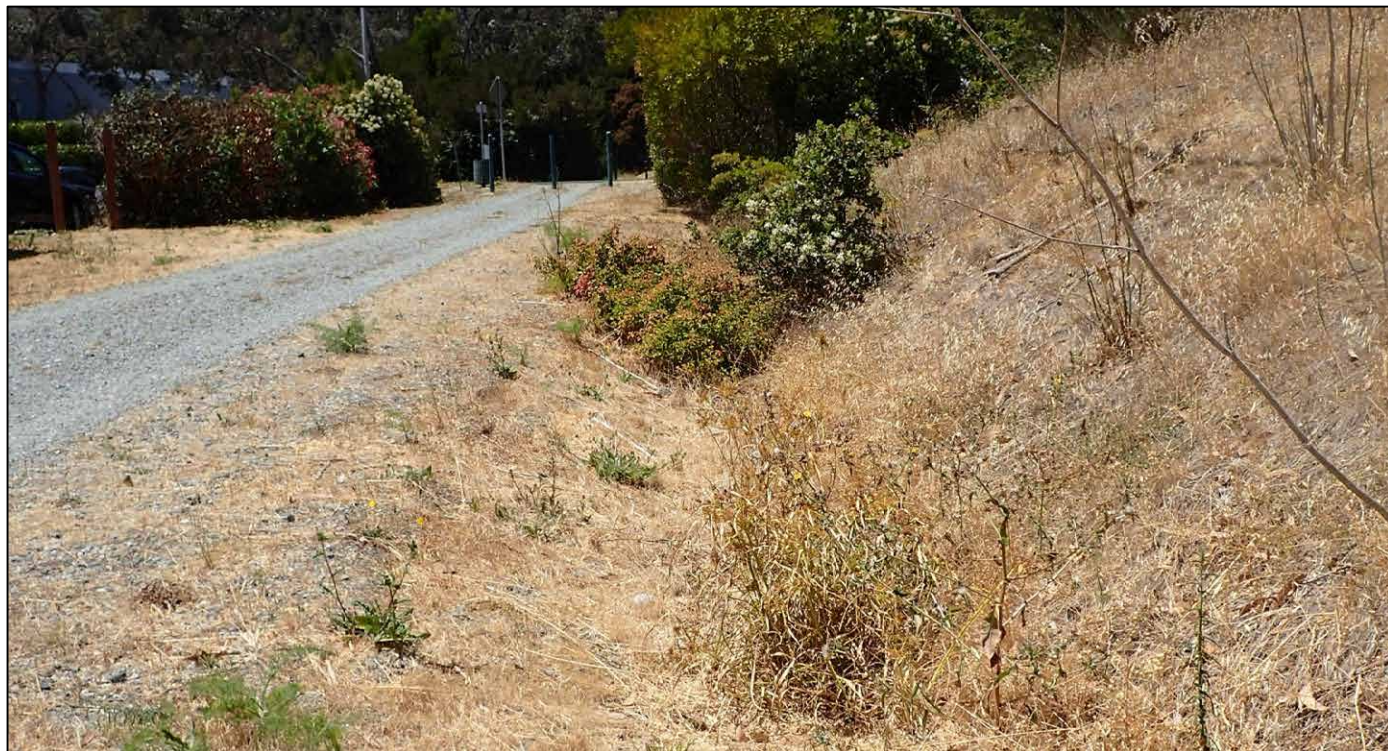




Photograph 3: Representative photograph of ruderal habitat that dominates most of the trail within the Study Area.



Photograph 5: Representative photograph of a potential wetland with standing water and supporting some hydrophytic vegetation (e.g. *Juncus effusus* and *Salix* sp.) within the Study Area



Photograph 4: Representative photograph of an ephemeral ditch supporting some hydrophytic vegetation (e.g. *Cyperus eragrostis* and *Polypogon monspeliensis*) within the Study Area.



Photograph 6: Representative photograph of a potential wetland within the Study Area.



## Federal and State Regulatory Setting

### *Vegetation and Aquatic Communities*

CEQA provides protections for particular vegetation types defined as sensitive by the California Department of Fish and Game (CDFW), and aquatic communities protected by laws and regulations administered by the U.S Army Corps of Engineers (Corps), State Water Resources Control Board (SWRCB), and Regional Water Quality Control Boards (RWQCB). The laws and regulations that provide protection for these resources are summarized below.

Sensitive Natural Communities: Sensitive natural communities include habitats that fulfill special functions or have special values. Natural communities considered sensitive are those identified in local or regional plans, policies, regulations, or by the CDFW. CDFW ranks sensitive communities as "threatened" or "very threatened" (CDFG 2010, CDFW 2018a) and keeps records of their occurrences in its California Natural Diversity Database (CNDDDB; CDFW 2018a). CNDDDB vegetation alliances are ranked 1 through 5 based on NatureServe's (2018) methodology, with those alliances ranked globally (G) or statewide (S) as 1 through 3 considered sensitive. Impacts to sensitive natural communities identified in local or regional plans, policies, or regulations or those identified by the CDFW or U.S. Fish and Wildlife Service (USFWS) must be considered and evaluated under CEQA (CCR Title 14, Div. 6, Chap. 3, Appendix G). In addition, this general class includes oak woodlands that are protected by local ordinances under the Oak Woodlands Protection Act.

Waters of the United States, Including Wetlands: The United States Army Corps of Engineers (Corps) regulates "Waters of the United States" under Section 404 of the Clean Water Act (CWA). Waters of the United States are defined in the Code of Federal Regulations (CFR) as including the territorial seas, and waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, such as tributaries, lakes and ponds, impoundments of waters of the U.S., and wetlands. (33 CFR 328.3). Potential wetland areas, according to the three criteria used to delineate wetlands as defined in the Corps Wetlands Delineation Manual (Environmental Laboratory 1987), are identified by the presence of (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology. Unvegetated waters including lakes, rivers, and streams may also be subject to Section 404 jurisdiction and are characterized by an ordinary high water mark (OHWM) identified based on field indicators such as the lack of vegetation, sorting of sediments, and other indicators of flowing or standing water. The placement of fill material into Waters of the United States generally requires a permit from the Corps under Section 404 of the CWA.

Sections 1600-1616 of California Fish and Game Code: Streams and lakes, as habitat for fish and wildlife species, are regulated by CDFW under Sections 1600-1616 of California Fish and Game Code (CFGF). 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 aquatic life [including] watercourses having a surface or subsurface flow that supports or has supported riparian vegetation" (14 CCR 1.72). 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 (CDFG 1994). Riparian vegetation has been defined as "vegetation which occurs in and/or adjacent to a stream and is dependent on, and occurs because of, the

stream itself" (CDFG 1994). Removal of riparian vegetation also requires a Section 1602 Lake and Streambed Alteration Agreement from CDFW.

### *Special-status Species*

Endangered and Threatened Plants, Fish and Wildlife. Specific species of plants, fish, and wildlife species may be designated as threatened or endangered by the federal Endangered Species Act (ESA), or the California Endangered Species Act (CESA). Specific protections and permitting mechanisms for these species differ under each of these acts, and a species' designation under one law does not automatically provide protection under the other.

The ESA (16 USC 1531 et seq.) is implemented by the USFWS and the National Marine Fisheries Service (NMFS). The USFWS and NMFS maintain lists of "endangered" and "threatened" plant and animal species (referred to as "listed species"). "Proposed" or "candidate" species are those that are being considered for listing, and are not protected until they are formally listed as threatened or endangered. Under the ESA, authorization must be obtained from the USFWS or NMFS prior to take of any listed species. Take under the ESA is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Take under the ESA includes direct injury or mortality to individuals, disruptions in normal behavioral patterns resulting from factors such as noise and visual disturbance, and impacts to habitat for listed species. Actions that may result in "take" of an ESA-listed species may obtain a permit under ESA Section 10, or via the interagency consultation described in ESA Section 7. Federally listed plant species are only protected when take occurs on federal land.

The ESA also provides for designation of critical habitat, which are specific geographic areas containing physical or biological features "essential to the conservation of the species". Protections afforded to designated critical habitat apply only to actions that are funded, permitted, or carried out by federal agencies. Critical habitat designations do not affect activities by private landowners if there is no other federal agency involvement.

The CESA (California Fish and Game Code 2050 et seq.) prohibits a "take" of any plant and animal species that the California Fish and Game Commission determines to be an endangered or threatened species in California. CESA regulations include take protection for threatened and endangered plants on private lands, as well as extending this protection to "candidate species" which are proposed for listing as threatened or endangered under CESA. The definition of a "take" under CESA ("hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill") only applies to direct impact to individuals, and does not extend to habitat impacts or harassment. CDFW may issue an Incidental Take Permit under CESA to authorize take if it is incidental to otherwise lawful activity and if specific criteria are met. Take of these species is also authorized if the geographic area is covered by a Natural Community Conservation Plan (NCCP), as long as the NCCP covers that activity.

Fully Protected Species and Designated Rare Plant Species. This category includes specific plant and wildlife species that are designated in California Fish and Game Code (CFGF) as protected even if not listed under CESA or the ESA. Fully Protected Species includes specific lists of birds, mammals, reptiles, amphibians, and fish designated in CFGF. Fully protected species may not be taken or possessed at any time. No licenses or permits may be issued for take of fully protected species, except for necessary scientific research and conservation purposes. The definition of "take" is the same under the California Fish and Game Code and the CESA. By law, CDFW may not issue an Incidental Take Permit for Fully Protected Species. Under the California Native Plant Protection Act (NPPA), CDFW has listed 64 "rare" or "endangered" plant species, and prevents "take", with few exceptions, of these species. CDFW may authorize



take of species protected by the NPPA through the Incidental Take Permit process, or under a NCCP.

Special Protections for Nesting Birds and Bats. The federal Bald and Golden Eagle Protection Act provides relatively broad protections to both of North America's eagle species (bald [*Haliaeetus leucocephalus*] and golden eagle [*Aquila chrysaetos*]) that in some regards are similar to those provided by the ESA. In addition to regulations for special-status species, most native birds in the United States, including non-status species, have baseline legal protections under the Migratory Bird Treaty Act of 1918 and CFGC, i.e., sections 3503, 3503.5 and 3513. Under these laws/codes, the intentional harm or collection of adult birds as well as the intentional collection or destruction of active nests, eggs, and young is illegal. For bat species, the Western Bat Working Group (WBWG) designates conservation status for species of bats, and those with a high or medium-high priority are typically given special consideration under CEQA.

Species of Special Concern, Movement Corridors, and Other Special Status Species Under CEQA. To address additional species protections afforded under CEQA, CDFW has developed a list of special species as "a general term that refers to all of the taxa the CNDDDB is interested in tracking, regardless of their legal or protection status." This list includes lists developed by other organizations, including for example, the Audubon Watch List Species, the Bureau of Land Management Sensitive Species, and USFWS Birds of Special Concern. Plant species on the California Native Plant Society (CNPS) Rare and Endangered Plant Inventory (Inventory) with California Rare Plant Ranks (Rank) of 1, 2, and 3 are also considered special-status plant species and must be considered under CEQA. Rank 4 species are typically only afforded protection under CEQA when such species are particularly unique to the locale (e.g., range limit, low abundance/low frequency, limited habitat) or are otherwise considered locally rare. Additionally, any species listed as sensitive within local plans, policies and ordinances are likewise considered sensitive. Movement and migratory corridors for native wildlife (including aquatic corridors) as well as wildlife nursery sites are given special consideration under CEQA.

#### Local Regulatory Setting

City of Brisbane General Plan. The Brisbane City General Plan contains policies pertaining to the following biological resources categories:

- Biological Resources (Policy 118-128)
  - Preserve, conserve, and protect rare and endangered species habitat and biological resources.
  - Cooperate with local, State, and Federal agencies in biological conservation efforts.
  - Conserve urban landscape.
  - Protect heritage trees.
- Soils (Policy 129)
  - Require erosion controls to mitigate soil disturbance.
- Water Resources (Policy 130-134)
  - Conserve water resources in the natural environment.
  - Conserve Brisbane Lagoon and Levinson Marsh habitats
  - Conserve riparian and water-related vegetation and habitat.
  - Reduce amount of sediment and pollutants entering waterways.

#### METHODS

On July 7, 2020, a WRA, Inc. (WRA) biologist conducted a site visit within the Study Area. The potential occurrence of special-status species in the Study Area was evaluated by first determining which special-status species occur in the vicinity of the Study Area through a literature and database search. Resources reviewed included CDFW Natural Diversity Database records (CNDDDB; CDFW 2020), USFWS Information for Planning and Conservation Species Lists (USFWS 2020), and California National Plant Society (CNPS) Inventory records (CNPS 2020).

The Study Area was examined for indicators of wetlands, non-wetland waters, and riparian habitat potentially under the jurisdiction of the Corps, the RWQCB, and/or the CDFW. The Study Area was also examined to determine if special-status species were present. Areas that met characteristics to be considered habitat for special-status species of concern were mapped in portions of the Study Area where this habitat was determined to represent a potential constraint associated with proposed Project activities.

The Study Area was assessed for potential development-related constraints. This analysis was performed to a level of detail necessary to understand what types of biological constraints may be associated with the Project. The conclusions of this report are based on conditions observed at the time of the site visit and regulatory policies and practices in place at the time the report was prepared; changes that may occur in the future with regard to conditions, policies, or practices could affect the conclusions presented in this study.

#### RESULTS

The Study Area contains three land use types: approximately 0.08 acre of seasonal wetlands, 6,667 linear feet (0.15 acre) of ephemeral drainages, and 7.75 acres of developed land with ruderal vegetation (Attachment 1 – Figure 2). Seasonal wetland and ephemeral drainage habitats are considered sensitive and could be considered jurisdictional of the Corps, RWQCB, and/or the CDFW (Attachment 1 – Figure 2). No other CDFW-sensitive communities were present within the Study Area. The potentially sensitive features are further described below.

##### Developed land and Vegetation Communities

The Study Area contains approximately 7.75 acres of dirt-trail with narrow strips of ruderal vegetation mottled along the perimeter boundaries. Ruderal vegetation within the Study Area is predominantly non-native, occurs along the edges of the dirt trail, and is subject to periodic maintenance and mowing. Dominant species include fennel (*Foeniculum vulgare*), bird's-foot trefoil (*Lotus corniculatus*), Himalayan blackberry (*Rubus armeniacus*), bristly ox-tongue (*Helminthotheca echioides*), wild oat (*Avena* sp.), and French broom (*Genista monspessulana*). Native and non-native trees and shrubs perimeter portions of the trail and mainly consist of toyon (*Heteromeles arbutifolia*), blue gum (*Eucalyptus globulus*), beach pine (*Pinus contorta*), oleander (*Nerium oleander*), and poison oak (*Toxicodendron diversilobum*).

##### Sensitive Communities

##### Seasonal wetlands:

Approximately 0.08 acre of seasonal wetlands were identified within the Study Area (See Attachment 1 and Attachment 2; Site Photographs). These features were mapped and identified based on hydrophytic plant presence and indicators of surface hydrology. Vegetative cover in



these features is dominated by upland and/or invasive species (e.g. Himalayan blackberry (*Rubus armeniacus*), poison oak (*Toxicodendron diversilobum*), pampas grass (*Cortaderia jubata*), French broom (*Genista monspessulana*), and Bermuda grass (*Cynodon dactylon*)). Riparian and other hydrophytic plant species (e.g. willow species (*Salix* spp.), soft rush (*Juncus effusus*), tall cyperus (*Cyperus eragrostis*), gumplant (*Grindelia* sp.) and slough sedge (*Carex obnupta*)) were also present. These features occur adjacent to the existing trail, within the City's ROW.

#### Ephemeral drainages

Approximately 6,667 linear feet (0.15 acre) of earthen ephemeral drainages run along the majority of the outer perimeter of the study area, with various widths and levels of vegetation (Attachment 1 - Figure 2). It is important to note that some portions of the ephemeral drainages may fall outside of the Study Area; drainage boundaries were difficult to discern and map, due to limited access via thick vegetation cover. The ephemeral drainages were mapped and identified based on indicators of surface hydrology and presence of hydrophytic vegetation. Segments of the drainages widen and connect to several potential seasonal wetlands within and slightly outside of the Study Area (Attachment 1 - Figure 2 and Attachment 2). Vegetation cover in these features is dominated by upland species (e.g. Himalayan blackberry, poison oak, wild oat, bristly ox-tongue, toyon, beach pine, and French broom) with segments of hydrophytic species (e.g. willow sp., soft rush, tall cyperus, gumplant and slough sedge) within channels and scattered along banks.

These seasonal wetland and drainage features may be considered sensitive as they may be regulated under Sections 404 and 401 of the Clean Water Act by the U.S. Army Corps of Engineers and the Regional Water Quality Control Board (RWQCB), and/or Section 1600 of the CFGC, and are therefore considered sensitive under CEQA.

#### **Special-status Species**

##### *Special-status Plant Species*

No special-status plant species were observed in the Study Area during the site assessment. Sixty-five special-status plant species have been documented within 5 miles of the Study Area. These species are unlikely or have no potential to occur in the Study Area due to one or more of the following reasons:

- Specific edaphic conditions, such as serpentine or volcanic soils, are absent;
- Specific hydrologic conditions, such as riverine or tidal waters, are absent;
- Common associated plant species and vegetation communities are absent;
- The Study Area is above/below the documented elevation range of the species;
- Lack of a viable seed bank due to historic and contemporary soil alterations;
- Non-native species competition;
- Regular disturbance (e.g., mowing, landscape maintenance) of the Study Area; and

Additionally, the disturbed conditions in and around the Study Area make it unlikely that other special-status plant species are present in this area. The graded fill soils and pavement, history of disturbance throughout the Study Area, and surrounding development likely precludes the possibility of presence of special-status species.

##### *Special-status Wildlife Species*

No special-status wildlife species were observed in the Study Area during the site assessment. Fifty special-status wildlife species have been documented in the CNDDDB within 5 miles of the Study Area. The wildlife which have been documented in the vicinity were determined to have no potential, or are unlikely to occur within the Study Area due to one or more of the following reasons:

- The setting of the Study Area is urban, and the Study Area itself is highly disturbed, having been graded, landscaped, paved, and/or otherwise modified, making it unsuitable for special-status species;
- Aquatic habitats necessary to support special-status wildlife species (e.g., ponds, freshwater streams/rivers) are not present in the Study Area;
- Vegetation communities (e.g., tidal or freshwater marsh, grassland, oak woodlands, old-growth coniferous forest, and riparian woodland/forest) that provide nesting and/or foraging resources necessary to support special-status wildlife species are not present in the Study Area;
- Structures or vegetation (e.g., caves, old-growth trees, and small mammal burrows) necessary to provide nesting or cover habitat to support special-status wildlife species are not present in the Study Area;
- Host plants necessary to provide larval and nectar resources required for the completion of life cycles for specific special-status insects are not present in the Study Area; and
- The Study Area is outside of special-status wildlife species' documented range.

However, migratory birds with baseline legal protections under the CFGC have the potential to nest within limited habitats in the Study Area. Potentially suitable habitats include trees, shrubs, and bare ground. Non-special-status bird species often occur in association with developed areas. The legal protection of migratory birds includes their eggs and/or chicks during the nesting period, generally defined as February 1 to August 31 in this region.

Two special-status butterflies have been documented adjacent to the Study Area within the San Bruno Mountain Habitat Conservation Plan area: callippe silverspot (*Speyeria callippe callippe*; Federal Endangered) and mission blue (*Icaricia icarioides missionensis*; Federal Endangered). Host plants for these species include California golden violet (*Viola pedunculata*), silver lupine (*Lupinus albifrons* var. *collinus*), summer lupine (*L. formosus* var. *formosus*), and varied lupine (*L. variicolor*). Host plants (e.g. California golden violet, silver lupine, summer lupine, and varied lupine) were not observed within the Study Area during the site visit. Based on current conditions, mission blue and callippe silverspot are unlikely to occur within the Study Area.

#### **CONCLUSIONS AND RECOMMENDATIONS**

No special-status species have potential to occur within the Study Area. Approximately 0.08 acre of potential seasonal wetlands and 6,667 linear feet (0.15 acre) of earthen ephemeral drainages are present within the Study Area. Therefore, work within the Study Area may impact sensitive communities. A Corps verified delineation should be conducted to determine the extent of the potential seasonal wetlands and non-wetland waters onsite, if work is to occur along the edges of the existing trail. Of the 65 special-status plant species documented in the CNDDDB in the vicinity of the Study Area, none were determined to have moderate or high potential to occur. Similarly, of the 50 special-status wildlife species documented in the CNDDDB in the vicinity of the Study Area, none were determined to have moderate or high potential to occur. However, future development has the potential to result in direct or indirect impacts to native nesting birds. It is



recommended that project-specific avoidance and minimization measures are developed to avoid impacts to nesting birds. General measures include preconstruction surveys, seasonal work windows, and species specific buffers. WRA recommends that a CEQA level Biological Resource Assessment be developed once project plans are finalized.

Please do not hesitate to contact our office should you have any questions, comments, or concerns.

Sincerely,

Kari Dupler  
Senior Wetland Biologist  
WRA, Inc.

**Attachments:**

Attachment 1: Figures  
Figure 1. Study Area Location Map  
Figure 2. Biological Communities Map  
Attachment 2: Site Photographs

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# APPENDIX D

## OPINION OF PROBABLE COST

No.	BID ITEM & DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL PRICE
<b>Miscellaneous</b>					
1	Storm Water Pollution Prevention Plan	LS	1	\$ 5,000.00	\$ 5,000.00
2	Traffic Control System	LS	1	\$ 25,000.00	\$ 25,000.00
3	Construction Fencing and Construction Entrance	LS	1	\$ 25,000.00	\$ 25,000.00
4	Erosion Control	LS	1	\$ 100,000.00	\$ 100,000.00
5	Site Verification / Contractor Fees	LS	1	\$ 45,000.00	\$ 45,000.00
6	Surveying	LS	1	\$ 50,000.00	\$ 50,000.00
				<b>Subtotal:</b>	<b>\$ 250,000.00</b>
<b>Demolition</b>					
7	Demolition and Site Clearing / Disposal	SF	148,600	\$ 1.00	\$ 148,600.00
				<b>Subtotal:</b>	<b>\$ 148,600.00</b>
<b>Earthwork</b>					
8	Earthwork, general - excavation, grading, export	LS	1	\$ 100,000.00	\$ 100,000.00
				<b>Subtotal:</b>	<b>\$ 100,000.00</b>
<b>Site Work</b>					
9	Crusher fines trail	SF	148,600	\$ 7.00	\$ 1,040,200.00
10	Raised boardwalk	SF	9,000	\$ 55.00	\$ 495,000.00
11	Split-rail fence	LF	2,260	\$ 40.00	\$ 90,400.00
12	Site boulders	EA	35	\$ 300.00	\$ 10,500.00
13	Wood Mulch (depth varies)	SF	1,500	\$ 2.00	\$ 3,000.00
14	Seat walls	LF	270	\$ 70.00	\$ 18,900.00
				<b>Subtotal:</b>	<b>\$ 1,658,000.00</b>
<b>Drainage</b>					
15	Bio Infiltration Area - grading and drainage	LS	1	\$ 25,000.00	\$ 25,000.00
				<b>Subtotal:</b>	<b>\$ 25,000.00</b>
<b>Trail Head Improvements</b>					
16	Demolition - Concrete, Curb, Irrigation, and Off haul	LS	1	\$ 6,000.00	\$ 6,000.00
17	Pavement markings	LS	1	\$ 8,000.00	\$ 8,000.00
18	Curb ramp	SF	220	\$ 60.00	\$ 13,200.00
19	Detecable warning surface	SF	60	\$ 32.00	\$ 1,920.00
20	Concrete flatwork	SF	1,350	\$ 25.00	\$ 33,750.00
				<b>Subtotal:</b>	<b>\$ 62,870.00</b>
<b>Safety Enhancements at S Hill Dr</b>					
21	Demolition - AC, Concrete, Curb, Off haul	LS	1	\$ 25,000.00	\$ 25,000.00
22	Pavement markings	LS	1	\$ 4,000.00	\$ 4,000.00
23	Pavement marking removal	SF	410	\$ 5.00	\$ 2,050.00
24	Hawk Signal	EA	1	\$ 150,000.00	\$ 150,000.00
25	Curb and Gutter	LF	280	\$ 120.00	\$ 33,600.00
26	Driveway apron	SF	200	\$ 35.00	\$ 7,000.00
27	Curb ramp	SF	220	\$ 60.00	\$ 13,200.00
28	Detecable warning surface	SF	60	\$ 32.00	\$ 1,920.00
29	Concrete flatwork	SF	985	\$ 25.00	\$ 24,625.00
30	New planting	SF	1,885	\$ 12.00	\$ 22,620.00
				<b>Subtotal:</b>	<b>\$ 284,015.00</b>
<b>Safety Enhancements at W Hill Dr</b>					
31	Pavement markings - Restripe	LS	1	\$ 4,000.00	\$ 4,000.00
32	Roadway sign faces	SF	10	\$ 15.00	\$ 150.00
33	Relocated RRFB - Double Sided	EA	2	\$ 5,000.00	\$ 10,000.00
				<b>Subtotal:</b>	<b>\$ 14,150.00</b>

<b>Safety Enhancements at N Hill Dr - Option B</b>					
34	Demolition - Concrete, Curb, Off Haul	LS	1	\$ 6,000.00	\$ 6,000.00
35	Pavement markings - Restripe	LS	1	\$ 3,750.00	\$ 3,750.00
36	Roadway sign faces	SF	40	\$ 15.00	\$ 600.00
37	Roadway sign posts	EA	2	\$ 420.00	\$ 840.00
38	Curb ramp	SF	215	\$ 60.00	\$ 12,900.00
39	Detecable warning surface	SF	120	\$ 32.00	\$ 3,840.00
40	Curb and Gutter	SF	33	\$ 120.00	\$ 3,960.00
41	Concrete flatwork	SF	385	\$ 25.00	\$ 9,625.00
42	Tree Removal	EA	4	\$ 15,000.00	\$ 60,000.00
				<b>Subtotal:</b>	<b>\$ 101,515.00</b>

<b>Safety Enhancements at Cypress Lane</b>					
43	Pavement markings - Restripe	LS	1	\$ 1,750.00	\$ 1,750.00
44	Roadway sign faces	SF	40	\$ 15.00	\$ 600.00
45	Roadway sign posts	EA	4	\$ 420.00	\$ 1,680.00
				<b>Subtotal:</b>	<b>\$ 4,030.00</b>

<b>Safety Enhancements at Valley Dr</b>					
46	Demolition - AC, Curb, Fence, Off Haul	LS	1	\$ 4,500.00	\$ 4,500.00
47	Pavement markings - Restripe	SF	350	\$ 5.00	\$ 1,750.00
48	Roadway sign faces	SF	40	\$ 15.00	\$ 600.00
49	Roadway sign posts	EA	2	\$ 420.00	\$ 840.00
50	Fencing	EA	55	\$ 54.00	\$ 2,970.00
51	Detecable warning surface	SF	30	\$ 32.00	\$ 960.00
52	Curb 6" high	SF	60	\$ 115.00	\$ 6,900.00
53	Concrete flatwork	SF	180	\$ 25.00	\$ 4,500.00
				<b>Subtotal:</b>	<b>\$ 18,520.00</b>

<b>Wayfinding</b>					
54	Mile markers	EA	10	\$ 600.00	\$ 6,000.00
55	Trail sign posts	EA	20	\$ 435.00	\$ 8,700.00
56	Trail sign faces	SF	105	\$ 15.00	\$ 1,575.00
				<b>Subtotal:</b>	<b>\$ 16,275.00</b>

<b>Fitness and Skills Training</b>					
57	Static equipment	EA	12	\$ 1,500.00	\$ 18,000.00
58	Kinetic equipment	EA	6	\$ 5,000.00	\$ 30,000.00
59	Skills training	EA	6	\$ 4,000.00	\$ 24,000.00
				<b>Subtotal:</b>	<b>\$ 72,000.00</b>

<b>Nature Play</b>					
60	Play Equipment	LS	1	\$ 40,000.00	\$ 40,000.00
61	Play Equipment Installation (approx. 33%)	LS	1	\$ 13,200.00	\$ 13,200.00
				<b>Subtotal:</b>	<b>\$ 53,200.00</b>

<b>Habitat Enhancements</b>					
62	Education signage	EA	1	\$ 2,500.00	\$ 2,500.00
63	24" Box Trees	EA	40	\$ 1,000.00	\$ 40,000.00
64	Tree Protection	EA	40	\$ 250.00	\$ 10,000.00
65	Native Planting	SF	1,500	\$ 12.00	\$ 18,000.00
66	Plant establishment work (90 days)	LS	1	\$ 25,000.00	\$ 25,000.00
				<b>Subtotal:</b>	<b>\$ 95,500.00</b>



No.	BID ITEM & DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL PRICE
<b>Site Furnishings</b>					
67	Bench	EA	11	\$ 2,000.00	\$ 22,000.00
68	Picnic Tables	EA	4	\$ 3,000.00	\$ 12,000.00
69	Water Supply	ALLOW	1	\$ 30,000.00	\$ 30,000.00
70	Water Station and Draining Sump	EA	2	\$ 15,000.00	\$ 30,000.00
71	Trash Bins	EA	11	\$ 3,000.00	\$ 33,000.00
					<b>Subtotal: \$ 127,000.00</b>
<b>Site Lighting</b>					
72	Overhead lights	EA	80	\$ 2,250.00	\$ 180,000.00
73	Bollard lights	EA	160	\$ 300.00	\$ 48,000.00
74	Trail Electrical Lighting System/ Utilities	LS	1	\$ 175,000.00	\$ 175,000.00
					<b>Subtotal: \$ 403,000.00</b>
<b>General</b>					
75	Bonding and General Conditions	LS	1	\$ 40,000.00	\$ 40,000.00
76	Mobilization / Demobilization	LS	1	\$ 100,000.00	\$ 100,000.00
					<b>Subtotal: \$ 140,000.00</b>
					<b>PROJECT SUBTOTAL \$ 3,573,675.00</b>
					<b>Design Contingency (25%): \$ 893,418.75</b>
					<b>TOTAL \$ 4,467,094</b>

**Add / Alternatives**

No.	BID ITEM & DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL PRICE
<b>Alt # 1 - Additional RRFB-Double Sided Signs at Valley Dr.</b>					
1	RRFB - Double Sided	EA	2	\$ 20,000.00	\$ 40,000.00
					<b>Alt # 1 Total: \$ 40,000.00</b>
<b>Alt # 2 - Safety Enhancements at N Hill Dr - Option A</b>					
1	Demolition - AC, Concrete, Curb, Off haul	LS	1	\$ 8,000.00	\$ 8,000.00
2	Pavement markings	LS	1	\$ 4,500.00	\$ 4,500.00
3	Pavement marking removal	SF	750	\$ 5.00	\$ 3,750.00
4	Roadway sign faces	SF	80	\$ 15.00	\$ 1,200.00
5	Roadway sign posts	EA	4	\$ 420.00	\$ 1,680.00
6	Curb and Gutter	LF	160	\$ 120.00	\$ 19,200.00
7	Curb ramp	SF	325	\$ 60.00	\$ 19,500.00
8	Detecable warning surface	SF	60	\$ 32.00	\$ 1,920.00
9	Curb 6" high	SF	55	\$ 115.00	\$ 6,325.00
10	Concrete flatwork	SF	25	\$ 25.00	\$ 625.00
11	New planting	SF	530	\$ 11.50	\$ 6,095.00
12	Earthwork, general - excavation, grading, and export and Soil import	LS	1	\$ 12,000.00	\$ 12,000.00
					<b>Alt # 2 Total: \$ 76,795.00</b>
<b>Alt # 3 - Art Overlay Opportunities</b>					
1	Crosswalk	LS	1	\$ 50,000.00	\$ 50,000.00
2	Mural art	LS	1	\$ 100,000.00	\$ 100,000.00
3	Permanent art	LS	1	\$ 100,000.00	\$ 100,000.00
					<b>Alt # 3 Total: \$ 250,000.00</b>
<b>Alt # 4 - Concrete Stairs to Upper Crocker Park Trail</b>					
1	Concrete Stairs	SF	460	\$ 85.00	\$ 39,100.00
2	Earthwork, general - excavation, grading, and export	LS	1	\$ 15,000.00	\$ 15,000.00
					<b>Alt # 4 Total: \$ 54,100.00</b>

**Notes/Assumptions:**

- Items not included as a part of this estimate:
  - A. Permit Fees
  - B City Fees, Bond Fees
  - C. Design survey by client/ owner
  - D. Geotechnical investigation and arborist report
  - E. Design and Design Team Fee
  - F. Environmental Assessment Fee
  - G. Staff/owner fees
  - H. Maintenance for vegetation
- This is a Preliminary Estimate Only (Opinion of Probable Cost) and is not to be used as a bidding quantity sheet.

**Estimate Notes**

- This projection was prepared using standard cost and/or quantity projection practices. It is understood and agreed that this is a projection only, and that the landarchitect shall not be liable to the owner or to a third party for any failure to accurately project the cost and/or quantities for the project, or any part thereof.
- This landscape architect's projection is prepared as a guideline and does not constitute the basis for bid. The contractor is to perform his/her own quantity take-off and to bid accordingly. If errors or omissions are encountered through the bidding process, please contact the architect for clarification.
- COMPETITIVE BIDDING

The prices in this Estimate are based on competitive bidding. Competitive bidding is receiving responsive bids from at least five (5) or more General Contractors and three (3) or more responsive bids from Major Subcontractors or Trades (if applicable). Major Subcontractors are: Structural Steel, Plaster / EIFS Contractors, Mechanical, Plumbing and Electrical Subcontractors.

Without competitive bidding, Contractor bids can, and have, ranged from 25% to 100% over the estimated cost, depending on the size of the job, per the following table:

Number of Bids Received	Potential Percentage Differential
1	+25% to +100%
2-3	+10% to +25%
4-5	+0% to +10%
6-7	+0% to -10%
8 or more	-10% to -20%



# APPENDIX E

## TRAIL FUNDING OPPORTUNITIES

The following tables compile the funding sources and their relevant information into a matrix format for review and comparison of the source requirements. Funding opportunities are constantly evolving, therefore Crocker Park Recreational Trail should use the following table as a guide, but should research desired funding sources further to ensure the latest rules, regulations, and funding sources are applicable.

FEDERAL SOURCES					
Funding Source	Application Deadline	Administering Agency	Match Required	Maximum Grant	Comments
North American Wetlands Conservation Act (NAWCA) Small Grants Program	July 9, 2021	U.S. Fish and Wildlife Service	Partners must match their grant request at no less than a 1-to-1 ratio.	\$100,000 (may not exceed)	Proposals must be for on-the-ground projects. Proposals that keep grant costs not directly associated with acquisition, restoration, enhancement or establishment activities (e.g., grant administration, overhead, indirect costs) below 20% of the grant request are generally more competitive.
Climate Adaptation Fund	Annually in April	Wildlife Conservation Society	N/A	\$300,000 over 3 year, \$2.5 mil total	The Climate Adaptation Fund provides grant awards to non-profit conservation organizations for applied, on-the-ground projects focused on implementing priority conservation actions for climate adaptation at a landscape scale. In 2021, Awards will be made for one of two grant categories: Adaptation Implementation projects that apply innovative approaches to conservation actions designed to help wildlife and ecosystems adapt to climate change.
U.S. Fish and Wildlife service national coastal wetlands conservation grant program	Annually in June	U.S. Fish and Wildlife & Sport Fish restoration and boating trust fund	25% total cost	\$1 million	The U.S. Fish and Wildlife Service is awarding more than \$27 million to support 33 projects in 14 coastal states to protect, restore or enhance almost 28,000 acres of coastal wetlands and adjacent upland habitats under the National Coastal
Environmental Education Grants Program	TBD- check website for 2021 updates	U.S. Environmental Protection Agency	Not Required	\$2 and \$3.5 million	Under the Environmental Education Grants Program, EPA seeks grant applications from eligible applicants to support environmental education projects that promote environmental awareness and stewardship and help provide people with the skills to take responsible actions to protect the environment.



STATE SOURCES					
Funding Source	Application Deadline	Administering Agency	Match Required	Maximum Grant	Comments
Urban Greening Grant	Annually in March	Resources Agency	Not Required	\$24.7 Million	Projects must accomplish several criteria, including decreasing air pollution, increasing adaptability to climate change, and reduce greenhouse gas emissions, etc.
Proposition 68	Annually in March	California Natural Resources Agency	Not Required	\$4.8 Million	Multi-benefit projects funded by the Coastal Conservancy will advance a number of goals and objectives along the CA coast, SF bay area, and coastal watersheds. Seeks to expand outdoor public access, protect and improve natural resources, product and revitalize working lands, and increase climate resiliency.
Regional Park Program- Prop 68 division	November 5, 2021	Prop 68	Not Required	\$200,000-\$3,000,000 each	While renovation of recreation features may be included, a project will be more competitive if it creates at least one new recreation feature and a new multiuse trail. Cities do not qualify to apply however a nonprofit may sign an agreement with the city and apply on their behalf.
Proposition 1	Annually in February	California Department of Fish and Wildlife	Applicants must indicate if any cost share is being used as match for other grants or entities and whether they intend to leverage CDFW Proposition 1 funds as match, if awarded.	Approximately \$40 million	Projects must be consistent with the purposes of Proposition 1 to be eligible for either the Watershed Restoration Grant Program or the Delta Water Quality and Ecosystem Restoration Grant Program.
The Wildlife conservation board California Riparian Habitat Conservation Program	Annually in March	Wildlife Conservation Board	Not Required	\$12 Million	Shovel-ready implementation projects that have a completed CEQA document will be prioritized. Project types include: restoration of native riparian vegetation biodiversity, habitat complexity, and structure. Re-establishing floodplain connectivity. Contouring degraded, incised, or undefined streams. Upper watershed improvements that will benefit on-site and downstream riparian resources.



**STATE SOURCES (CONTINUED)**

Funding Source	Application Deadline	Administering Agency	Match Required	Maximum Grant	Comments
CalTrans Sustainable Communities	Annually in February	California Department of Transportation	11.47% Match Required	\$700,000 max.	Pursuant to statute, the purpose of the program is to encourage increased use of active modes of transportation, such as biking and walking. The goals of the ATP are to: <ul style="list-style-type: none"> <li>• Increase the proportion of trips accomplished by biking and walking.</li> <li>• Increase the safety and mobility for nonmotorized users.</li> <li>• Advance the active transportation efforts of regional agencies to achieve greenhouse gas reduction goals as established pursuant to Senate Bill 375</li> </ul>
Land and Water Conservation Fund	February 1, 2022	California Department of Parks and Recreation	MATCH is no less than 50% of the TOTAL PROJECT COST. In other words, MATCH can range from 50% to 99% of the TOTAL PROJECT COST.	\$6 million	Land and Water Conservation Fund (LWCF) grants provide funding for the acquisition or development of land to create new outdoor recreation opportunities for the health and wellness of Californians.
Coastal Conservancy Grants	Ongoing	Coastal Conservancy	N/A	\$50,000	The Conservancy will fund most stages of a project including: pre-project feasibility studies, property acquisition, project planning including community involvement, design, environmental review, permitting, construction, and project-related monitoring. We typically do not fund operation and maintenance activities.
Environmental Enhancement and Mitigation (EEM) Program	Annually in January	California Natural Resources Agency	N/A	\$6.7 million	EEM projects must contribute to mitigation of the environmental effects of transportation facilities. It offers approx. Eligible projects must be directly or indirectly related to the environmental impact of the modification of an existing transportation facility or construction of a new transportation facility.
Recreational Trails Program (RTP)	Annually in November	California Department of Parks and Recreation	12% of the total project cost	\$300,000 max	The Recreational Trails Program (RTP) provides funds annually for recreational trails and trails-related projects. The RTP is administered at the federal level by the Federal Highway Administration (FHWA). RTP is administered at the state level by the California Department of Parks and Recreation (DPR).
Cal Trans ATP	Annually in January	Cal Trans - ATP	N/A	\$4 million	Pursuant to statute, the purpose of the program is to encourage increased use of active modes of transportation, such as biking and walking.



LOCAL SOURCES					
Funding Source	Application Deadline	Administering Agency	Match Required	Maximum Grant	Comments
Measure AA funds	Semi-Annual	San Francisco Bay Restoration Authority	N/A	\$25 million/year for 20 years	The Authority can fund proposals that are 1) habitat projects that aim to restore, protect, or enhance natural habitats on the shoreline in the San Francisco Bay Area; 2) flood management projects that are part of habitat projects; or 3) public access projects that will provide or improve access or recreational amenities that are part of habitat projects.
Bay Area Integrated Regional Water Management Grants (IRWM)	Annual	California Department of Water Resources	N/A	Round 1-\$2mil	The Bay Area Integrated Regional Water Management Plan is a nine-county effort to coordinate and improve water supply reliability, protect water quality, manage flood protection, maintain public health standards, protect habitat and watershed resources, and enhance the overall health of the San Francisco Bay.
PRIVATE SOURCES					
Funding Source	Application Deadline	Administering Agency	Match Required	Maximum Grant	Comments
California Watershed Protection Fund	Spring-ongoing	Rose Foundation	Not Required	7,500-25,000	The California Watershed Protection Fund supports projects designed to benefit the water quality of many of California's watersheds and their ecosystems.